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DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

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James Bearzi, Chief
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2905 Rodeo Park Drive East, Building 1
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Subject: Response to Request for Information Regarding the Ten-Year Comprehensive Site Plan (TYCSP)

Dear Mr. Bearzi:

This letter provides an additional response to your letters of January 10 and March 28, 2006, to Messrs. Wilmot and Kuckuck. Due to a recent decision originating in National Nuclear Security Administration (NNSA) Headquarters (HQ) allowing the release of un-redacted copies of the TYCSPs, please find enclosed compact discs containing the following:

- TYCSP, FY04-FY13; September 1, 2003
- TYCSP, FY05-FY14; September 1, 2004
- TYCSP, FY06-FY15; September 30, 2005
- TYCSP, FY07-FY16; March 24, 2006

If you have any comments or questions regarding this letter, please contact me at (505) 667-1968, or Gene Turner of my staff at (505) 667-5794.

Sincerely,

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Acting Assistant Manager
Office of Environmental Stewardship

ES: 2GT-020

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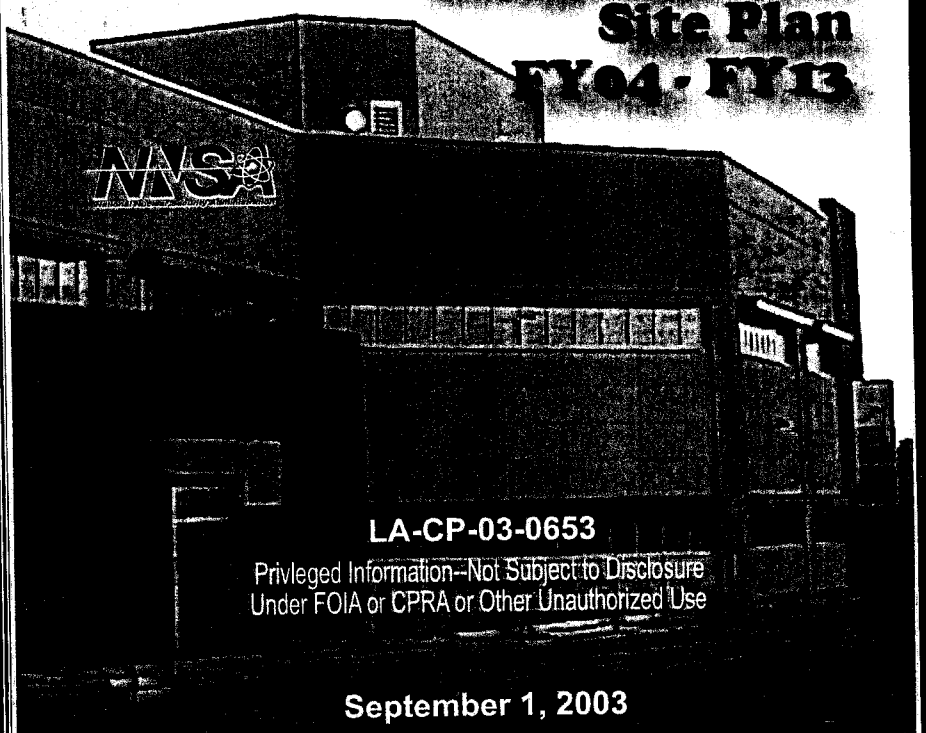
Ten-Year Comprehensive Site Plan FY04 - FY13



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September 1, 2003

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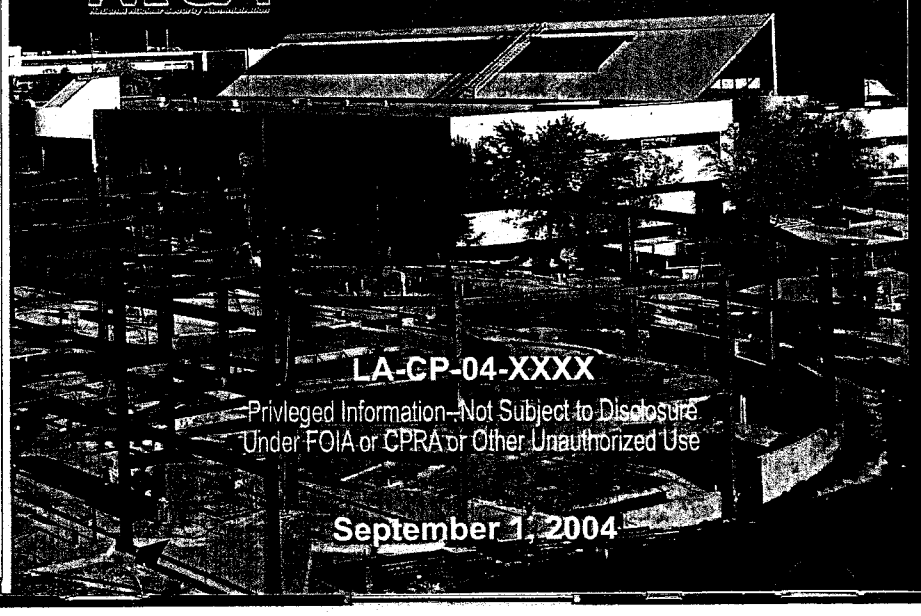

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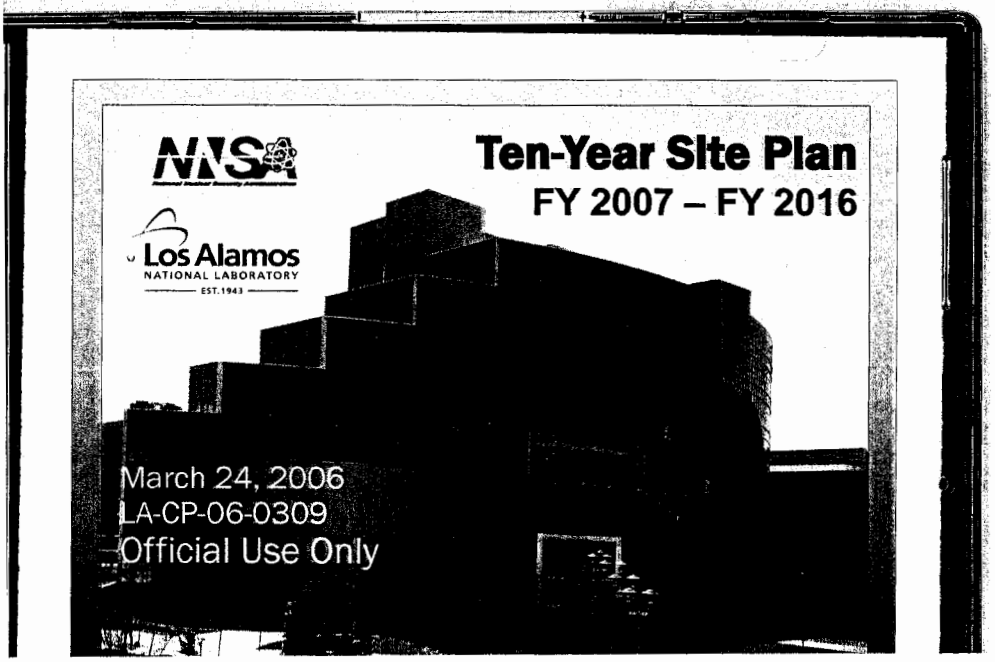
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LA-CP-03-0653
September 1, 2003

Director's Statement

As we celebrate the 60th anniversary of the Los Alamos National Laboratory, we remain proud and honored that, since 1943, the Laboratory has consistently applied state-of-the-art scientific approaches to solving problems of national importance. At the same time, attention to the state of our infrastructure and facilities has not kept pace. We continue to experience deterioration of our infrastructure and facilities that may serve to undermine our long-term ability to fulfill stockpile stewardship objectives.

A Technical Area 3 (TA-3) Revitalization Plan has been developed to upgrade our most-populated area of the Laboratory. This area is also the computational and theoretical core for our national security mission. The Nicholas C. Metropolis Center for Modeling and Simulation, the Non-proliferation and International Security Center (NISC), the National Security Sciences Building (NSSB), and the Security Perimeter Project are a few of the completed, ongoing, or proposed projects that are included in the TA-3 plan. In addition, integrated strategies with Readiness in Technical Base and Facilities (RTBF), the Facilities and Infrastructure Recapitalization Program (FIRP), and Institutional General Plant Projects (IGPP) are being implemented to develop infrastructure, office, and parking projects within the TA-3 area. These projects address deferred maintenance backlogs, reduce facility operations costs, and increase safety, security, and employee retention. Ambassador Brooks' comments during the NSSB groundbreaking ceremony on August 20, 2003 in this regard were appreciated. In particular he noted:

> *"Science up here is impressive, but the people up here are essential. Giving people the facilities so that they can work together; so they can have the kind of interaction with their peers that science and intellectual efforts depend on, is crucially important."*

Integrated Nuclear Planning (INP) activities were initiated in 1998 to address the consolidation of special nuclear materials facilities, reducing security and operational costs. The Chemistry and Metallurgy Research Building (CMR) Replacement Project will allow Los Alamos to consolidate actinide chemistry and material characterization activities at TA-55 near the existing Plutonium Facility. Los Alamos is committed to vacating the existing CMR facility in the 2010-2013 timeframe. Another project within the INP umbrella is the Nuclear Materials Safeguards and Security Upgrades Project, Phase 2 (NMSSUP II), which will provide an effective, robust physical security system to support current and future protection strategies and security requirements at TA-55.

Los Alamos is also committed to vacating the existing TA-18 site in the next decade. This 50+-year-old site has experienced increased nuclear operational and security costs and must be replaced. The entire set of operations at TA-18 must be addressed in the TA-18 Mission Relocation Project. Los Alamos is concerned that current planning only addresses the relocation of a portion of the missions that are executed at this site.

Additional projects at Los Alamos will address needed facility strategic consolidation plans to reduce the overall footprint, address deferred maintenance backlogs, and reduce the average age of facilities, utilities and infrastructure throughout the site.

I believe that there are three distinct areas that must be addressed in order to ensure infrastructure sustainability to meet our mission. Those three areas include:

1. Implementing formal facilities consolidation efforts and cost reduction initiatives to reduce facility footprints. In addition to reducing operating costs, this results in direct improvements in safety, security, and scientific interactions,
2. Addressing unfunded high-priority facility maintenance backlogs before these backlogs become an even higher risk in conducting our national security mission. We are committed to achieving the associated NNSA goals that have been explicitly emphasized in the last year and that are included in a Level 2 Milestone, and
3. Investing in new construction projects, where appropriate and economically feasible, to ensure that the Laboratory can meet programmatic mission needs over the next 20 to 40 years.

Each of the areas identified above requires commitments to achieve positive results. The return on investment can be realized through reduced operating costs (maintenance and energy) and increased technical productivity to achieve mission requirements. In addition, each area addresses safety and security needs and allows Laboratory facilities to be sustainable over the next 20 to 40 years. The Ten Year Comprehensive Site Plan is our annual update of the integrated strategies required to assure a sustainable infrastructure. We appreciate the continued NNSA support of these strategies.

8-29-03

G. Peter Nanos, Director

Los Alamos National Laboratory

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Acronyms

AB	Authorization Basis
AD	Associate Director
ADP	Area Development Plan
ADO	Associate Director for Operations
ARIES	Advanced Recovery and Integrated Extraction System
B	Bioscience Division
BTF	Beryllium Technology Facility
C	Chemistry Division
CAIS	Condition Assessment Information System
CAS	Condition Assessment Survey
CCF	Central Computing Facility
CCS	Computer and Computational Sciences
CCN	Computing, Communications, and Networking Division
CD	Critical Decision
CGRP	Cerro Grande Rehabilitation Project
CINT	Center for Integrated Nanotechnologies
CMR	Chemistry and Metallurgy Research Facility
CMRR	Chemistry and Metallurgy Research Facility Replacement
CSP	Comprehensive Site Plan
CSSR	Center for Stockpile Stewardship Research
CX	Categorical Exclusion
D&D	Decommissioning and Demolition
DAHRT	Dual Axis Radiographic Hydrodynamic Facility
DBT	Design Basis Threat
DNFSB	Defense Nuclear Facility Safety Board
DoD	Department of Defense
DOE	Department of Energy
DOE-LASO	Department of Energy – Los Alamos Site Operations
DP	Defense Programs
DSM	Directorate Space Manager
DSW	Directed Stockpile Work
DX	Dynamic Experimentation Division
EA	Environmental Assessment
EES	Earth and Environmental Sciences Division
EIS	Environmental Impact Statement
EM	Environmental Management
EPA	Environmental Protection Agency
ESA	Engineering Sciences and Applications Division
ES&H	Environment, Safety, and Health
FAaRS	Facility Assessment and Ranking System
FCI	Facility Condition Index
F&I	Facilities and Infrastructure

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FIMS	Facility Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
FM	Facility Manager
FONSI	Finding of No Significant Impact
FWO	Facility and Waste Operations Division
FWO-FP	Facility and Waste Operations Division – Facility Planning
FWO-IP	Facility and Waste Operations Division – Institutional Projects Office
FY	Fiscal Year
FYNSP	Future Years Nuclear Security Plan
FSP	Facility Strategic Planning
GPP	General Plant Project
GSA	General Services Administration
GSF	Gross Square Feet
HE	High Explosives
HSR	Health, Safety, and Radiation Division
ICPP	Integrated Construction Program Plan
IDR	Inspection Deficiency Report
IFMP	Integrated Facility Management Program
IGPP	Institutional General Plant Project
INP	Integrated Nuclear Planning
ISE	Imminent and Substantial Endangerment
ISM	Integrated Safety Management
ISMP	Integrated Space Management Program
KSL	Kellog, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates
kV	Kilovolt
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center Division
LIR	Laboratory Implementing Requirement
LIP	Line Item Project
LPR	Laboratory Performance Requirement
M	Million
M&O	Management and Operations
MDA	Material Disposal Area
LTES	Long-Term Environmental Stewardship
MEL	Master Equipment List
MSL	Materials Science Laboratory
MST	Materials Science and Technology Division
MVA	Million Volt Amperes
MW	Megawatt
NA-10	Deputy Administrator for Defense Programs
NA-11	Defense Programs – Stockpile Stewardship
NA-12	Defense Programs – Stockpile Management
NA-50	Associate Administrator Facilities and Operations

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NA-52	Office of Safeguards and Security
NCB	NEPA, Cultural Resources, and Biological
NDEF	Non-destructive Examination Facility
NEPA	National Environmental Policy Act
NIS	Nonproliferation and International Security Division
NISC	Nonproliferation and International Security Center
NMED	New Mexico Environmental Department
NMR	Nonnuclear Reconfiguration Program
NMSSUP	Nuclear Materials Safeguard and Security Upgrade Project
NNSA	National Nuclear Security Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSSB	National Security Sciences Building
NTS	Nevada Test Site
O&M	Operations and Maintenance
OPC	Other Project Costs
P	Physics Division
PB	Parsons Brinckerhoff
PCB	Polychlorinated biphenyl
PE&D	Preliminary Engineering and Design
PGIU	Power Grid Infrastructure Upgrades
PHERMEX	Pulsed High-Energy Radiographic Machine Emitting X-Rays
PIB	Program Integration Board
PM	Project Management Division
PTLA	Protection Technology Los Alamos
Pu	Plutonium
PY	Prior Year
R&D	Research and Development
RAMROD	Radioactive Materials Research Operations and Demonstration Facility
RCRA	Resource Conservation and Recovery Act
RLW	Radioactive Liquid Waste
RLWTF	Radioactive Liquid Waste Treatment Facility
ROD	Record of Decision
RPV	Replacement Plant Value
RRES	Risk Reduction and Environmental Stewardship Division
RTBF	Readiness in Technical Base and Facilities
RTG	Radioisotope Thermoelectric Generator
S&S	Security and Safeguards Division
S&M	Surveillance and Maintenance
SECON	Security Condition
SET	Senior Executive Team
SMART	Summary Missions/Alternatives/Requirements Table
SMC	Space Management Committee
SNL	Sandia National Laboratory

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SNM	Special Nuclear Material
SPCC	Site Planning and Construction Committee
SR	Strategic Research Directorate
SSP	Stockpile Stewardship Program
SSSP	Site Safeguards and Security Plan
SWEIS	Sitewide Environmental Impact Statement
SWSC	Sanitary Wastewater Systems Consolidation
T	Theoretical Division
TA	Technical Area
TCP	Traditional Cultural Property
TEC	Total Estimated Cost
TFCI	Total Facility Condition Index
TR	Threat Reduction
TSFF	Tritium Science Fabrication Facility
TSR	Technical Safety Requirements
TSTA	Tritium Systems Test Assembly
TYCSP	Ten-Year Comprehensive Site Plan
UC	University of California
U.S.	United States
USQ	Un-reviewed Safety Question
VA	Vulnerability Assessment
WBS	Work Breakdown Structure
WEM	Weapons Engineering and Manufacturing Directorate
WETF	Weapons Engineering Tritium Facility
WMD	Weapons of Mass Destruction
WP	Weapons Physics Directorate

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EXECUTIVE SUMMARY

This Ten-Year Comprehensive Site Plan (TYCSP) for Los Alamos National Laboratory provides vital input to meet the National Nuclear Security Administration's (NNSA) commitment to stewardship of the reliability, safety and security of the United States nuclear stockpile. The collective TYCSPs from all NNSA sites are the foundation for the complex-wide facilities and infrastructure strategic planning and the cornerstone of the program's initiative to restore, revitalize and rebuild the complex. Los Alamos remains a prominent contributor to this effort through its programs and campaigns in developing unique science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile. The objective of this TYCSP is to provide state-of-the-art facility and infrastructure supported by advanced scientific and technical tools to meet this Laboratory's specific operations and mission requirements.

The 2013 vision of the Laboratory, as determined by institutional strategic planning efforts, will be accomplished by completing the following activities as described in the TYCSP:

- Stabilize and then reduce the deferred maintenance backlog to help NNSA achieve the corporate goals for deferred maintenance reduction.
- Consolidate facility operations into fewer/smaller facilities to provide more efficient facility operations in support of missions.
- Decommission and demolish (D&D) facilities that are excess to mission needs.
- Through Integrated Nuclear Planning, consolidate a large number of nuclear materials facilities within a single security fence. A series of projects would replace 50+ year-old nuclear facilities over approximately eight to 10 years.
- Replace vulnerable "temporary" structures to provide long-term office and light laboratory space and to make land available for more appropriate use in meeting mission requirements.
- Upgrade or replace infrastructure (electricity, water, wastewater, natural gas, roads, and protection and communications systems) to ensure sufficient capacity and capability to support ongoing and new missions.
- Construct or modify existing facilities to meet specific program/campaign needs, increase quality workspace, improve safety, security, employee morale and retention, and reduce maintenance and operations costs.
- Upgrade site security planning to meet new threat guidance.

As the Laboratory's planning processes continue to mature, a look at the long-range potential (up to 20 years) is beginning to emerge. Such planning is not a forecast or

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identification of specific projects, but a rational speculation of likely conclusions as annual updating of the TYCSP continues. The need for a "built environment" that contributes to long-term health, safety, and welfare of the institution in support of its missions, its employees and visitors, and the surrounding environment is becoming increasingly evident.

The TYCSP and the Laboratory's ongoing long-range planning provide linkages to mission and programs, regulatory expectations, and budget constraints. Institutional planning efforts engage the support of facility managers, program and line managers, and subject matter experts (e.g., utilities, condition assessments, budgets, programs, and human resources) from across the Laboratory and provide the foundation and principles for physical development. Laboratory comprehensive site planning is now and will continue to serve as a strategic vehicle for making facility and infrastructure decisions that ensure the vitality and viability of the Laboratory's national security mission.

The Fiscal Year (FY) 2004 TYCSP follows the NNSA's *Ten year Comprehensive Site Plan (TYCSP) Guidance* (dated February 2003). Brief summaries of each chapter follow.

Chapter 1 introduces the TYCSP and presents an overview of the plan's content and the assumptions, current situations and changes from the FY03 TYCSP as affecting the long-range facilities and infrastructure planning process. Various assumptions that the Laboratory used in developing the FY03 TYCSP are updated, and new, current situations are described along with identification of deficiencies and challenges affecting upcoming initiatives. The role of the National Environmental Policy Act (NEPA) is reviewed with updates defined as it affects the planning or modification of new development activities. Finally, changes and processes in the document are summarized along with accomplishments since the prior year TYCSP.

Chapter 2 provides descriptions of the geographical setting in which Los Alamos National Laboratory exists and includes discussions of the Northern New Mexico regional ecosystems and natural/cultural resources available for integration into the Laboratory's development. Also presented here is a description of current land use, including past and future transfers of land. Summary tables and maps illustrate the current and future status of buildings, including new construction projects and excess facilities. An overview of the current Laboratory workforce is also provided.

Chapter 3 focuses on mission needs and program descriptions. The role of the four programmatic directorates devoted to achieving the Laboratory's mission is presented along with their current and anticipated workloads. The Readiness in Technical and Base Facilities (RTBF) program is explained along with Los Alamos's RTBF facility operating budgets for FY03-FY05 and identification of RTBF program campaigns and directed

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stockpile work supported by each RTBF facility. The chapter also includes a comprehensive table entitled Summary Missions, Alternatives and Requirements Table (SMART) that attempts to capture the forecasted 10-year program mission campaign activities and link the activities to technologies and facilities required to accomplish the missions. Mission essential facilities are identified and their locations shown on a map. Finally, impacts from Non-NNSA programs are described, and a discussion of the role of technology is provided.

Chapter 4 details the overall site plans and recommendations for the next 10 years. New discussions on facility Condition Assessment Survey (CAS) and deferred maintenance reduction are provided in this year's document, including information on the Laboratory's recently completed deferred maintenance baselining effort. Current and future space utilization is described, as well as efforts to D&D excess space. Expanded discussions on sitewide utilities, transportation, and parking provide information on the Laboratory's infrastructure, and an updated security section describes efforts to address emerging threats. Another new element for FY04 is a discussion on sitewide master planning activities, including the potential for funding new facilities via a third-party.

Chapter 5 discusses the various construction project funding sources and describes in detail the line item projects the Laboratory is planning over the next 10 years. For each of these projects, information on scope, costs, and benefits are provided.

Various attachments provide supporting information as required by the guidance. Three additional attachments have been included; the first section provides references for Laboratory publications used to develop the TYCSP; the second section describes ongoing consolidation planning efforts by organizations; and the third section provides sitewide maps with greater detail than in those included in the chapters.

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INTRODUCTION

1.1 OVERVIEW

The Los Alamos National Laboratory (LANL) submits herein its third annual Ten-Year Comprehensive Site Plan (TYCSP) in response to February 2003 National Nuclear Security Administration (NNSA) guidance. This plan specifically provides strategic planning for the physical complex and includes direct and indirect NNSA funded facilities and infrastructure activities. It presents results of strategic planning processes employed at the Laboratory in support of NNSA's initiative to restore, revitalize, and rebuild the National Nuclear Security complex. Submission of this plan is one deliverable in the key goal to link physical asset long-range planning and proposed projects with fiscal budget submissions.

Included in this document are the following major topics.

> ***General Site Information*** presents current and future physical conditions with supporting background data.
>
> ***Deferred Maintenance Backlog Baselining*** activities are described as well as efforts supporting the NNSA corporate goals for deferred maintenance reduction.
>
> ***Facilities & Infrastructure (FI) Cost Projection Spreadsheets*** provide insight to budget realities and consider all funding sources, including Readiness in Technical Base and Facilities (RTBF), Line Item, Indirect, and Facilities and Infrastructure Recapitalization Program (FIRP). The Laboratory has also included a summary of projects that are Campaign/Directed Stockpile Work (DSW) (non-line item), non-Defense Programs (DP), and Institutional General Plant Projects (IGPP).
>
> ***Summary Missions and Alternatives/Requirements Table (SMART)*** organizes mission requirements and needs information in a reader-friendly format.

The development process for this plan integrates institutional planning efforts for mission and programs, workforce, facilities, security, utilities, environment, safety, health, and operations.

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1.2 ASSUMPTIONS

The following are assumptions that the Laboratory used in developing the Fiscal Year (FY)04 TYCSP.

- The Laboratory's core mission and programs will remain largely unchanged over the next 10 years.

- Primary funding sources integrated in the TYCSP in support of the physical plant are the following:
  - RTBF,
  - FIRP,
  - Integrated Construction Program Plan (ICPP),
  - IGPP, and
  - Program specific funding not noted above.

- Funding targets for the RTBF Operations of Facilities and FIRP projects/activities Cost Projection Spreadsheets are based on those identified by the Future Years Nuclear Security Program (FYNSP).

- Recent organizational realignment of the Laboratory's facility management to a more centralized management structure will improve costs of operations and define priorities to better utilize budgets for maintenance, upgrades, and future project proposals.

- The Laboratory's workforce has increased and may continue to do so, impacting space needs and operational requirements for the future.

- There are significant increases and emphasis in physical site security, which will impact current construction projects and those in various aspects of development. Impacts of evolving design basis threats will be integrated within ongoing planning processes.

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1.3 Current Situation

Los Alamos is currently celebrating its 60th anniversary as one of the premier national laboratories for meeting today and tomorrow's national security challenges. Since 1943, the Laboratory has consistently applied state-of-the-art scientific approaches to solving problems of national importance. However, attention to the state of infrastructure and facilities has not kept pace, and the Laboratory's physical plant is deteriorating to the point of jeopardizing its long-term ability to fulfill stockpile stewardship objectives.

Los Alamos has the greatest number and the oldest facilities among the three weapons laboratories and the Nevada Test Site. The cost of operations and maintenance, integrated safeguards and security management, environmental compliance, and other operations for these aging facilities is significant and growing. While real progress has been made in recent years to address this issue, serious concerns and challenges remain.

1.3.1 Concerns and Challenges

Aging Obsolete and Inadequate Facilities

The average facility age at Los Alamos is currently 33 years, with over two thirds older than 30. One half of the Laboratory's facilities are in poor or fair condition. A large percentage of the Laboratory's workforce resides in facilities that are in marginal condition and frequently overcrowded which is a problem that has increased dramatically in recent years. The average amount of office space per occupant has dropped from 133 square feet in FY01 to 116 square feet in FY03 (and is projected to drop to 111 square feet in FY04). Sixteen percent are housed in "temporary" structures such as trailers and transportables, many of which are 20 to 30 years old. Over 1,400 employees are currently housed in dispersed, off-site leased space due to lack of adequate onsite facilities. Overall, these situations lead to diminished productivity and morale, present safety and security problems, and hinder recruiting and retaining highly qualified staff.

Deferred Maintenance Backlog

NNSA, along with its sites, has established aggressive corporate goals associated with stabilizing and reducing deferred maintenance. We have completed the deferred maintenance backlog baseline ($546M) and are preparing a plan for stabilization by 2005 and reduction to industry standards by 2009. To achieve these deferred maintenance goals, facility operations must invest in maintenance at greater levels than in the past.

A key component of the Laboratory's strategy to lower maintenance and operating costs and reduce the deferred maintenance backlog is to aggressively reduce its facilities

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footprint. About 250 structures comprising 1.9 million gross square feet have been identified as currently ready for disposal, and another 313 buildings comprising 2.4 million gross square feet are proposed as future excess facilities. While FIRP is expected to fund much of this work, other sources of funding will be necessary, particularly for process contaminated facilities.

1.3.2 Corrective Actions

Over the past three years, the Laboratory has developed a detailed analysis of the cost of operating and maintaining facilities and a defensible prioritization system to fund facilities and infrastructure. The Laboratory has been evaluating and implementing methods to reduce facility costs. Some of these initiatives, such as consolidation projects, require upfront funding to realize significant annual facility savings. With this investment, sustained use of the facilities can be achieved, thereby reducing risk to programmatic delivery.

A Technical Area 3 (TA-3) Revitalization Plan has been developed to upgrade our most-populated area. The Nicholas C. Metropolis Center for Modeling and Simulation, the Nonproliferation and International Security Center (NISC), the National Security Sciences Building (NSSB), and the Security Perimeter Project are a few of the new construction projects included in the TA-3 plan. In addition, RTBF, FIRP, and IGPP funds are being used to develop infrastructure, office, and parking projects within the TA-3 area. These projects are addressing deferred maintenance backlogs, reducing facility operations costs, and increasing safety, security, and supporting employee recruitment and retention.

Integrated Nuclear Planning (INP) activities were initiated in 1998 to address the consolidation of special nuclear materials facilities and reduction of security and operational costs. The Chemistry and Metallurgy Research Building (CMR) Replacement Project will allow Los Alamos to consolidate actinide chemistry and material characterization activities at TA-55 near the existing plutonium facility. The Laboratory is committed to vacating the existing CMR facility. Another project within INP is the Nuclear Materials Safeguards and Security Upgrades Project, Phase 2 (NMSSUP 2), which will provide an effective, robust physical security system to support current and future protection strategies and security requirements at TA-55. In addition, a TA-55 reinvestment project is planned for an FY06 start which will revitalize the existing plutonium facility for continued support of the Laboratory's mission.

Los Alamos is also committed to vacating the existing TA-18 site. This 50+ year-old site has experienced increased operational and security costs and must be replaced. The entire operations of TA-18 must be addressed in the TA-18 Mission Relocation Project.

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The Laboratory is concerned that current planning only addresses the relocation of a portion of the missions that are executed at this site.

Additional projects at Los Alamos address facility consolidation plans which reduce the overall footprint, reduce deferred maintenance backlogs, and reduce the average age of facilities, utilities and infrastructure throughout the site. There are numerous consolidation and strategic planning efforts underway at the Laboratory, and the consolidation plans incorporate a cost/benefit analysis and productivity analysis to support recommendations for new projects, related excessed space requests, and migration strategies. Examples of planned projects which support these efforts are the DX High Explosives Characterization Consolidation and the ESA Fabrication Facility Replacement.

Upgrades to essential infrastructure must also be planned and implemented if the revitalization of the Laboratory is successful. Examples of these projects include the Power Grid Infrastructure Upgrade, LANCE Replacement of High Voltage Distribution System, and the Radioactive Liquid Waste Treatment Facility Upgrade.

In summary, three distinct areas must continue to be addressed to ensure future infrastructure sustainability to meet the mission.

1. Implement formal facilities consolidation efforts and cost reduction initiatives to reduce facility footprints, which in turn reduces operating costs and improves safety, security, and scientific interactions and productivity.
2. Meet corporate deferred maintenance goals, address unfunded high-priority facility maintenance backlogs before these backlogs become expensive emergency repairs and directly impact programmatic objectives.
3. Invest in new construction projects, where appropriate and economically feasible, to ensure that the Laboratory can meet programmatic mission needs over the next 20 to 40 years.

Each of the areas identified above requires commitments to achieve positive results. The return on investment can be realized through reduced operating costs (maintenance and energy) and increased technical productivity to achieve mission requirements. In addition, each area addresses safety and security needs and allows Laboratory facilities to be sustainable over the long term.

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1.4 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires a process to consider environmental impacts during the planning of new activities or the modification of existing activities. It requires that the responsible Federal agency (NNSA) take a hard look at proposed activities that may potentially result in significant environmental impacts and disclose them to the public.

The Laboratory is committed to compliance with NEPA requirements and coordinates them with other environmental, health, safety, and security requirements, and the comprehensive site-planning program. Proposals developed by program and line organizations must be compliant with NEPA prior to decisions regarding implementation. Failure to ensure complete NEPA compliance could lead to adverse consequences for a project, ranging from delays to possible litigation and could result in negative impacts to the environment.

When proposed Laboratory projects are at a sufficient stage of planning to allow for detailed NEPA analysis, they are subject to review by NNSA to determine the appropriate level of compliance analysis. The review could result in a determination that the proposed activity was sufficiently analyzed in the Site Wide Environmental Impact Statement (SWEIS) or other previous impact analyses (environmental assessment (EA), environmental impact statement (EIS)). NNSA also could determine that the proposed project is qualified to be categorically excluded (CX) from the need to prepare either an EA or an EIS, or it could determine preparation of an EA or an EIS is necessary.

The NEPA determination process is based on a number of criteria such as the potential for a project to have adverse environmental impacts, the type of mission the proposed project would perform, and public interest and concerns. The specifics of the determination process are discussed in greater detail in the Council on Environmental Quality Regulations for implementing NEPA (40 CFR 1500) and the DOE agency specific regulations for implementing NEPA (10 CFR 1021). The NEPA process, depicted in Figure 1-1, should be implemented during the project-planning phase when most of the project specific details are known and completed prior to Critical Decision-2, which is the equivalent of steps one and two of the Integrated Safety Management (ISM) process, plan the work and identify hazards.

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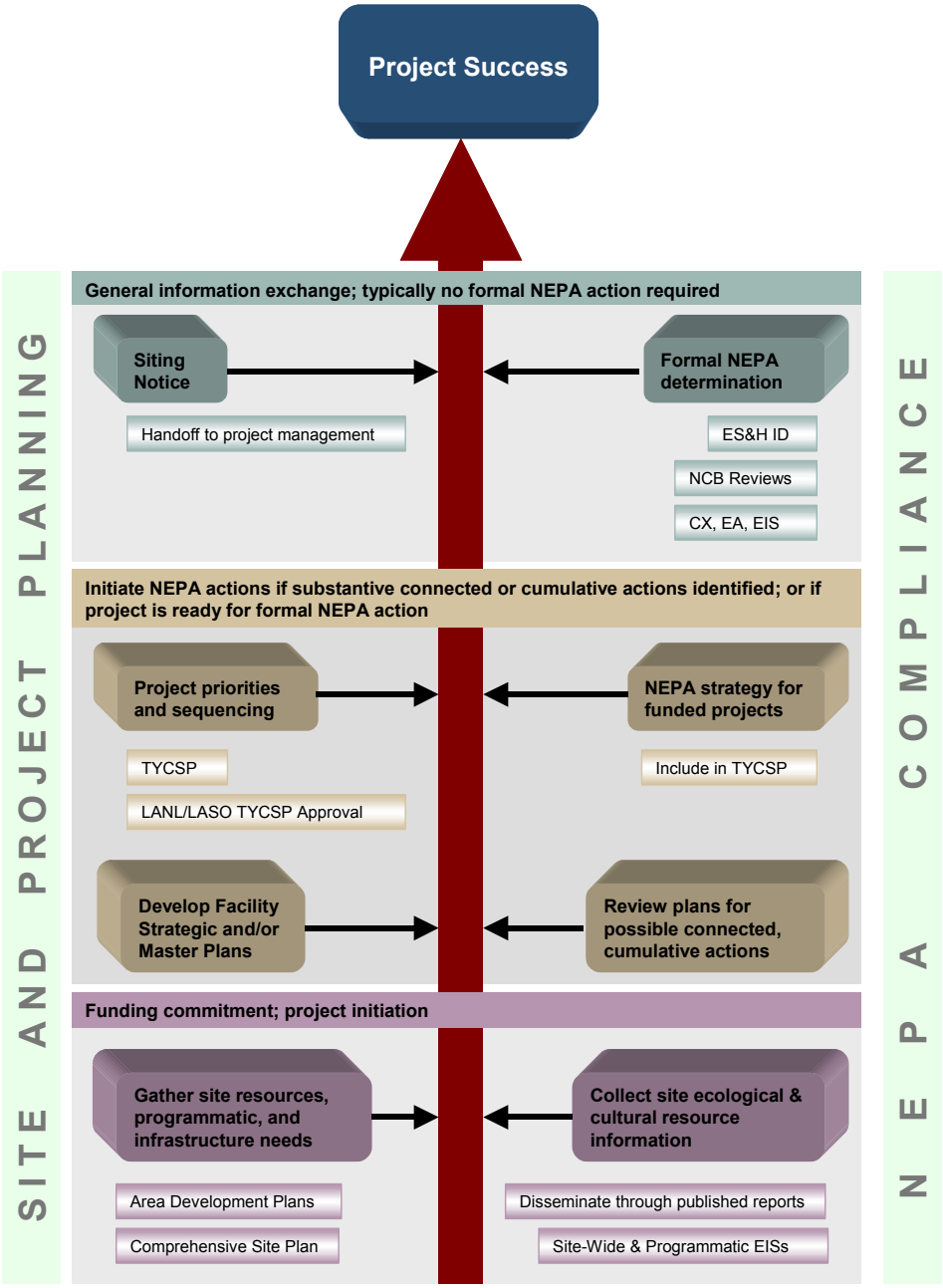
Figure 1-1: NEPA compliance and the site and project planning process.



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At the Laboratory, the NEPA process is generally initiated when the Laboratory's Ecology Group and /or an authorized reviewer conducts a NEPA, Cultural Resources, and Biological (NCB) review of a proposed project. The Laboratory performs several hundred NEPA reviews each year. A recommendation on the level of NEPA review (CX, EA, or EIS) is submitted to NNSA where a decision regarding the need for and the level of NEPA documentation is made. NEPA is completed and a project can proceed once NNSA notifies the Laboratory that a CX is completed, a Finding of No Significant Impact (FONSI) is signed for an EA, or a Record of Decision (ROD) is published for an EIS.

The TYCSP, in general, represents implementation of the level of operations described in the SWEIS and selected by the ROD. However, a NEPA review should be accomplished when a specific action (site or facility plan/project) is "ripe for decision" and is being considered for funding and implementation to determine whether the SWEIS fully covers the current proposal. Site and facility plans may include projections of the future. To the extent they are not commitments to pursue a specific project or set of projects or are not yet discussed in a TYCSP, such plans typically do not engage NEPA analysis. Once a plan is proposed and considered for implementation, the NNSA must engage in the NEPA compliance process, have a NEPA strategy established, and obtain appropriate NEPA reviews in accordance with regulatory and Laboratory requirements.

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1.5 CHANGES FROM PRIOR YEAR TYCSP

In order to provide plan-to-plan traceability, the summaries below describe the major changes in the document chapters from the prior year. In addition, changes from the prior year's F&I Cost Projection Spreadsheets are denoted in blue on each sheet in Attachment A.

Chapter 2 Site Description

- Text and maps have been updated to reflect the Laboratory's new boundaries following ownership transfer by NNSA of approximately 3 square miles of land.
- Facility status maps have been updated with new proposed construction projects and excess facilities.

Chapter 3 Mission Needs and Program Descriptions

- Mission essential facilities have been identified, and the linkages between the program/mission technical drivers and facilities and infrastructure requirements/needs for those mission essential facilities are discussed. Maps showing the locations of mission essential facilities have also been included.
- A new section, "Role of Technology in the Complex of the Future," has been included per the guidance. Topics discussed include the impact of future applied technology integrating business practices, personnel, and equipment to facilities and infrastructure.

Chapter 4 The Plan

- Additional information that supports the Laboratory's achievement of NNSA's corporate deferred maintenance stabilization and reduction goals for FY05 and FY09 is included. An expanded narrative of the current situation and corrective actions that will achieve the goals is provided, as well as a graphical representation of the Laboratory's projected maintenance reduction.
- Excess Facility Elimination/New Construction reporting is included and depicts the balance/difference between the Laboratory's projected gross square feet of NNSA

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excess facilities eliminated in comparison to the gross square feet of NNSA new construction.

- The "Planning Initiatives" section has been modified to included ongoing master planning activities at various technical areas.

- Plant capacity and production readiness information has been modified based on the FY02 Production Readiness Assessment Report.

- An expanded workforce profile section discusses the impact of workforce planning on facilities and infrastructure planning.

Attachment A, F&I Cost Projection Spreadsheets

- Cost Projection Spreadsheets are updated to reflect the most current information and respond to new requirements in the guidance. Changes include the following:
  - Prior Year (PY) actuals are reported,
  - The Summary of NNSA Facilities and Infrastructure Costs (by funding type) Spreadsheet previously required and defined in the March 1, 2002 TYCSP Guidance has been removed,
  - A Proposed Line Item Projects Spreadsheet has been included to capture line items not included in the ICPP, and
  - Rating and scoring of FIRP projects aligns with the refined FIRP project selection criteria.

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SITE DESCRIPTION

2.1 GEOGRAPHIC SETTING

The Laboratory and residential areas of Los Alamos and White Rock are located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. The 40-square mile Laboratory site is situated on the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep east-to-west oriented canyons cut by intermittent streams. Mesa tops range in elevation from approximately 7,800 feet on the flanks of the Jemez Mountains to about 6,200 feet at their eastern termination above White Rock Canyon and the Rio Grande. Plant communities on these mesas range from ponderosa pine forests on the flanks of the Jemez Mountains to piñon-juniper woodlands near the Rio Grande. The climate is moderate with relatively mild winters and summers.

Most Laboratory and community developments are confined to mesa tops. The surrounding land is largely undeveloped, and large tracts of land north, west, and south of the Laboratory are administered by the Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, General Services Administration, and Los Alamos County. The Pueblo of San Ildefonso borders the Laboratory to the east.

The Laboratory is divided into TAs that are used for building sites, experimental areas, waste disposal locations, etc. However, these uses account for only a small part of the total land area. Development is limited by steep slopes and by the need for security and safety buffers because of the work performed.

The (Department Of Energy (DOE) administers the area occupied by the Laboratory and has the option to completely restrict public access. However, the public is currently allowed limited access to certain areas of the Laboratory, along State Routes 4, 501, and 502.

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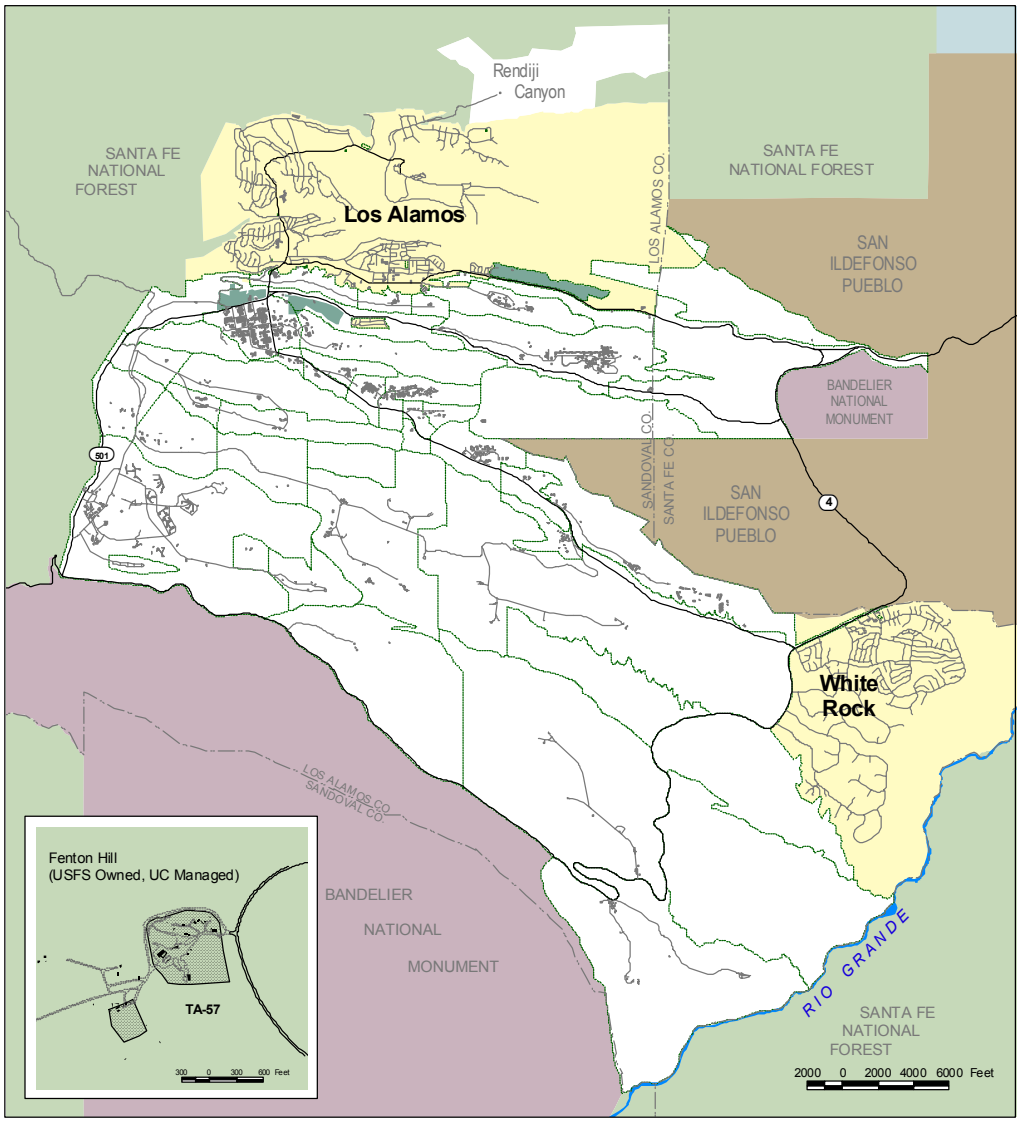

Land Management / Ownership

- Technical Area Boundary
- County Boundary
- Paved Road
- Unpaved Road
- LANL Facility
- Bandelier National Monument
- Private Land
  (Private Land Within the DOE Boundary includes: Royal Crest Mobile Home Park and the Ice Skating Rink)
- San Ildefonso
- U.S. Forest Service
- BLM
- DOE Owned
  (Accounts for Land Transfers of October 2002 and includes Rendija Canyon / Sportsmen Club)
- DOE Owned and Leased*
  -Airport
  -Landfill and Concrete Plant
  -Research Park
  -ICON Facility Land at TA-46
- US Forest Service Owned / UC Managed
  (Fenton Hill)

*The intent of this analysis is to identify land and not buildings, therefore, leased office space in the townsite is NOT part of the listed acreage.

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2.2 LABORATORY RESOURCES

The following section discusses the regional ecosystem encompassing the Laboratory and resources specifically at the Laboratory. Information is drawn from the SWEIS and supporting documentation.

2.2.1 Regional Ecosystem

Administrative boundaries do not necessarily coincide with ecological boundaries. Laboratory facilities, infrastructure, operations, and impacts (positive, negative, neutral, and undetermined) are immersed in the patterns and processes of a complex regional landscape making up the Pajarito Plateau. Major habitat types and canyon systems are continuous across this plateau, which encompasses jurisdictional boundaries of the Laboratory, Bandelier National Monument, Santa Fe National Forest, Native American Pueblos, and other land management stewards. Seasonal migration routes for elk and deer and foraging or hunting ranges of black bears and mountain lions cross these jurisdictional boundaries.

Canyons

From their narrow, thickly forested beginnings on the flanks of the Jemez Mountains, to their confluence with the Rio Grande, major canyons are associated with the eight major watersheds. The plateau canyons range in depth from about 200 to 600 feet. The steeply sloping, north-facing canyon walls and canyon bottoms are shadier and cooler and have higher levels of humidity and soil moisture than the often nearly vertical, south-facing canyon walls, which are sunnier, hotter, and more arid. These differences in slope, aspect, sunlight, temperature, and moisture cause a dramatic localized shift in major vegetation zones on canyon walls and in canyon bottoms beyond their typical range of elevation. This “canyon-effect” is responsible for fingers of coniferous forest extending down regional canyons.

Watersheds

The regional Laboratory ecosystem has been defined to include eight major watersheds, each of which has significant tributaries. Watersheds draining the Jemez Mountains and Pajarito Plateau are tributaries of the Rio Grande, which is the fifth largest watershed in North America. Approximately 11 miles of the Laboratory’s eastern boundary borders on the rim of White Rock Canyon or descends to the Rio Grande. The riverine, lake, and canyon environment of the Rio Grande as it flows through White Rock Canyon makes a major contribution to the biological resources and significantly influences ecological processes of the Laboratory region.

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Wetlands

The majority of the wetlands in the Laboratory region are associated with canyon stream channels or are present on mountains or mesas as isolated meadows containing ponds or marshes, often in association with springs or seeps.

A 1990 survey (based on interpretation of aerial photographs) identified a total of 39 acres of wetlands within Laboratory boundaries. A 1996 field survey by Laboratory personnel identified an estimated 50 acres of wetlands within Laboratory boundaries, based on the presence of wetland vegetation (hydrophytes).

Currently, about 13 acres of wetlands within Laboratory boundaries are caused or enhanced by process effluent wastewater from National Pollutant Discharge Elimination Systems (NPDES)-permitted outfalls. In 1999, the effluent from NPDES outfalls, both storm water and process water, was estimated to have contributed 317 million gallons to wetlands within Laboratory boundaries. Effluents are being reduced through a program of outfall reductions. It is expected that some wetlands will shrink and perhaps disappear entirely over time.

Major Vegetation Zones

Although watersheds traverse all or part of the elevational gradient, major vegetation zones are organized into elevation- and aspect-defined bands across this gradient. Increasing temperature and decreasing moisture along the 12-mile-wide and 5,000-foot-elevational gradient from peaks of the Jemez Mountains to the Rio Grande result in the formation of six vegetative zones. The six vegetation zones that characterize this regional ecosystem are montane grasslands, spruce-fir forest, mixed conifer forest (with aspen forest), ponderosa pine forest, piñon-juniper woodland, and juniper savannah.

The montane grassland, spruce-fir, and mixed conifer vegetation zones are located primarily west of the Laboratory with little representation on the Laboratory proper. The vegetation zones and associated ecotones provide habitat, including breeding and foraging territory, and migration routes for a diversity of permanent and seasonal wildlife.

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2.2.2 Resources for Integration

The resources included here are those that have high potential to be affected by or effect the Laboratory's operations and facilities. In either case, the potential impacts are discussed. Resources that have a lower potential to be affected by the Laboratory's operations, such as geology, are not included.

Air

The quality of ambient air is defined by federal and state regulations. The Environmental Protection Agency has set National Ambient Air Quality Standards for pollutants of nationwide concern. These pollutants, known as criteria pollutants, are carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, lead, and particulate matter. The area around the Laboratory is classified as an attainment area for all six criteria pollutants.

The State of New Mexico has also established ambient air quality standards. DOE and Laboratory operations meet all state standards.

Water

Water is a limited resource in the semiarid climate of northern New Mexico. Canyon-bottom streams within Laboratory boundaries are mostly dry, and only portions of some streams contain water year round. Flash floods can occur following thunderstorms. Sediments moved by storm water events from upstream locations, hillsides, or mesa tops occur along the bottom of most Laboratory canyons, and flash floods move these sediments from the canyon bottoms into the Rio Grande.

Surface Water

Surface water in the Los Alamos area occurs primarily as short-lived or intermittent reaches of streams. Perennial springs on the flanks of the Jemez Mountains supply base flow into the upper reaches of some canyons, but volume is generally insufficient to maintain surface flows across the Laboratory site before they are depleted by evaporation, transpiration, and infiltration. Runoff from heavy thunderstorms or heavy snowmelt reaches the Rio Grande several times a year in some drainages. Effluents from sanitary sewage, industrial water treatment plants, and cooling-tower blowdown enter some canyons at rates sufficient to maintain surface flows for varying distances. Surface water within Laboratory boundaries is not a source of municipal, industrial, or irrigation water, but is used by wildlife that live within, or migrate through, the region.

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Storm water and associated sediment transport are the major mechanisms by which contaminants are transported within and beyond Laboratory boundaries. Therefore, management efforts to reduce contaminant migration in the canyons at the Laboratory have historically focused on these transport mechanisms.

Ground Water

The Laboratory and the surrounding communities use ground water for drinking water supplies. Water levels in wells penetrating into the regional aquifer have declined in response to pumping, typically by several feet each year.

Like surface water, the presence of ground water is variable. The regional aquifer is the only body of ground water in the region sufficiently saturated and permeable to transmit economic quantities of water to wells for public use. All drinking water for Los Alamos County, the Laboratory, and Bandelier National Monument comes from the regional aquifer. Depth to water in the aquifer, from the ground surface, varies from approximately 1,200 feet along the western boundary of the Pajarito Plateau to approximately 600 feet along the eastern edge of the Pajarito Plateau.

Water in the regional aquifer is under artesian conditions under the eastern part of the Pajarito Plateau near the Rio Grande. The source of recharge to the aquifer is presently under investigation. Recent results of a major, multiyear hydrogeologic study have indicated that there is significant ground-water recharge along the flank of the Jemez Mountains, and there may be more ground water recharge from canyon bottom alluvial ground water than previously believed. Laboratory contaminants have been found in perched zones above the regional aquifer and in the regional aquifer as a result of characterization wells. Work continues to increase understanding of the hydrogeologic conditions.

Soils

Several distinct soils have developed in and around the Laboratory as a result of interactions between bedrock, topography, and local climate. Construction activities at the Laboratory can displace these soils, and runoff from parking lots and buildings can cause erosion. In addition, surface contamination can result from open detonations at the firing sites, or from the deposition of contaminants released to the atmosphere from building vents and other operations.

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Biological

Though operations at the Laboratory are not expected to result in significant impacts to biological resources, ecological processes, or biodiversity (including threatened and endangered species), operations will continue to release small quantities of contaminants, disrupt natural migration routes, or otherwise disturb local environs.

The lands within and around the Laboratory have diverse, unique biological communities having complex ecological relationships. Plant communities range from urban landscaping to grasslands, wetlands, shrublands, woodlands, and mountain forest, which provide habitat for a wealth of animal life. This richness of animal life includes elk and deer, bears, mountain lions, coyotes, rodents, bats, reptiles, amphibians, invertebrates, and a myriad of resident, seasonal, and migratory bird life. In addition, threatened and endangered species of concern and other sensitive species use Laboratory resources. Because of restricted access to Laboratory lands and management of contiguous Bandelier National Monument for natural biological systems, much of the region provides a refuge for wildlife.

Wildlife

The Laboratory's lands support a diversity of wildlife ranging from state- and federal-listed threatened and endangered species to large and small game populations. A number of regionally protected and sensitive species of concern have been documented on or near the Laboratory's lands. These consist of one federal-listed endangered species, two federal-listed threatened species, and 18 species of concern (species that may be of concern to the United States (U.S.) Fish and Wildlife Service but do not receive protection under the Endangered Species Act). Operations at the Laboratory may impact these species by removal of key habitat, disturbing these species during breeding seasons, altering hunting and foraging areas, etc. Conversely, these species may impact operations by requiring certain areas to remain undisturbed and restricting the locations for new facilities.

Forest

There are three forest types that occupy the majority of Laboratory acreage: piñon-juniper woodlands, ponderosa pine, and spruce fir forests. Each of these forest types has its own characteristics; however, they all three show effects of fire suppression over the last hundred years coupled with restrictions in grazing by domestic livestock. The most obvious effects have been an increase in overall tree stand densities, continuity, and fuel loading with a concomitant decrease in understory cover. The

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heavily forested areas have dense stands of unhealthy trees with excessive amounts of standing and fallen dead tree material.

In the last 50 years, this region has seen five major wildfires: the Water Canyon Fire in 1954, the La Mesa Fire in 1977, the Dome Fire in 1996, the Oso Fire in 1998, and the Cerro Grande Fire in 2000. In each case, fire occurred during the late spring or early summer fire season when fire danger was high or extreme. Weather conditions were hot and dry, fuel moisture content was low, and fuel loads were high. Even after these five fires, overall conditions across the Pajarito Plateau are still conducive to wildfire, and as fuel loads regenerate in the burned areas, the probability of the next fire event increases.

Cultural and Historical

Cultural resources are any prehistoric or historic sites, buildings, structures, districts, or other places or objects (including biota of importance) considered to be important to a culture, subculture, or community for scientific, traditional, or religious purposes, or for any other reason. They combine to form the human legacy for a particular place. The cultural resources present within the Laboratory region are complex because of great cultural diversity in the inhabitants of this region. As structure and physical environment of the Jemez Mountains and Pajarito Plateau changed over time, cultures changed in response, as reflected in settlement patterns and technology that evolved over time.

The cultural resources present within Laboratory boundaries and the region have been classified into three categories: prehistoric, historic, and traditional cultural properties (TCPs). These three categories of cultural resources are protected variously under state and federal laws, regulations, and executive orders.

Archeological surveys have been conducted of approximately 90% of the land within Laboratory boundaries (with 85% of the area surveyed receiving 100% coverage) to identify cultural resources. The majority of these surveys emphasized prehistoric American Indian cultural resources. Information on prehistoric cultural resources is maintained in the Laboratory cultural resources database, which is a listing of the cultural resources identified through surveys and excavations recorded over the last decade. The database is organized primarily by site type and records 1,295 prehistoric sites. Of the 1,295 prehistoric sites in the Laboratory database, 1,192 have been assessed for potential nomination to the National Register of Historic Places (NRHP). Of these, 770 sites are eligible, 322 sites are potentially eligible, and 100 sites are ineligible. The remaining 103 sites, which have not been assessed for NRHP eligibility, are assumed to be eligible until a determination can be made.

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Historic cultural resources include all material remains and any other physical alteration of the landscape that has occurred since the arrival of Europeans in the region. The historic resources present with Laboratory boundaries and on the Pajarito Plateau can be attributed to three phases: Spanish Colonial, Early U.S. Territorial/Statehood, and the Nuclear Energy Period.

A TCP is a significant place or object associated with historical and cultural practices or beliefs of a living community that is rooted in that community's history and is important in maintaining the continuing cultural identity of the community. TCPs are essential in preserving cultural identify through social, spiritual, political, and economic uses.

An area may have TCP significance depending on a variety of factors, i.e., the site is remembered in prayers or tribal stories, traditional ritual knowledge of the site is passed on to other members of the community, or traditional customs continue to be practiced by members of a community. TCPs that are considered culturally important by traditional communities include shrines, trails, springs, rivers, acequias, plant and mineral gathering areas (also referred to as ethnobotanical sites), traditional hunting areas, ancestral villages and gravesites, and petroglyphs. However, TCPs are not limited to ethnic minority groups. Americans of every ethnic origin have properties to which they ascribe traditional cultural value.

Within the Laboratory's boundaries, there are ancestral villages, shrines, petroglyphs, sacred springs, trails, and traditional use areas that could be identified by Pueblo and Athabascan communities as TCPs. DOE and the Laboratory have a program in place to manage on-site cultural resources for compliance with the Native American Graves Protection and Repatriation Act and American Indian Religious Freedom Act. When an undertaking is proposed, DOE and the Laboratory arrange site visits by tribal representatives from San Ildefonso, Santa Clara, Jemez, and Cochiti Pueblos to solicit their concerns and comply with applicable requirements and agreements. Provisions for coordination among these four Pueblos and DOE is contained in formal agreements called accords that were entered into in 1992 for the purpose of improving communication and cooperation among federal and tribal governments. According to the DOE compliance procedure, American Indian tribes may request permission for visits to sacred sites within Laboratory boundaries for ceremonies.

Because of the very well-defined changes in the function of the Laboratory, the Nuclear Energy Period is broken into three periods: World War II/Early Nuclear Weapon Development, Early Cold War, and Late Cold War. The World War II or Manhattan Project era (1943-1946) and the Early Cold War (1947-1963) are two periods of particular historic significance for Laboratory structures. Of the 570

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buildings at the Laboratory that are eligible for listing on the National Register of Historic Places or will require eligibility evaluations, 501 were built between 1943 and 1963. There are some buildings and structures built after 1963 that have historic significance because of their relationship to the exceptional events or historic figures of the two periods.

In light of the two periods of historic significance, the TYCSP plays a significant role in the determination of future potential impacts to historic properties. The Guidance for the TYCSP (A Supplement to the FY 2003 Budget Call) requires DP sites to identify excess "facilities and land that no longer support mission(s), program(s) and/or workload." Buildings and structures with high maintenance backlogs and low replacement values are classified as being in poor condition and considered for decontamination and decommissioning and eventual demolition (D&D). Buildings not on the "excess list" will be retained for the long-term mission of the Laboratory.

Of the 501 buildings built between 1943 and 1963, 289 (58%) are currently identified as excess, to be removed over the next 10 years. Given the proposed removal of a disproportionately high number of early historic properties at the Laboratory, an overall plan for the consideration of the historic significance of these properties and opportunities for their preservation and/or interpretation is in development.

2.2.3 Established Natural Areas

DOE (and its predecessor organization) recognized the diversity of natural resources at the Laboratory and provided particular protection to portions of the Laboratory by taking specific actions.

National Environmental Research Park

In November 1976, the U.S. Energy Research and Development Administration, precursor to DOE, designated four installations as National Environmental Research Parks, one of which was the Laboratory. The National Environmental Research Park facilitates self-supported environmental research on the interactions between human-altered systems and adjacent natural systems and is available to individuals and organizations both within and outside the Laboratory, under approved arrangement with the park coordinator.

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White Rock Canyon Reserve

The White Rock Canyon Reserve was dedicated by DOE on October 30, 1999. It contains approximately 1,000 acres on the southeastern portion of the Laboratory along the Rio Grande. The objective of the Reserve is to conserve, protect, and enhance the site's biological and cultural resources. Bandelier National Monument will co-manage it together with NNSA with input from the University of California (UC)/LANL, other state and federal agencies, nearby Pueblos, and the local community. A comprehensive resources management plan for the Reserve will be completed by 2005.

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2.3 LAND

The Laboratory occupies an area of approximately 25,383 acres (10,280 hectares), or approximately 40 square miles (104 square kilometers), of DOE land (excluding Rendija Canyon) of which the majority lies within Los Alamos County. The remaining portion of Laboratory acreage lies within Santa Fe County, which also borders portions of Laboratory boundaries along the east and southeast. In this western portion of Santa Fe County, development is very limited, occurring primarily on American Indian lands within the Rio Grande Valley. A small isolated portion of Sandoval County borders the Laboratory on the east and is composed entirely of undeveloped lands belonging to the Pueblo of San Ildefonso. Additionally, a small portion of Sandoval County borders the Laboratory on its southwest boundary, with the remainder of the county being located (noncontiguously) to the south, west, and north. In the Laboratory area, Sandoval County is generally undeveloped, being primarily U.S. Forest Service and U.S. National Park Service lands.

The total land area within DOE land ownership or management is broken down by whomever manages the land as shown in Table 2-1. The DOE Managed column includes the Rendija Canyon/Sportsmen Club.

Table 2-1: Area totals by land management type.

Type	Area in Square Miles*	Area in Acres*
DOE Managed	1	918
Leased	0.4	197
Private (within LANL Boundary)	0.1	27
UC Managed	40	25,383

*Amounts are rounded off.

The Laboratory is divided into 49 active and separate TAs with location and spacing that reflect the site's historical development patterns, regional topography, and functional relationships (see map on following page). There are over 80 miles of asphalt roads and parking areas, and unpaved roads are estimated to include up to an additional 200 acres (81 hectares).

Although at a cursory glance there appears to be sufficient land for further expansion at the Laboratory, the majority of it is very difficult to develop given significant physical and operations constraints. For example, over 25% of the Laboratory's acreage consists of slopes that exceed 20%. Adding to the scarcity of developable

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land is the type of work that the Laboratory performs. Security and safety buffers for defense-related work often require large reservations of land for these programs to continue without adversely affecting surrounding areas. These types of constraints severely limit developable land at the Laboratory.

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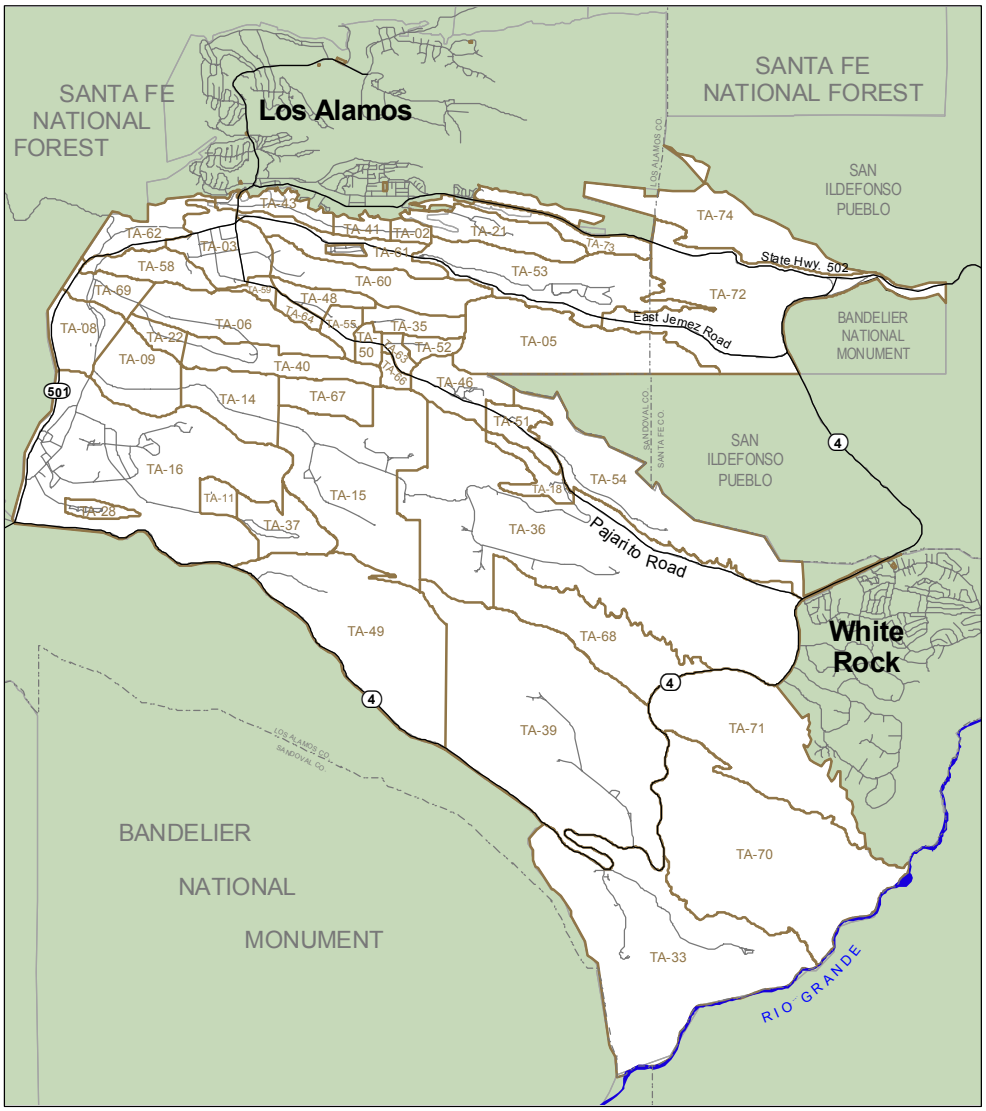

Technical Area Boundaries

Technical Area Boundary
County Line
Ownership Boundary
Primary Road
Local Road

4000 0 4000 8000 Feet

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2.3.1 Land Use Planning and Management

Land-use planning and management is a process based on the Laboratory-wide Comprehensive Site Plan (CSP) from which more detailed area development plans and master plans are developed. The CSP is a technical document presenting land-use issues, capabilities, and site opportunities and limitations upon which future land use decisions are made. Detailed background information regarding the site is included, such as geographic description, topography, soils, geological, cultural resources, natural resources, facilities, and transportation. The CSP is updated and revised periodically depending on significant changes in the Laboratory's mission, site conditions, or public policy.

The existing land-use map depicts the current status of land use at the Laboratory. The future land-use map depicts major land-use changes proposed for various locations where growth is anticipated. Proposed construction projects are evaluated against this land-use map and follow a formal siting process that, if projects are significant, may involve siting approval from the Laboratory's Site Planning and Construction Committee (SPCC). Most site issues are resolved through the ESH-ID process that involves both planning and NEPA review. Generally, major land use changes involve ongoing efforts to consolidate Nuclear Materials Research and Development (R&D) areas and the expansion of Experimental Science. In addition, the overall site was reduced by the recent transfer of "Reserve" land to Los Alamos County and San Ildefonso Pueblo.

Table 2-2: Site-wide land use.

Existing Land Use		Future Land Use	
Land Use Category	**Acreage**	**Land Use Category**	**Acreage**
Service/Support	184	Service/Support	71
Experimental Science	705	Experimental Science	1,906
High-Explosives R&D	1,297	High-Explosives R&D	1,318
High-Explosives Testing	7,209	High-Explosives Testing	10,856
Nuclear Materials R&D	131	Nuclear Materials R&D	141
Physical/Technical Support	452	Physical/Technical Support	388
Public/Corporate Interface	31	Public/Corporate Interface	65
Theoretical/Computational Science	7	Theoretical/Computational Science	23
Waste Management	196	Waste Management	245
Reserve	15,355	Reserve	8,967
Total	**25,590**	**Total**	**24,005**

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The following 10 land-use categories describe the activities at the Laboratory and are shown on the following maps.

Service/Support—Nonprogrammatic technical expertise, support, and services for Laboratory management and employees.

Experimental Science—Applied research and development activities tied to major programs.

High-Explosives R&D—Research and development of new explosive materials. This land is isolated for security and safety.

High-Explosives Testing—Large, isolated, exclusive-use areas required to maintain safety and environmental compliance during testing of newly developed explosive materials and new uses for existing materials. This land also includes exclusion/buffer areas.

Nuclear Materials R&D—Isolated, secured areas for conducting research and development involving nuclear materials. This land use includes security and radiation hazard buffer zones. It does not include waste disposal sites.

Physical/Technical Support—Includes roads, parking lots, and associated maintenance facilities; infrastructure such as communications and utilities; facility maintenance shops; and maintenance equipment storage. This land use is generally free from chemical, radiological, or explosives hazards.

Public/Corporate Interface—Provides link with the general public and other outside entities conducting business at the Laboratory, including technology transfer activities.

Theoretical/Computational Science—Interdisciplinary activities involving mathematical and computational research and related support activities.

Waste Management—Provides for activities related to the handling, treatment, and disposal of all generated waste products, including solid, liquid, and hazardous materials (chemical, radiological, and explosive).

Reserve—Areas that are not otherwise included in one of the previous categories. It may include environmental core and buffer areas, vacant land, and proposed land transfer areas.

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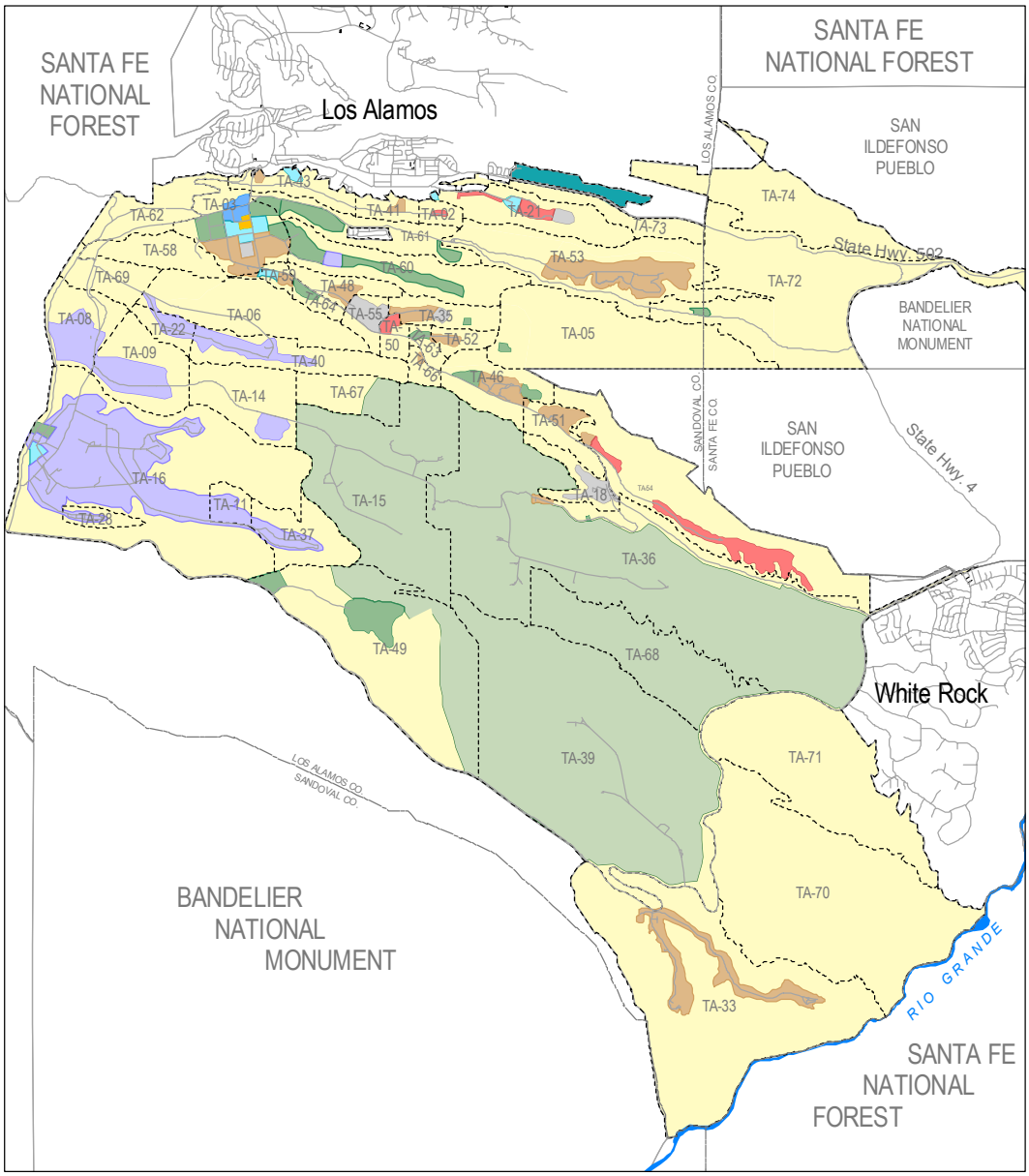

Existing Land Use

- Service / Support
- Airfield
- Experimental Science
- High Explosive R&D
- High Explosive Testing
- Nuclear Materials R&D
- Physical/Technical Support
- Public/Corporate Interface
- Reserve
- Theoretical/ Computational Science
- Waste Management

7000 0 7000 Feet

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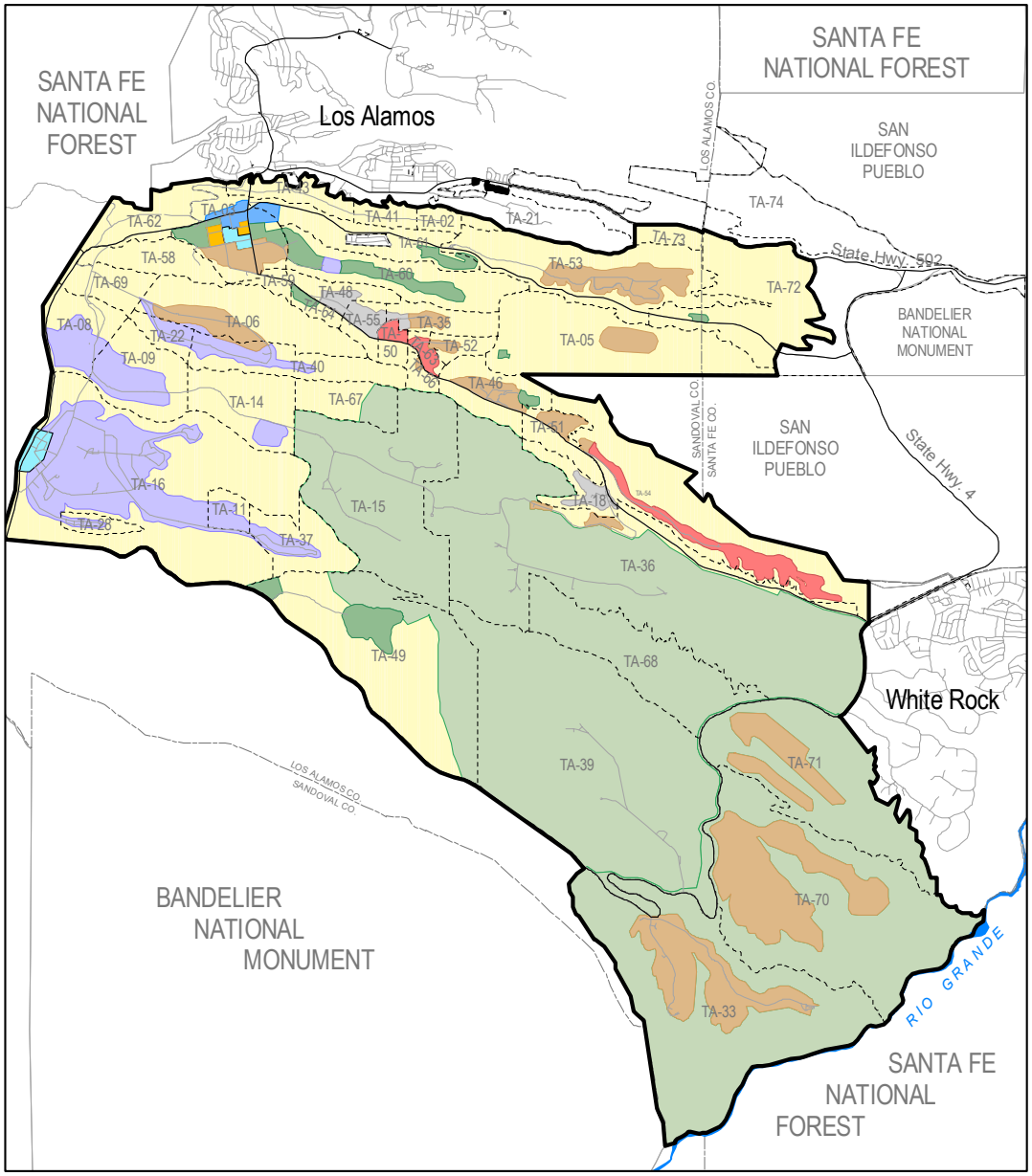

Future Land Use

- Experimental Science
- High Explosive R&D
- High Explosive Testing
- Nuclear Materials R&D
- Physical/Technical Support
- Public/Corporate Interface
- Reserve
- Service / Support
- Theoretical/ Computational Science
- Waste Management
- Future DOE Boundary

7000 0 7000 Feet

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2.3.2 Transfers of Land

Under the Atomic Energy Community Act of 1955, the federal government provided support for a period of time to towns that were strongly affected by their proximity to nuclear weapons complex sites. The intent of the act was to assist the towns in developing self-governance and self-sufficiency by, among other actions, transferring land.

During the 1990s, DOE's Los Alamos Site Operations Office (DOE-LASO), the Laboratory, and representatives of Los Alamos County began discussions regarding the potential transfer of government properties to assist the County in becoming economically self-sufficient. In October 1996, Congress passed legislation terminating the annual assistance payment to Los Alamos County by mid-1997, with a lump-sum termination payment of $22.5 million. Also, transfer of municipal functions and installations (water supply system, fire stations, and lease of the airport) began in 1997.

On November 26, 1997, Congress passed Public Law 105-119. Section 632 of the law directs the Secretary of Energy to convey land parcels to Los Alamos County or designee of the County. The legislation also calls for the transfer to the Secretary of the Interior, in trust for the San Ildefonso Pueblo, parcels of land under the administrative control of the Secretary of Energy at Los Alamos National Laboratory.

The tracts will be conveyed or transferred in accordance with the provisions of Public Law 105-119, the tract receipt agreement was between the County of Los Alamos and San Ildefonso Pueblo. The ROD was supported by 1999 EIS for conveyance and transfer of certain DOE land tracts located at the Laboratory.

The tracts must meet the suitability criteria established by the Act before they can be transferred or conveyed. That is, a parcel of land is suitable for transfer if not required for the national security mission before the end of November 2007; if it can be restored or remediated by November 2007; and if it is suitable for historic, cultural, or environmental preservation, economic diversification, or community self-sufficiency.

On October 30, 2002, eight parcels totaling 104 acres were deeded to Los Alamos County. These parcels are located in the Los Alamos townsite and White Rock community. Two parcels totaling 2,105 acres, primarily from TA-74, were transferred to San Ildefonso Pueblo.

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Six tracts of land remain for potential transfer to Los Alamos County or to the Department of the Interior for San Ildefonso Pueblo. The six tracts total approximately 1,850 acres.

Potential Land Transfer Tracts
• TA-21 tract, 244 acres; located on the eastern end of the same mesa on which the central business district of Los Alamos is located. • DP Road tract, 50 acres; located between the western boundary of TA-21 and the major commercial districts of the Los Alamos townsite. • DOE Office of Los Alamos Site Operations tract, 13 acres; located within the Los Alamos townsite between Los Alamos Canyon and Trinity Drive. • Airport tract, 198 acres; located east of the Los Alamos townsite, close to the East Gate Business Park. • Rendija Canyon tract, 909 acres; located north of and below Los Alamos townsite's Barranca Mesa residential subdivision. • White Rock Y tract, 435 acres; a complex area that incorporates the alignments and intersections of State Routes 502 and 4 and the easternmost part of Jemez Road.

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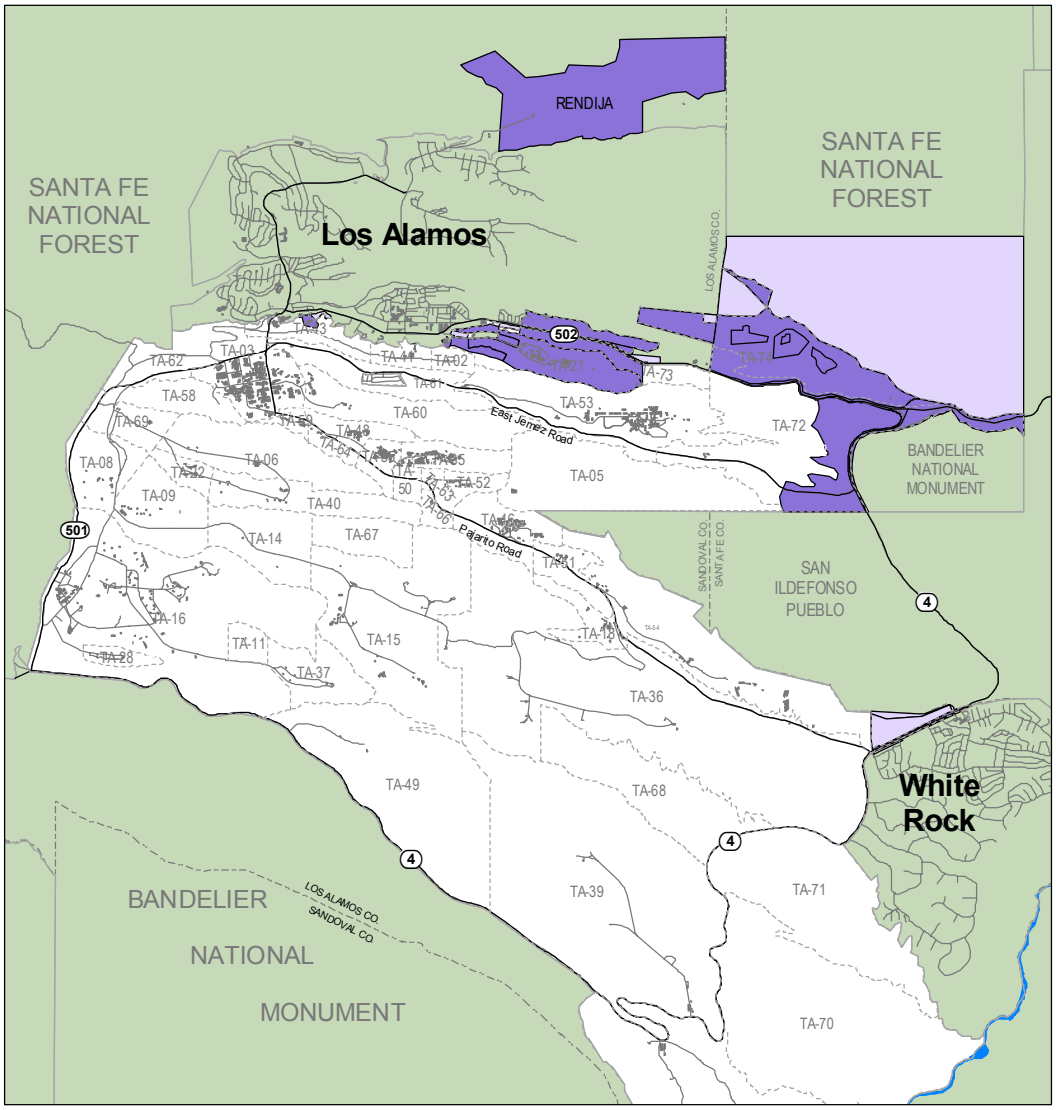

Land Transfer

LEGEND

- Technical Area Boundaries
- Parcels Transferred in 2002
- Parcels Pending Transfer

8000 0 8000 Feet

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2.4 BUILDINGS

In 1943, development of the Laboratory began with the construction of a little more than 93,000 gross square feet of space. As of July 2003, the Laboratory had over eight million gross square feet of space. The estimated replacement plant value (RPV) of these buildings is roughly $5.6 billion. The Laboratory also leases approximately 290,000 square feet within Los Alamos County at an annual cost of over $6 million (M) An additional 300,000 square feet in TA-03 came on line in early 2002 with completion of the Metropolis Center, and another 163,000 square feet became available in early 2003 when the NISC project was completed. Meanwhile, about two million gross square feet of space are planned for demolition and another two million gross square feet are proposed for excessing in the next 10 years (see Attachment E-1).

The map on page 2-24 shows current active (operating) facilities, spare and excess facilities, facilities currently active but *proposed* for excess by 2012, and the location of selected new construction projects that will achieve beneficial occupancy by FY04. Many of these facilities will start construction in the near term. The table on page 2-25 summarizes the gross square footage (GSF) and funding type for these new projects. Maps with greater detail may be found in Attachment I. Funding profiles may be found in Attachment A.

The map on page 2-26 shows the active, excess, and selected planned construction projects that will achieve beneficial occupancy from FY05 through FY13. The table on page 2-25 summarizes the GSF and funding types for these new projects.

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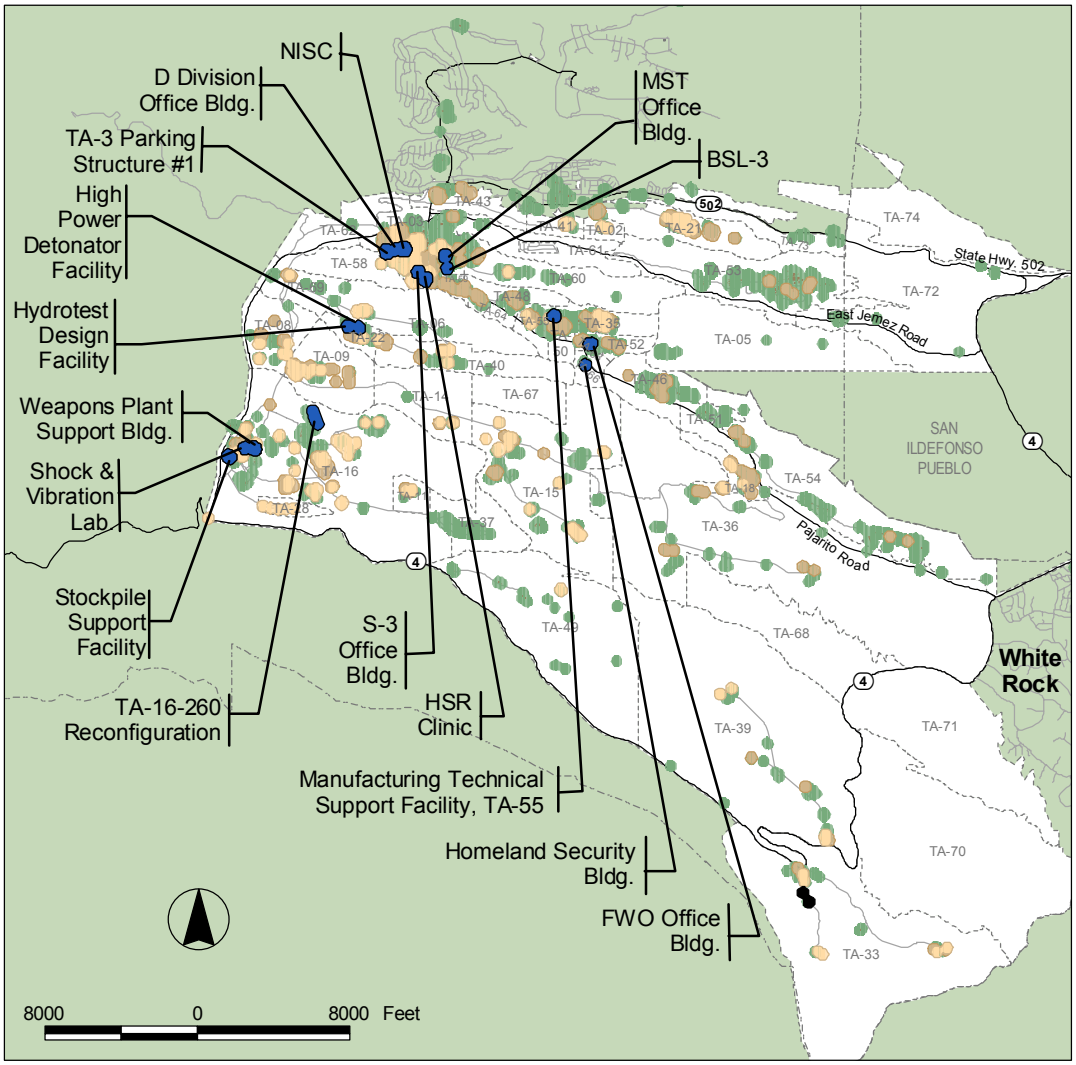

Facility Status, 2004, Overview with Currently Funded Construction

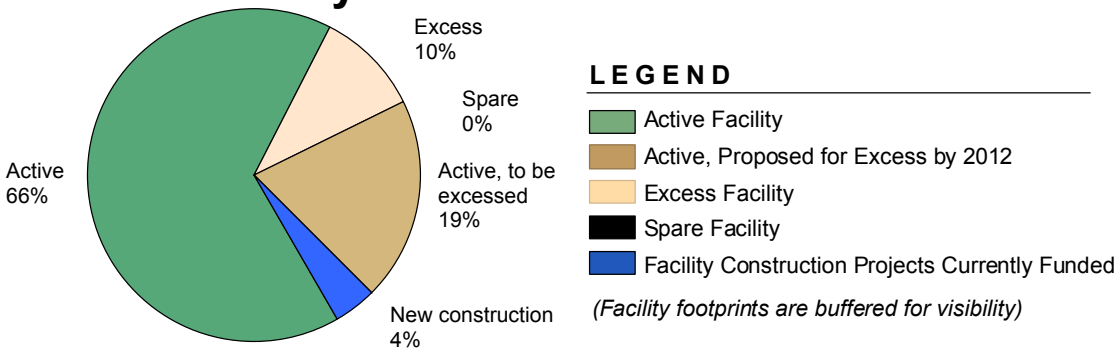

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Table 2-3: Planned construction projects achieving beneficial occupancy through FY04.

TA	Project Initiated	Beneficial Occupancy	Funding Type	GSF
FY00 Funded				
TA-3	Nonproliferation and International Security Center (NISC)	FY03	LI	163,400
FY02 Funded				
TA-3	HSR Clinic	FY03	GPP	19,000
	Materials Science and Technology (MST) Division Office Building	FY03	GPP	20,000
	Security (S)-3 Office Building	FY03	GPP	20,800
	Decision Analysis (D) Division Office Building	FY03	GPP	18,000
	Biosafety Level (BSL)-3	FY03	GPP	3,300
TA-55	Manufacturing Technical Support Facility	FY03	GPP	18,000
TA-16	Weapons Plant Support Building	FY03	GPP	23,000
TA-22	High Power Detonator Facility	FY03	GPP	TBD
FY03 Funded				
TA-63	FWO Office Building	FY04	GPP	19,400
TA-3	Parking Structure #1	FY04	IGPP	35,000
TA-22	Hydrotest Design Facility	FY04	GPP	17,400
TA-16	Stockpile Support Facility	FY04	GPP	18,000
	Shock and Vibration Lab	FY04	GPP	3,700
	TA-16-260 Reconfiguration	FY04	GPP	4,000
TA-66	Homeland Security Building	FY04	GPP	18,000

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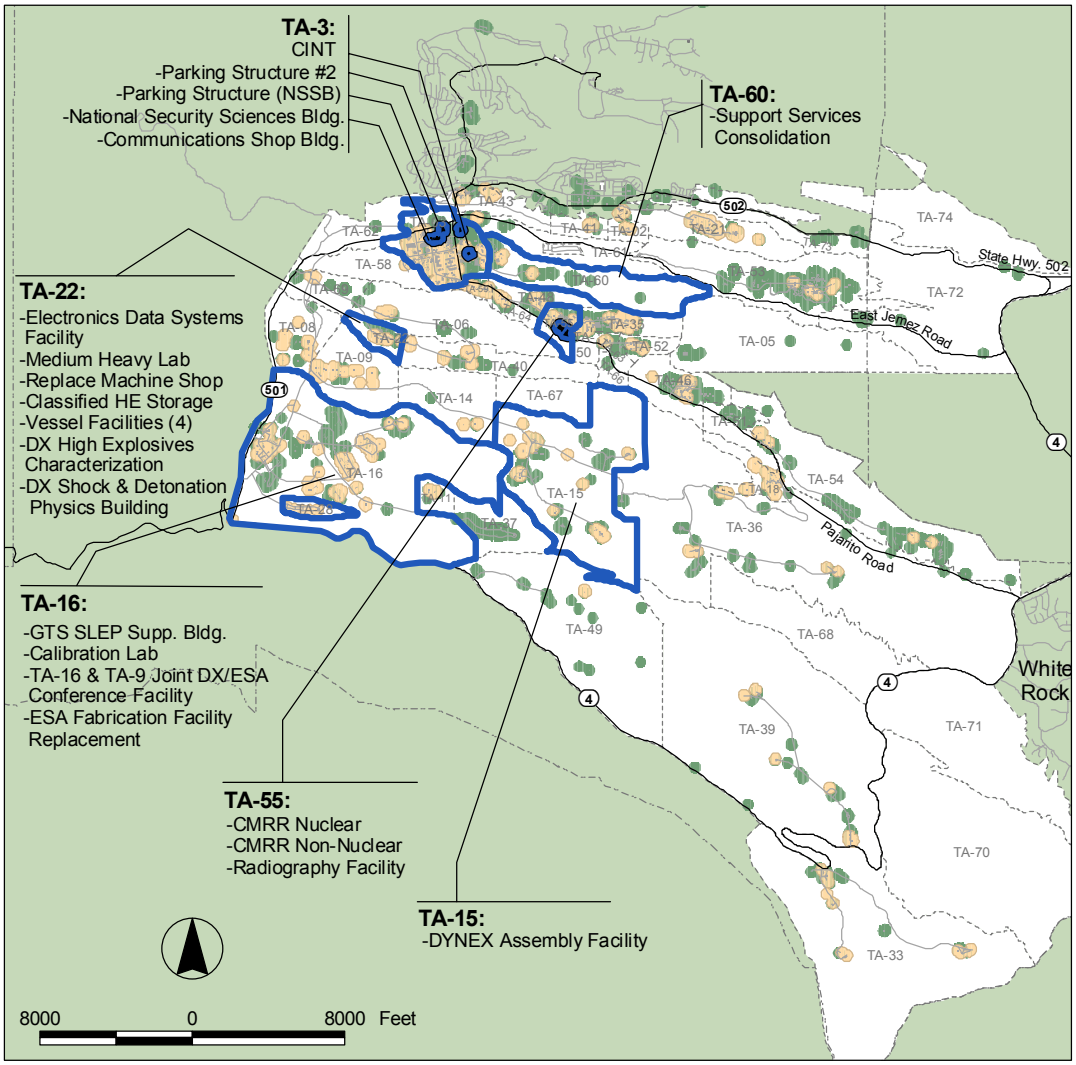

Facility Status, 2013, Overview with Proposed Future Construction

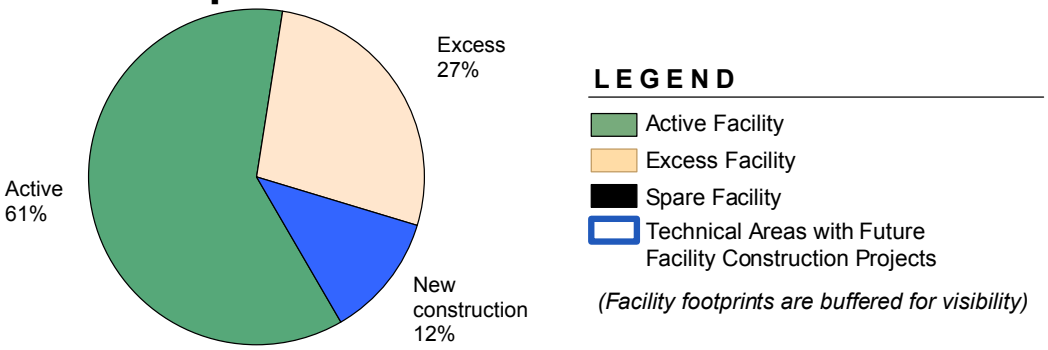

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Table 2-4: Planned construction projects achieving beneficial occupancy from FY05-FY12.

TA	Project Initiated	Beneficial Occupancy	Funding Type	GSF
FY02 Funded				
TA-3	Center for Integrated Nanotechnology (CINT)	FY05	LI	34,000
FY03 Funded				
TA-3	National Security Sciences Building (NSSB) and Parking Structure	FY06	LI	275,000
TA-55	Chemistry and Metallurgy Research (CMR) Replacement	FY11	LI	228,000
FY04 Funded				
TA-16	ESA Fabrication Facility Replacement	FY09	LI	50,000
TA-22	DX Shock & Detonation Physics Building	FY05	GPP	18,000
TA-3	Parking Structure #2	FY05	IGPP	35,000
TA-15	DYNEX Assembly Facility	FY05	GPP	15,000
FY05 Funded				
TA-22	Electronics Data Systems Building	FY06	GPP	16,000
	DX High Explosives Characterization	FY08	LI	32,000
TA-16	Calibration Laboratory	FY06	GPP	12,000
FY06 Funded				
TA-16	GTS SLEP Support Building	FY08	GPP	5,000
TA-3	Communications Shop Building	FY07	GPP	5,000
TA-22	Vessel Facility (1 of 4)	FY07	GPP	6,700
FY07 Funded				
TA-22	Vessel Facility (2 of 4)	FY08		
FY08 Funded				
TA-60	Support Services Consolidation	FY09	LI	40,000
TA-22	Vessel Facility (3 of 4)	FY09	GPP	4,200
	Medium Heavy Lab	FY09	GPP	5,000
TA-55	Radiography Facility	FY11	LI	20,000
FY09 Funded				
TA-22	Vessel Facility (4 of 4)	FY10	GPP	4,200
	Replace Machine Shop at TA-22	FY10	GPP	10,000
FY10 Funded				
	N/A			
FY11 Funded				
TA-22	Classified HE Storage	FY12	GPP	2,000
TA-16	Joint DX/ESA Conference Facility	FY12	GPP	5,000
FY12 Funded				
	N/A			
FY13 Funded				
	N/A			

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2.5 WORKFORCE

The Laboratory's affiliated workforce includes employees of the prime contractor, UC, and its subcontractors, of which the major employers are the Support Services Subcontractor—Kellogg, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates (KSL) and Protection Technology Los Alamos (PTLA). The Laboratory employs both technical and nontechnical subcontractors, as well as consultants from around the world on a temporary basis. Students from high school to graduate level are also employed in a variety of positions, and their numbers increase greatly during the summer months. Table 2-5 presents the breakdown of personnel by employer as of June 2003.

Table 2-5: Los Alamos National Laboratory workforce as of June 2003.

Employer	Personnel	Percent of Workforce
UC Employees	8,707	57%
UC Students	1,595	10%
Guests/Affiliates	1,601	10%
KSL	1,517	10%
PTLA	606	4%
Supplemental Labor	1,402	9%
TOTAL	15,428	100%

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MISSION NEEDS AND PROGRAM DESCRIPTIONS

3.1 CURRENT MISSIONS, PROGRAMS, AND WORKLOAD

Los Alamos National Laboratory is a multi-program scientific laboratory within the NNSA, a semi-autonomous entity within DOE. The Laboratory has been managed and operated for the NNSA by UC for 60 years.

The Laboratory developed a new vision in 2003: *The trusted, competitive scientific solution for today's and tomorrow's national security challenges*. The Laboratory's primary mission is as follows:

> Ensure the safety and reliability of the U.S. nuclear deterrent; reduce the threat of weapons of mass destruction, proliferation and terrorism; and solve national problems in defense, energy, environment and infrastructure.

The Laboratory is committed to supporting the NNSA, its principal customer, by being a unified and customer-focused lab with outstanding performance in all areas.

The Laboratory's core mission is nuclear stockpile stewardship, with certification responsibility for a substantial majority of the nation's active nuclear weapons stockpile. Complementary to nuclear stewardship is the Laboratory's mission to detect, monitor, and defeat nuclear, biological, chemical, and cyber threats. Four programmatic directorates are devoted to achieving the Laboratory's programmatic missions: Weapons Engineering and Manufacturing, Weapons Physics, Threat Reduction, and Strategic Research.

The map on page 3-9 shows the programmatic associations for all facilities at the Laboratory. Maps with greater detail may be found in Attachment I.

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3.1.1 Weapons Engineering and Manufacturing Directorate

The Weapons Engineering and Manufacturing (WEM) Directorate is a multidisciplinary, integrated organization that sustains and advances engineering and manufacturing technologies required to support the stewardship of the nation's nuclear weapon stockpile. WEM is responsible for maintaining the certification basis for weapon systems in the enduring stockpile and for developing the design, engineering, testing, and manufacturing capabilities needed for stewardship of the stockpile.

The WEM Directorate supports the Laboratory mission by ensuring the safety and reliability of the U.S. nuclear weapons stockpile by reestablishing the nation's capability to manufacture weapon components and by applying the best engineering, design, development, and diagnostic tools available to maintenance and refurbishment of the stockpile.

Funding for the WEM Directorate comes from NNSA to conduct DSW and execute campaigns in support of stockpile stewardship and stockpile maintenance. DSW includes assessment, surveillance, maintenance, manufacturing, and the scientific and engineering development capabilities necessary for the refurbishment and certification of the weapon systems. Campaigns are tri-laboratory efforts to develop critical enabling capabilities with milestones and end dates to support confident certification of or manufacturing activities for the enduring stockpile.

The following table summarizes the goals and strategies of the WEM Directorate in meeting the Laboratory's programmatic responsibilities.

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Table 3-1: Weapons Engineering and Manufacturing mission goals and strategies.

Weapons Engineering and Manufacturing Directorate		
Goals	**Strategies**	**SMART Linkage**
Maintain the certification basis for the weapons systems in the stockpile for which Los Alamos has design responsibilities	1. Assess condition of nuclear weapons through aggressive surveillance, analysis, and experimental programs. 2. Balance resources to investigate and resolve significant findings. 3. Submit required assessment documentation and support annual certification process. 4. Baseline and archive historical design, engineering, and test data as a national resource.	Table 3-7 Pages 1-5
Reestablish the nation's capability to manufacture war-reserve-quality nuclear and nonnuclear weapon components.	1. Produce development, standard, and qualification (certifiable) plutonium pits as specified. 2. Produce non-nuclear components as required, including detonators, calorimeters, pellet-can assemblies, tritium-loaded neutron-tube targets, beryllium cap inserts, and mock pits for joint test assemblies. 3. Deliver products on time and within budget, satisfy technical specifications, and meet stringent war-reserve-quality manufacturing standards.	
Extend the service lifetimes of nuclear weapon systems in the enduring stockpile.	1. Manage the Life Extension Programs for the W76 and the B61-7/11 under the Phase 6.X process. 2. Conduct maintenance and refurbishment activities on stockpile weapons systems as specified. 3. Conduct engineering design and development activities with the technical rigor necessary for certification of refurbished weapon systems.	
Enhance the scientific underpinnings of directed stockpile work.	1. Develop enhanced surety options to maintain and enhance the engineered safety and security of stockpile weapons systems. 2. Develop improved predictive capabilities to assess component performance and the impact of aging through enhanced surveillance, including characterizing and modeling aging effects and validating accelerated-aging studies. 3. Develop and validate engineering models to predict weapon system response to normal, abnormal, and hostile environments. 4. Explore advanced design and production concepts to continue capability to respond to new military requirements.	

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3.1.2 Weapons Physics Directorate

The Weapons Physics (WP) Directorate is a multidisciplinary, integrated organization that sustains, advances, and applies science and technology to support sustainable stewardship of the nation's nuclear weapons stockpile.

WP has responsibilities within the Stockpile Stewardship Program to conduct several NNSA campaigns and contribute to key areas of DSW. WP is responsibile for the Primary Certification Campaign, the Dynamic Materials Properties Campaign, the Advanced Radiography Campaign, the Secondary Certification and Nuclear Systems Margins Campaign, the Advanced Simulation and Computing Campaign, and the High Energy Density Physics Campaign. In addition, WP has key responsibility under DSW for Assessment and Certification, Baselining, Archiving, and Support Research and Development.

WP also manages a number of major facilities including the Dual-Axis Radiographic Hydrodynamic (DARHT) facility, LANSCE, and the Metropolis Center.

The WP Directorate supports the Laboratory's mission by ensuring confidence in the safety, reliability, and performance of the nuclear weapons in the nation's stockpile. This stewardship mission requires a science-based approach supported by a broad range of science and technology capabilities at the Laboratory. Decisions are based on sound technical and scientific understanding and expert judgment developed through theoretical studies, state-of-the-art computational simulations, and coordinated experimental activities.

The following table summarizes the goals and strategies of the WP Directorate in meeting the Laboratory's programmatic responsibilities.

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Table 3-2: Weapons Physics mission goals and strategies.

Weapons Physics Directorate		
Goals	**Strategies**	**SMART Linkage**
Implement a "quantification of margins and uncertainties" (QMU) certification methodology that quantifies the uncertainty in all aspects of performance of the stockpile and that guides the design of and priorities within the entire stewardship program.	1. Establish a discipline for quantifying uncertainty in weapon assessments and for flexibly adjusting program objectives to reduce the uncertainties that affect performance margins. 2. Develop science-based certification plans for stockpile life extension programs and remanufacturing efforts, most significantly for the W88 weapon system recertification based on rebuilt pits. 3. Integrate measurements of fundamental physical properties made at several experimental facilities (including LANSCE) into this framework to reduce uncertainty.	Table 3-7 Pages 5-7
Manage the timely integration of science into nuclear weapon certification assessments to ensure a ready ability to assess the safety, reliability, and performance of the stockpile.	1. Reinvigorate the enabling science campaigns to provide both short- and long-term deliverables aimed at demonstrably building and improving the predictive capabilities on which the confidence in the stockpile depends, absent nuclear testing. 2. Identify the drivers and links among the campaigns to facilitate the effective integration and appropriate balance of experimental and computational programs. 3. Reinvigorate the program-targeted experiments designed to validate new theories of critical weapons phenomena using a broad range of institutional facilities.	
Commit to increasing stockpile confidence through a robust predictive capability built on high-fidelity simulation of the underpinning science and engineering validated by experiment.	Carefully manage technical collaboration among physics designers, weapon engineers, and manufacturing/production stewards to preserve an ability to conduct concurrent design engineering and rapid prototyping, as needed.	
Provide institutional focus and attention to ensure that LANSCE is a unique Laboratory experimental "flagship" for conducting stewardship-enabling world-class experimental research.	Build and maintain excellent facilities at LANSCE to attract the best and brightest scientists to conduct cutting-edge research.	
Develop proton radiographic capability at 800MeV as a national user facility to validate predictive capability and explore multi-GeV proton radiography as the basis for an AHF.	1. Derive radiographic requirements from anticipated certification requirements in the next decade. 2. Establish quantitative links between radiographic data and performance. 3. Examine the limitations of underlying radiographic technologies. 4. Establish an integrated strategy for advanced radiography capability and requirements transitioning from x-ray to protons.	

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3.1.3 Threat Reduction Directorate

The Threat Reduction (TR) Directorate supports the Laboratory's mission through the following work:

- Preventing, detecting, assessing, and responding to threats of the proliferation and/or use of weapons of mass destruction by nations or subnational groups,
- Enabling U.S. arms-control initiatives, and
- Enabling innovative, nonnuclear responses to unconventional and military threats to help secure the nation's infrastructure.

The directorate's work includes programs to counter nuclear, biological, and chemical terrorism; programs to encourage cooperative threat reduction; activities to promote national and international nuclear safeguards and security; efforts toward threat monitoring and analysis; and related research. These programs contribute to dissuading and deterring possible threats, particularly threats from weapons of mass destruction (WMD). Research and development on behalf of the Department of Defense (DoD) and other agencies is aimed at defeating enemies. These activities range from developing technologies to detect and defeat terrorists to inventing cutting-edge science to support and equip conventional military forces. TR conducts research on methods to defeat or respond to attacks on the U.S. homeland from any source employing any type of weapon.

In early September 2002, the Laboratory created of a new internal organization focused on counter-terrorism and homeland security. The newly created Homeland Security organization, under the TR Directorate, will engage the Laboratory's broad capabilities in these areas. It provides a single point of contact for all external organizations that seek the assistance and involvement of Los Alamos' technical experts. The new organization will serve as the primary point of contact for external customers, such as the Department of Homeland Security, seeking to tap the Laboratory's expertise in homeland security science and technology. The organization's emphasis will be in the key areas of nuclear and radiological science and technology, critical infrastructure protection, and chemical and biological science and technology.

The following table summarizes the goals and strategies of the TR Directorate in meeting the Laboratory's programmatic responsibilities.

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Table 3-3: Threat Reduction mission goals and strategies.

Threat Reduction Directorate		
Goals	**Strategies**	**SMART Linkage**
Prevent the proliferation of WMD materials, technology, and expertise.	1. Combat nuclear terrorism. 2. Address proliferation threats from chemical and biological WMD. 3. Create advanced sensors and detection and analysis technologies for use in monitoring and verification activities. 4. Develop technologies and expertise to assess foreign WMD programs and to support arms-control and nonproliferation agreements. 5. Develop nuclear safeguards for national and international use. 6. Mitigate threats to U.S. infrastructure.	Table 3-7 Pages 8-9
Reach out to Russia to protect and reduce nuclear materials and Russia's nuclear complex.	1. Aid in nuclear-material disposition technologies and treaty support. 2. Participate in programs to convert Former Soviet Union (FSU) nuclear weapons facilities and to redirect FSU scientists to nonweapons work. 3. Encourage laboratory-to-laboratory outreach linking LANL directly to counterpart institutions in Russia to preclude proliferation of WMD materials and expertise.	
Counter proliferation and terrorism	1. Develop chemical and biological detection technology. 2. Develop a bioagent database. 3. Integrate early warning systems for detection, identification, and nationwide alerts. 4. Develop techniques for homeland defense against terrorism.	
Build defense technologies.	Develop technology and programmatic platforms to support new DoD initiatives and requirements including: • Conventional Weapons Technologies, • Defense Advanced Concepts, • Defense Sensor Technologies, • Defense Environmental Technologies, • High-Performance Computing, • Chemical and Biological Defense, • Modeling, Simulation, and Analysis Application, • Joint DoD/DOE Munitions Technology Program, • International Security Program, and • Other DoD programs.	

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3.1.4 Strategic Research Directorate

The Strategic Research (SR) Directorate's objective is to advance knowledge across the broad range of scientific disciplines necessary to accomplish the Laboratory's core missions of ensuring the safety and reliability of the United States nuclear weapons stockpile; reducing threats to U.S. security with a focus on WMD; and providing technical solutions to national security problems in energy, environment, infrastructure, and health.

SR provides the multidisciplinary science and technology needed to seek solutions to complex problems of national and global significance. In doing so, SR shares and supports the goals of WEM, WP, and TR Directorates and seeks collaborative partnerships with individuals and organizations in these directorates. SR serves as the nucleus for new programs and directions at the Laboratory and is the champion for excellence in basic and applied research.

The table below summarizes the goals and strategies of the SR Directorate in meeting the Laboratory's programmatic responsibilities.

Table 3-4: Strategic Research mission goals and objectives.

Strategic Research Directorate		
Goals	**Strategies**	**SMART Linkage**
Provide technical solutions to grand challenges in national security through basic and applied science, building the scientific foundation for Stockpile Stewardship and Homeland Defense. Increase knowledge and competence in key areas involving advanced materials, energy, and energy and environmental security.	1. In collaboration with other DOE laboratories, develop an Advanced Nuclear Fuel Cycle program that couples nuclear energy security with nuclear materials management. 2. Develop the technologies that will be required to stabilize and reduce high concentrations of global greenhouse gases in the atmosphere. 3. Launch a national research, development, and demonstration program that focuses on the interrelationships between water and energy. 4. Establish new facilities and a resource center to extend the accomplishments of the Human Genome Program, working toward major payoffs in energy, climate, and environment. 5. Expand the Los Alamos High Temperature Superconductivity Center and develop the Fuel Cell National Resource Center. 6. Support a multi-agency National Nanotechnology Initiative by improving understanding of materials and material interactions at the nanoscale. 7. Develop competency and become the partner of choice in the science of predicting the behavior, responses, and uncertainties of complex systems and network. 8. Develop a broad competency in quantum information science—including quantum computing and cryptography—in order to establish LANL as the provider of choice for quantum technologies.	Table 3-7 Page 10

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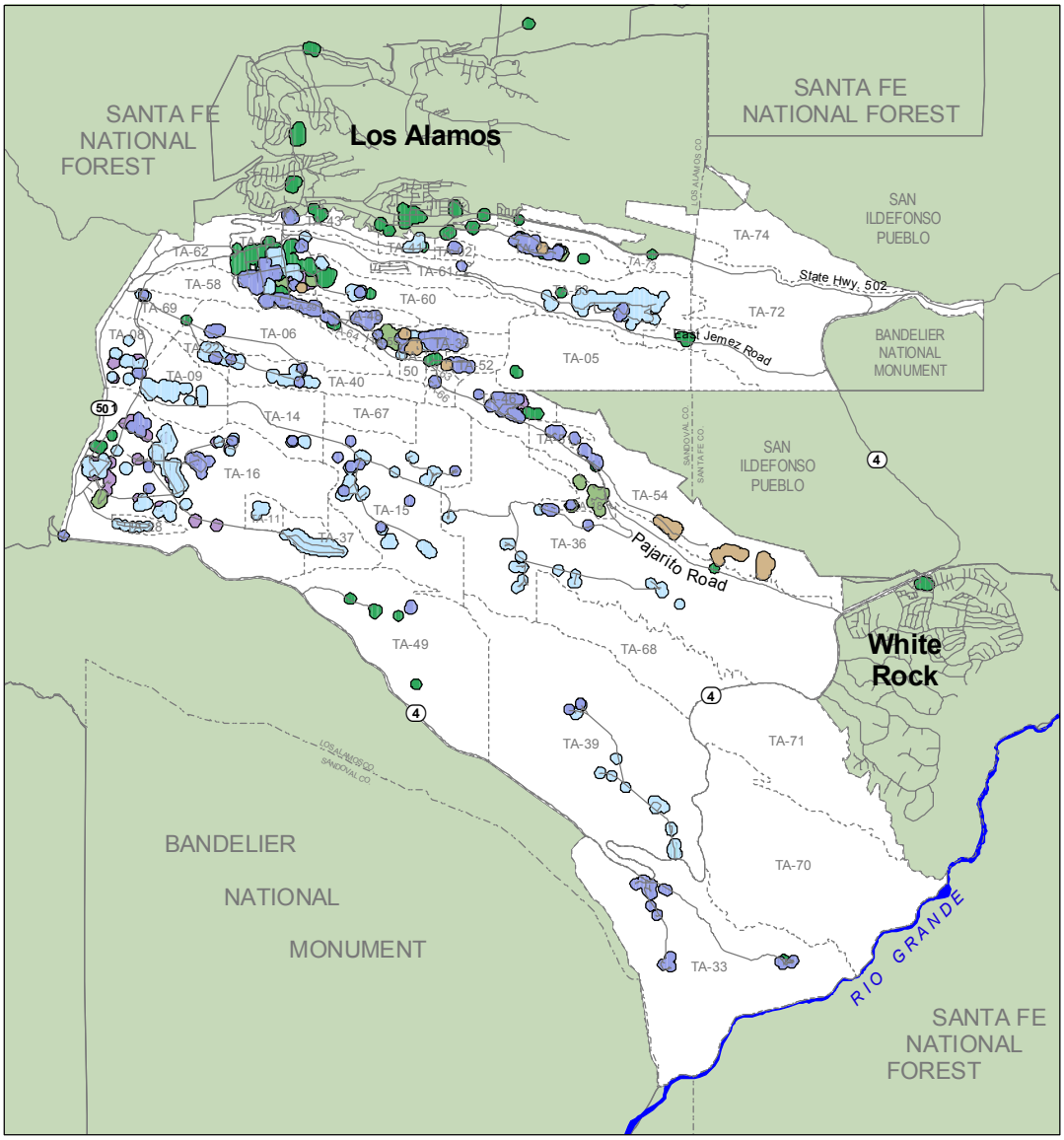

Programmatic Associations, Overview

(see Appendix for detailed maps)

LEGEND *(Facility footprints are buffered for visibility)*

- NA-11: Stockpile Stewardship
- NA-12: Stockpile Management
- DP-GEN: General
- DP-LL: Infrastructure & Defense Programs Landlord
- EM: Environmental Management
- Non-DP or Institutional Science Base
- Other
- Technical Area Boundary

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3.2 READINESS IN TECHNICAL BASE AND FACILITIES (RTBF)

The RTBF mission is to ensure that the right facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile and that the Laboratory is implementing the technologies and methods necessary to make construction, operation, and maintenance of DP facilities safe, secure, and cost effective. The RTBF program provides the physical and operations infrastructure required to conduct the scientific, technical, and manufacturing activities of the Stockpile Stewardship Program (SSP). The RTBF program will maintain facilities and technologies in an appropriate condition so that they are not limiting factors in the accomplishment of the NNSA/DP missions. Table 3-2 shows the FY03-05 RTBF budget summary.

In order to attain the RTBF program goals, cost-effective investments in the infrastructure, workforce, facilities, and technologies must be made through effective program management of activities. The Laboratory must continue to deliver and maintain safe and secure facilities that provide the means to perform and deliver the requisite levels of science and technology associated with maintaining the safety and reliability of the nuclear weapons stockpile. The Laboratory must also provide the balance of the physical and intellectual infrastructure underpinnings necessary to support the goals and mission of DP.

The majority of the RTBF direct funds support facility “warm standby” operations for the major DP experimental and manufacturing facilities. The “warm standby” condition is defined as the state of readiness for programmatic operations. This includes the safety, security, and compliance envelope required for all facilities. With over 8 million square feet (including non-RTBF facilities) of facility space, the job of maintaining safety, security, and compliance at the Laboratory is a significant challenge considering the age of the structures.

RTBF has been in place since FY00. The creation of RTBF allows the Laboratory to embark on a set of improvements focusing on facilities management techniques. These improvements include the following:

- Creation and implementation of a warm standby condition for DP-owned facilities,
- Development of a methodology to directly fund the facility management units previously funded through Laboratory overhead and taxes,
- Improved cost reporting by individual facilities,
- Greater accountability for maintenance and operations, and
- Business decisions based on cost of operations and mission priorities.

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The RTBF funds also support urgent maintenance, major upgrades, and other DP facility maintenance not funded within the warm standby definition. Other activities within the RTBF funding include the following:

- Material Recycle and Recovery that is targeted at reducing the special nuclear material (SNM) holdings at the Laboratory,
- Surveillance and maintenance (S&M) of excess facilities awaiting D&D, and
- Waste management.

With the initiation of FYNSP, there was recognition of the realities of rising costs associated with operating the RTBF facilities, and consequently a 6% annual increase was noted as appropriate. Unfortunately, FYNSP has not been able to include such annual increases. Costs in operating facilities have continually increased at a greater rate than the budget.

In addition, NNSA, along with the sites, have established corporate goals associated with deferred maintenance reductions. In order to succeed in these deferred maintenance goals, RTBF facility operations must invest in maintenance at greater levels than in the past. As we aggressively work to baseline both the required maintenance requirements for each facility, as well as the deferred maintenance backlog, there will be RTBF scope implications.

Compliance issues relating to such things as groundwater monitoring, Price Anderson, Appendix O implementation, and the Defense Nuclear Facility Safety Board (DNFSB) have forced escalating level of investments resulting in reductions in other areas. One reduction area with significant impact is RTBF construction, which in FY2004 only includes funding for completion of a safety related project commenced in FY2003. Current FY2005 funding projections include no GPP construction funded through RTBF. The trade-off is significant as we are forced to delay consolidation plans that have been developed to achieve a smaller set of robust facilities to serve the programs. These consolidation efforts will ultimately provide significantly more efficient operations, lower operating costs, and footprint reductions. But for now, unfortunately, these plans and the associated savings are being deferred. (See Readiness in Technical Base and Facilities FY 2004 Implementation Plan Draft, June 2003, LA-CP-03-0446.)

Table 3-6 identifies the campaigns and directed stockpile work supported by each of the RTBF facilities.

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Table 3-5: FY03-FY05 operating budget for facilities.

		FY03 Implementation Plan			FY04 Implementation Plan			FY04 FYNSP		
RTBF Operations of Facilities $M	**Headquarters Organization**	**DP**	**Non-DP**	**Total Facility**	**DP**	**Non-DP**	**Total Facility**	**DP**	**Non-DP**	**Total Facility**
Direct Funded Facilities										
Engineering Facilities	NA11	16.4	3.8	20.2	16.7	3.9	20.6	18.3	4.3	22.6
Tritium Facilities	NA12	11.9	-	11.9	11.7	-	11.7	12.6	-	12.6
LANSCE	NA11	45.2	18.4	63.6	48.7	21.2	69.9	53.7	23.6	77.3
DX Facilities	NA11	34.9	4.7	39.6	36.5	2.4	38.9	46.0	2.5	48.5
Materials Science/Laser Facilities	NA12	5.4	-	5.4	5.2	-	5.2	5.7	-	5.7
Waste Management Facilities	NA11	26.6	12.0	38.6	27.8	12.5	40.3	30.0	13.5	43.5
Nuclear Facilities	NA12	90.3	9.9	100.2	90.0	9.8	99.8	96.4	10.5	106.9
Total Direct Funded Facilities		**230.7**	**48.8**	**279.5**	**236.6**	**49.8**	**286.4**	**262.7**	**54.4**	**317.1**
Other Direct Funded Facilities / Balance of Plant										
NA11 Other Direct Funded Facilities	NA11	45.0	-	45.0	44.7	-	44.7	31.9	-	31.9
Balance of Plant	NA12	25.3	-	25.3	27.7	-	27.7	24.3	-	24.3
Total Other Direct Funded Facilities & Balance of Plant		**70.3**	**-**	**70.3**	**72.4**	**-**	**72.4**	**56.2**	**-**	**56.2**
TOTAL FACILITY COSTS IN RTBF		**301.0**	**48.8**	**349.8**	**309.0**	**49.8**	**358.8**	**318.9**	**54.4**	**373.3**

Campaigns Operations of Facilities $M	**Headquarters Organization**	**FY03 Implementation Plan**			**FY04 Implementation Plan**			**FY05 FYNSP**		
		DP	Non-DP	Total Facility	DP	Non-DP	Total Facility	DP	Non-DP	Total Facility
Campaign 10 – ICF										
Trident	NA11	2.0	-	2.0	2.2	-	2.2	2.2	-	2.2
Target Fabrication Facility	NA11	4.0	1.1	5.1	4.8	1.3	6.1	4.9	1.4	6.3
Subtotal		**6.0**	**1.1**	**7.1**	**7.0**	**1.3**	**8.3**	**7.1**	**1.4**	**8.5**
Campaign 11 – ASCI										
CCF	NA11	4.0	1.1	5.1	4.6	1.2	5.7	4.8	1.2	6.0
LDCC	NA11	2.0	1.6	3.6	2.3	1.7	4.0	2.4	1.8	4.2
Nicholas Metropolis Center (SCC)	NA11	10.6	0.4	11.0	12.0	0.4	12.4	12.5	0.5	13.0
Subtotal		**16.6**	**3.2**	**19.8**	**18.9**	**3.3**	**22.2**	**19.7**	**3.5**	**23.2**
TOTAL FACILITY COSTS IN CAMPAIGNS		**22.6**	**4.3**	**26.9**	**25.9**	**4.6**	**30.5**	**26.8**	**4.9**	**31.7**

Indirect Funded General Purpose Facilities $M	**Total Facility**
FMU 1 – Facilities East	13.2
FMU 2 – Facilities West	11.7
FMU 3 – Diversified Facilities	12.5
FMU 4 – LANSCE	3.8
FMU 5 – DX/ESA	2.5
FMU 6 – WFM	0.4
FMU 8 – Utilities	7.9
TOTAL INDIRECT FACILITIES	**52.1**

Non-DP facilities are funded through a space recharge on a full cost recovery basis.

The Laboratory has proposed a change to the indirect cost structure whereby indirect facilities will be funded through a labor based taxing structure.

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Table 3-6: RTBF facilities supporting Campaigns and DSW.

		RTBF Facility/Activity								
		Dynamic Experiment Facilities	Engineering Facilities	LANSCE	Waste Management Facilities	Materials Science Facilities: Beryllium Technology Facility	NMT Facilities: CMR	NMT Facilities: TA-55	TA-18	Tritium Facilities (WETF, TSFF)
		NA-11	NA-11	NA-11	NA-11	NA-12	NA-12	NA-12	NA-12	NA-12
CAMPAIGNS	1. Primary Certification	✓	✓	✓	✓	✓	✓	✓		
	2. Dynamic Materials Properties	✓	✓	✓	✓	✓	✓	✓		
	3. Advanced Radiography	✓	✓	✓	✓		✓	✓		
	4. Secondary Certification and Nuclear Systems Margins	✓		✓	✓					
	5. Enhanced Surety	✓	✓		✓	✓	✓	✓	✓	
	6. Weapon Systems Engineering Certification	✓	✓	✓	✓	✓				✓
	7. Nuclear Survivability		✓		✓				✓	
	8. Enhanced Surveillance	✓	✓	✓	✓	✓	✓	✓		✓
	9. ADAPT	✓	✓		✓	✓	✓	✓		✓
	10. High Energy Density Physics	✓	✓		✓					✓
	11. Advanced Simulation and Computing									
	12. Pit Manufacturing	✓	✓		✓	✓	✓	✓		
	13. Stockpile Readiness									
	14. High Explosives Manufacturing and Weapon Assembly / Disassembly									
	15. Nonnuclear Readiness	✓	✓		✓	✓				✓
	16. Material Readiness									
	17. Tritium Readiness				✓					✓
Directed Stockpile Work (DSW)	Stockpile Research and Development	✓	✓	✓	✓	✓	✓	✓		✓
	Stockpile Maintenance	✓	✓	✓	✓	✓	✓	✓		✓
	Stockpile Evaluation	✓	✓	✓	✓		✓	✓		
	Dismantlement / Disposal	✓	✓		✓		✓	✓		
	Field Engineering, Training, and Manuals (FETM)									
	Production Support	✓	✓		✓	✓				✓

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3.3 SUMMARY OF MISSIONS, ALTERNATIVES, AND REQUIREMENTS

The table on the following pages (Table 3-7) relates program missions to facility alternatives and requirements. Additionally, the table links the facility requirements to the programs and activities that are integral parts of the Laboratory's current and future missions. The table is referred to as the Summary Mission Alternatives and Requirements Table (SMART).

The SMART attempts to capture the forecasted 10-year program mission campaign activities and link the activities to technologies and facilities required to accomplish the missions. Related high-priority projects are referenced when appropriate to link mission/campaign requirements with needed facilities. In many cases, the SMART shows projects that have yet to be defined or receive funding that would address the mission/campaign requirement. The columns included in the SMART are defined as follows:

- **Current Mission Requirements** are the primary missions assigned by NNSA to be performed at the Laboratory.
- **Current Functions/Capabilities** are activities, processes, and technologies needed to support the mission requirements.
- **Current Facilities** are facilities and infrastructure needed to perform the primary missions. Included are any facility or infrastructure where the majority of the structure or utility, or its predominant use, is to support scientific research, production, or testing under the SSP.
- **Current Issues/Concerns** are issues and concerns about facilities and/or infrastructure used to support the missions. These issues and concerns have been identified by either users of the particular facility and/or infrastructure or by the Laboratory's institutional needs.
- **Future Mission Requirements** are anticipated mission requirements that have been identified by the Laboratory's programmatic offices in conjunction with appropriate NNSA program offices.
- **Future Functions/Capabilities** are activities, processes, and technologies needed to support the future mission requirements.
- **Alternatives/Options** identify methods to address the identified facility issues and concerns.
- **Facility Strategies** include either modifications/upgrades to existing facilities or the construction of new space to implement one or all of the alternatives/options that have been proposed.

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- **Related Projects** are particular facility or infrastructure improvements that are underway or planned, which by their use, proximity, or function will impact or support the described project.

The Laboratory recently formed a Program Integration Board (PIB) that developed a comprehensive, multiyear program plan for its Nuclear Weapons Program to enhance project management and encourage accountability. This plan's hierarchy consists of *Five-Year Program Element Plans, Five-Year Project Plans,* and activity worksheets. These commitments mesh into the overall *Nuclear Weapons Integrated Baseline,* which in turn rolls up to the Laboratory-wide baseline.

All *Five-Year Program Element Plans* contain details of their requirements, milestones, and deliverables; scope, schedule, and costs; people and facilities requirements; interdependencies and risks; and previous baseline approvals. *Five-Year Program Element Plans* are built from the *Five-Year Product* and *Project Plans* that compose the program element. The SMART will be updated in the future to better align with current programmatic planning efforts and the Nuclear Weapons Integrated Baseline.

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Weapons Engineering & Manufacturing

Current Requirements	Current Functions/Capabilities	Current Facilities	Current Issues/Concerns	Forecasted Requirements	Forecasted Functions/Capabilities	Alternatives/Options	Facility Strategies	Related Projects	Technological Linkages
Manufacturing									
<10 pits/year	Fabrication and assembly of plutonium components	Plutonium facility (TA-55)	Glovebox atmosphere, transportation over roads open to the public, and SNM storage	Support stockpile requirements (10-20 pits/year)	Fabrication and assembly of plutonium and plutonium containing components. Recovery, purification, and production of war reserve (WR) quality metal for stockpile production.	Continued use of laboratories in TA-55, PF-4		TA-55 Infrastructure Reinvestment; Nuclear Materials Safeguards and Security Upgrade Project (NMSSUP)	D, R, 1, 2, 3, 6, 8, 9, 12, 16
	Analytical and actinide chemistry and materials characterization	CMR (TA-03-29), TA-55, TA-48-01	Nuclear material operations in CMR will continue through 2010. Replacement facilities will then be required.		Optimized analytical chemistry & materials characterization for manufacturing facility should support all aspects of the nuclear weapons missions including waste management activities.	Replacement of CMR Building functions commensurate with support to future DOE program missions. Consider reuse of CMR Building for other activities that do not use nuclear materials. Decision on disposition of CMR will be completed in conjunction with CD-1 for CMRR, currently projected for January 2004.	Define the requirements of the replacement facility including location and floor space. Facility should be sized to support all the analytical chemistry and materials characterization needs as agreed upon in INP with NNSA DP guidance. Design, build, and operate as a Nuclear Category III or less facility. Address appropriate security requirements.	NMSSUP Phase I & II; CMR Replacement	D, R, 1, 2, 3, 8, 9, 10, 12, 15
	Limited highly enriched uranium (HEU) and beryllium processing and manufacturing	CMR, Sigma Complex, TA-03-39, -03-141	None						
	Nonnuclear pit component fabrication and joint test assembly (JTA) support. Materials characterization and process development. Material could include depleted uranium.	Sigma Complex, TA-03-39, Beryllium Technology Facility (BTF) (TA-03-141)	Fully qualified cability to perform WR machining exists. BTF requires special handling capabilities.		Nonnuclear pit component fabrication and JTA support. Material could include depleted uranium but will include beryllium. BTF became operational in FY01 to address beryllium handling requirements.			BTF Cartridge Filter House Installation	D, R, 1, 2, 3, 6, 7, 8, 9, 10, 12, 15, 17
1 neutron tube target loader (NTTL), <1000 targets/yr		Weapons Engineering Tritium Facility (WETF) at TA-16 & TA-21 support	TA-21 is being closed and land transferred.	2-3 NTTLs, 2500 targets/yr		Consolidation of TA-21 capabilities to WETF	Establish relocation space for TA-21 functions to TA-16 (WETF) and define the cost for D&D and removal of TA-21 buildings. Transfer of capability from TA-21 to building 450, which is an addition to the WETF facility. Installation of a third NTTL in building 450. Reconfiguration of R&D space in basement of Building 450.	Weapons Plant Support Building; WETF 1.6 MVA Generator Installation; WETF Systems Refurbishment	D, 1, 12, 15, 17
Detonator production capable of <3000/yr	Manufacture of detonators	High explosive facilities		Detonator production capable of 3000-5000/yr	Manufacture of detonators	New detonator facilities and office space at TA-22. Expand the existing explosives detonator facility space TA-22, buildings #s 91and 93. Based upon the directive schedule for fabrication of detonators, there is a forecasted minimum need to double the existing space (43,000 ft^2)	DX Consolidation Plan has been developed to address these capabilities.	High-Power Detonator Facility; DX High Explosives Characterization; DX Shock & Detonation	D, R, 1, 2, 6, 8, 9, 12, 14

D Directed Stockpile Work
R RTBF
Campaigns
1. Primary Certification
2. Dynamic Materials Properties
3. Advanced Radiography O&M
4. Secondary Certification & Nuclear Systems Margins
5. Enhanced Surety
6. Weapons Systems Engineering Certification
7. Nuclear Survivability (Certification in Hostile Environments)
8. Enhanced Surveillance
9. Advanced Design and Production Technologies (ADPT)
10. High Energy Density Physics
11. Advanced Simulation and Computing O&M
12. Pit Manufacturing and Certification (Readiness)
13. Secondary Readiness
14. HE / Manufacturing & Weapon Assembly / Disassembly Readiness
15. Nonnuclear Readiness
16. Materials Readiness
17. Tritium Readiness

Weapons Engineering & Manufacturing

Current Requirements	Current Functions/Capabilities	Current Facilities	Current Issues/Concerns	Forecasted Requirements	Forecasted Functions/Capabilities	Alternatives/Options	Facility Strategies	Related Projects	Technological Linkages
Manufacturing (cont.)									
Fabrication of JTAs and other nonnuclear pit components	Manufacturing	Administrative support facilities at TA-03, TA-08, TA-16, and TA-55			Consolidated facilities based upon manufacturing activity				D, R, 1, 2, 6, 8, 9, 12, 14
Support of manufacturing processes	Static nuclear radiography and nondestructive examinations (NDEs)	Radiography capabilities	Capabilities must exist at TA-08, -16, and -55	Support of manufacturing processes	Weapons component radiography and NDE	Perform NDEs on all assemblies in all stages of manufacturing and development.	Consider adding a pit radiography facility to TA-55 as part of INP	Radiography Facility, TA-55	D, R, 1, 2, 3, 6, 8, 9, 12
	Machine shop support	Main shops (TA-03)			Machine shop support	Consolidate operations as part of ESA consolidation.			D, R, 1, 2, 6, 8, 9, 12
Surveillance									
20 per year	Disassembly of pits and recovery of SNM	Plutonium facility (TA-55)	Disposition of contaminated HEU	20-40 per year	Disassembly of pits and recovery of SNM	Additional cold laboratory and office space. Increased numbers of retired weapons and increased component age will necessitate the additional diagnostic capabilities in the "hot" laboratory space. Additional cold lab and office space will also be required.	Identify capability and space needs to conduct surveillance program that integrate the Stockpile Stewardship needs with Stockpile Maintenance (e.g., connect to the Advanced Hydrotest Facility (AHF) program).	Manufacturing Technical Support Facility (MTSF)	D, 5, 6, 8, 12, 16
	Analytical and actinide chemistry and materials characterization	CMR (TA-03), TA-55, TA-48-01	Nuclear material operations in CMR will continue through 2010. Replacement facilities will then be required.		Analytical and actinide chemistry and materials characterization	Transfer the activities to the facility that replaces the functional capability currently extent at CMR.	Define the requirements of the replacement facility including location and floor space.	CMR Replacement	D, R
	Nonnuclear component surveillance	Sigma (TA-03)	Nuclear material operations in CMR will continue through 2010. Replacement facilities will then be required.		Nonnuclear component surveillance				D, R, 2, 8, 9, 12, 15
	Limited NTTL surveillance	WETF (TA-16) and TA-21 support	TA-21 is being closed.		Robust NTT surveillance	Transfer of the capabilities to WETF	Prepare plan for disposition of facilities at TA-21. Establish relocation space for TA-21 functions to TA-16 (WETF) and define the cost for D&D and removal of TA-21 buildings.	WETF 1.6 MVA Generator Installation; WETF Systems Refurbishment	R, 10, 17
20 per year	Limited weapons surveillance (valves), polymer aging, weapons component aging	Engineering facilities		20-40 units per year	Multiple weapons surveillance, polymer aging, multiple weapons component aging	Consolidated facilities and add space at TA-16.	ESA 5-Year Business Plan	Weapons Plant Support Building	D, R, 5, 6, 7, 8, 9
Two-dimensional hydrodynamic calculation support	Pulse-power drives inertial confinement fusion (ICF) experiment	Pulsed-power facilities		Three-dimensional hydrodynamic calculation support		Relocation of the ATLAS pulsed power machine to Nevada Test Site (NTS) and relocation of Pegasus to University of Nevada, Las Vegas (UNLV)	Facilities are necessary for the conduct of high-energy density physics experiments necessary to understand phenomena occurring in nuclear weapons.		D, 1, 2, 3, 4, 10

D Directed Stockpile Work
R RTBF
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Weapons Engineering & Manufacturing

Current Requirements	Current Functions/Capabilities	Current Facilities	Current Issues/Concerns	Forecasted Requirements	Forecasted Functions/Capabilities	Alternatives/Options	Facility Strategies	Related Projects	Technological Linkages
Surveillance (cont.)									
Surveillance of 10-12 detonator sets/yr	Perform surveillance on detonators 800 MeV neutron source	High explosive facilities and accelerator facilities		Surveillance of 50-100 detonator sets/yr	Perform surveillance on detonators 800 MeV Neutron source	High explosive facility consolidation and additional facilities		High Power Detonator Facility; Medium/Heavy Lab; Replace Machine Shop; DX Shock and Detonation	D, R, 5, 6, 7, 8, 9
						Maintain LANSCE for hydrodynamic testing and source of protons for radiography cinematography.		AHF	
	Nonnuclear component surveillance	Administrative support facilities at TA-03, -08, -16			Consolidated facilities based upon manufacturing activity				D, R, 14
Surveillance of 100 Radioisotope Thermoelectric Generators (RTGs)/yr	Recover Pu-238	Facilities at TA-55		Similar as current	Continue as current			TA-55 Infrastructure Reinvestment	D
	Analytical chemistry & materials characterization	CMR (TA-03)	By 2010, nuclear weapon missions are to be out of CMR		Continue as current	Additional space may be required at TA-55		CMR Replacement	D
Two-dimensional radiography, 5-10 experiments/yr	Weapons component radiography & nondestructive analysis	Radiographic facilities		Three-dimensional radiography, 10-20 experiments/yr.	Radiography facility, Pulsed High-Energy Radiographic Machine Emitting X-Rays (PHERMEX), Dual Axis Radiographic Hydrotest Facility (DARHT)	DARHT/Diagnostic "X" capabilities for advanced hydrotesting	Complete second axis of DARHT and build additional support laboratories	DARHT (Phase 2)	D, R, 1, 2, 3, 4, 8, 12
	800 MeV Neutron source	Accelerator facilities			800 MeV neutron source	Maintenance of the LANSCE facility and capability	LANSCE Mesa Area Development Plan		
Limited weapons certification /surveillance and sub-critical experiment support (<1/month)	Visual examination and measurements	Engineering facilities		Multiple weapons certification and surveillance for manufacturing and multiple subcritical experiment support (2-3/month)	Visual examination and measurements	Consolidate engineering facilities at TA-16, build additional manufacturing support facilities, including enhanced NDE capability	ESA 5-Year Business Plan	Vulnerable Office Building Replacement; Weapons Plant Support Building	D, R, 5, 6, 8

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Current Requirements	**Current Functions/Capabilities**	**Current Facilities**	**Current Issues/Concerns**	**Forecasted Requirements**	**Forecasted Functions/Capabilities**	**Alternatives/Options**	**Facility Strategies**	**Related Projects**	**Technological Linkages**
Certification									
Annual weapons certification to the nation	In progress: pit manufacturing process certification	Plutonium facility (TA-55)		Similar as current	Robust certification program for pit manufacturing	Additional office space	Prepare Pajarito West Area Development Plan	TA-55 Infrastructure Reinvestment; NMSSUP Phase I; NMSSUP Phase II	D, R, 2, 9, 12, 16
	In progress: analytical chemistry and materials characterization process certification	CMR (TA-03-29)	By 2010 nuclear weapon missions are to be out of CMR		Certified analytical chemistry and materials characterization processes	Transfer certified processes to the replacement facilities for the CMR Building	Define the requirements of the replacement facility, including location and floor space. Identify the reuse potential for CMR building. Absent a suitable reuse, estimate cost for D&D and removal. An exit strategy will be determined during development of the CMR-R project.	CMR Replacement	D, R, 2, 9, 12, 16
	In progress: nonnuclear manufacturing process certification	Sigma (TA-03-66)			Certified nonnuclear manufacturing processes	Transfer of the certification activities to an upgraded Sigma building to support nonnuclear manufacturing or a new facility	Incorporate the Sigma building into program for upgrading or defining a new facility		D, R, 1, 2, 6, 9, 10, 15
	Limited NTTL certification	WETF (TA-16) & TA-21 support	TA-21 is being closed		Robust NTTL certification	Transfer of the certification activities to WETF	Establish relocation space for TA-21 functions to TA-16 (WETF) and define the cost for D&D and removal of TA-21 buildings	DP-West and Ion Beam Facility D&D; TSTA & TSFF D&D	D, 17
	Weapons certification facility infrastructure	Administrative support facilities			Weapons certification facility infrastructure	Certification facilities at various technical areas			D, 1, 4, 6, 7, 8
Certification of 1000 detonators/yr		High-explosive facilities		Certification of 2000–3000 detonators/yr		New detonator facility and support space		High Power Detonator Facility	D, 1, 4, 6, 7, 8, 14
		Supercomputing facilities				Nicholas C. Metropolis Center for Modeling and Simulation	Construction completed	Metropolis Center	D, 1, 4, 6, 7, 8
Nuclear Materials									
Pit and plutonium/uranium storage	Constrained pit and plutonium/enriched uranium storage	Plutonium facility (TA-55) and TA-18	Adequate space for future	Pit and plutonium/uranium storage	Robust pit storage and reduced uranium and plutonium inventories	Additional vault space at TA-55 and disposition of excess nuclear materials off-site. Disposition of all nuclear materials from TA-18.	Laboratory and DOE must work together to identify a site for the storage of SNM residues and legacy waste. A site should be chosen that already incurs large security cost and will feel minimal impact by a larger volume of SNM. Identify a site where critcal experiments can be performed.	TA-18 Mission Relocation; TA-55 Infrastructure Reinvestment; NMSSUP Phase I; NMSSUP Phase II	D, R, 12, 16
Plutonium / uranium storage	Constrained plutonium/enriched uranium storage	CMR (TA-03-29)		Plutonium/uranium storage	Reduced uranium and plutonium inventories	Disposition of all nuclear materials out of CMR and TA-03.	Removal of SNM from TA-03 will reduce security costs at CMR, thus making the CMR building more attractive for other occupants. Potential rehab could lead to reuse by SR Directorate divisions.	CMR Replacement	R, 16

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Weapons Engineering & Manufacturing									
Nuclear Materials (cont.)									
Depleted uranium storage	Constrained/depleted uranium storage	Sigma (TA-03)	Depleted uranium will be used in a host of activities related to stockpile certification and management. Adequate storage space must be identified.	Materials for nonnuclear components and hydro tests	Reduced depleted uranium inventory	Disposition of excess nuclear materials off-site or relocation into new facility located at Pajarito West, i.e., TA-35 ATLAS facility	Laboratory must identify capability needs and facility and site location		D, R, 1, 9, 12
Tritium storage and handling	Suboptimized tritium storage and handling	WETF and TA-21 support	TA-21 is being closed.	Boost systems, tritium R&D	Optimized tritium operations	Ensures the capability maintenance necessary to have a strong R&D base in tritium technology	Identify capabilities and facility requirements at existing WETF site	Water Processing PMR/TCAP; WETF Systems Refurbishment; GTS SLEP Support Building	D, R, 17
Weapons Physics									
Basic/Applied Research and Technology Development									
Maintain core competencies in design, test, and manufacture of nuclear weapons	Pit manufacturing process development	Plutonium facility (TA-55), Sigma Complex (TA-03-66), Machining and inspection (TA-03, TA-16)		Maintain core competencies in design, test, & manufacture of nuclear weapons	Pit manufacturing process development	Additional office space	Laboratory capabilities and additional facility space must be defined and appropriate siting must be selected. Support for hydro testing and surveillance activities will require new space. Prepare Pajarito Corridor West Area Development Plan.	TA-55 Infrastructure Reinvestment; NMSSUP Phase I; NMSSUP Phase II	D, R, 1, 2, 3, 4, 6, 8, 9, 10, 12, 14, 15, 16
	Analytical chemistry and materials characterization process development	CMR (TA-03-29)			Analytical chemistry and materials characterization process development	Transfer of activities to the replacement facilities for the analytical chemistry and characterization facilities currently located in CMR building	Identify the facility and capabilities necessary to support the total NWP	CMR Replacement	D, R, 1, 2, 9, 12
	Non-nuclear materials and manufacturing process development	Sigma (TA-03-66)			Nonnuclear materials and manufacturing process development	Transfer R&D activities in materials and processes to an upgraded Sigma building to support manufacturing and process development for all aspects of the nuclear weapons program	Conduct trade studies to determine cost effectiveness of buying components from other DOE sites, commercial suppliers, or establish new capabilities at the Lab. Investigate the cost effectiveness of reuse of facilities like the ATLAS Facility at TA-35 for a manufacturing laboratory for the NWP.		D, R, 1, 2, 9, 12, 15, 16
	Tritium process development	WETF & TA-21 support	TA-21 is being closed.		Tritium process development	Transfer of R&D activities currently done at TA-21 to WETF	Identify capabilities and facility requirements at existing TA-16 site. Capabilities should include both the advanced engineering and research aspects of tritium science.	DP-West and Ion Beam Facility D&D; TSTA and TSFF D&D	D, 17
	Criticality experiments	TA-18			Criticality experiments		TA-18 Mission Relocation study underway, with NNSA management evaluating the feasibility of several programmatic alternatives.	TA-18 Mission Relocation	D, R, 1, 4

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Weapons Physics									
Current Requirements	**Current Functions/Capabilities**	**Current Facilities**	**Current Issues/Concerns**	**Forecasted Requirements**	**Forecasted Functions/Capabilities**	**Alternatives/Options**	**Facility Strategies**	**Related Projects**	**Technological Linkages**
Basic/Applied Research and Technology Development (cont.)									
Maintain core competencies in design, test, and manufacture of nuclear weapons	Engineering science	Engineering facilities		Maintain core competencies in design, test, & manufacture of nuclear weapons.	Engineering science	Additional R&D and office space	Activities related to all aspects of surveillance and certification must be used to justify enhanced capabilities.	Vulnerable Office Building Replacement	D, R, 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17
	Stockpile explosives evaluation and R&D	Stockpile explosives evaluation and R&D			Advanced explosives development and R&D	Additional high-explosive R&D space and heavy assembly facilities required to conduct advanced hydrotesting		DX High Explosives Characterization; DX Shock & Detonation; High Power Detonator Facility; AHF; Classified HE Storage; Medium/Heavy Lab; 4 Vessel Facilities	D, R, 5, 6, 8, 9, 14
	Stockpile weapons code development	Supercomputing facilities			Advanced computing and architecture, weapons code design & development	Metropolis Center. Activities must be supported by benchmarking experiments in upgraded facilities.	Enhance the “collision probability” between scientists in all areas of science-based stewardship to improve predictive capabilities without nuclear testing.	Metropolis Center	11
	Administrative, facility and infrastructure support	Administrative support facilities			Administrative, facility, and infrastructure support	Revitalization of TA-03 and other administrative support facilities		Vulnerable Office Building Replacement; NSSB; Security Perimeter Project; Support Services Consolidation	D, R, All Campaigns
	Machine shop support	Main shops (TA-03)			Machine-shop support	Potential sites include the ATLAS facility in TA-35, TA-16, and the Sigma Complex	Upgraded shops and/or relocation		D, R, 1, 2, 3, 9, 10, 12, 15
	Actinide science and Seaborg Institute	Plutonium facility (TA-55) and CMR (TA-03-29)			Actinide science and Seaborg Institute	Additional office space located at TA-55. Transfer of activities to the CMR replacement	Laboratory capabilities and additional facility space must be defined and appropriate sites selected.	CMR Replacement	R, 16
	Materials science	Sigma (TA-03-66)			Materials science	Transfer of the science and technology (S&T) activities to an upgraded Sigma building to support nonnuclear manufacturing or a new facility	Define the capabilities required and identify the facilities and siting requirements consistent with the trade studies performed for NWP support.		D, R, 2, 6, 8, 9, 10, 12, 15
	Tritium science	WETF (TA-16) & TA-21 support	TA-21 closing		Tritium science	Transfer of S&T activities to WETF	Identify capabilities and facility requirements at existing TA-16 site.		D, 17
	Criticality experiments	TA-18	IAEA interactions and training		Criticality experiments	Relocation to another site	Relocate to TA-55 in coordination with INP effort.	TA-18 Mission Relocation	D, R, 1, 4, 6

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Weapons Physics									
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Basic/Applied Research and Technology Development (cont.)									
Maintain core competencies in design, test, and manufacture of nuclear weapons	International Atomic Energy Agency (IAEA) interactions	Nonproliferation and arms control facilities, international technology and security facilities		Maintain core competencies in design, test, and manufacture of nuclear weapons	IAEA interactions			Nonproliferation and International Security Complex (NISC)	R, 16
	Turbulence experimental testbed				Develop capability to coordinate and conduct mix and turbulence experiments.	Additional lab and office space	Identify the facility and capabilities necessary to export a wide array of ongoing and future turbulence and mix activities.	Vulnerable Office Building Replacement	D, R, 1, 2, 4, 6, 9, 10
	High-speed time measurement for nuclear diagnostics.	High-frequency laboratory TA-03-40	Aging facility	Existing	High-speed time measurements for nuclear diagnostics.	Upgrade existing facilities.	Define future requirements.		D, R, 5, 8, 9
	Stockpile explosives evaluation	LANSCE		Maintain core competencies in design, test, and manufacture of nuclear weapons	Effects of hostile environments and aging on performance		Continue revitalization of LANSCE user facilities using RTBF		R, 2
	Actinide science	LANSCE			High pressure and high temperature EOS		Continue revitalization of LANSCE user facilities using RTBF		R, 2, 8
	Materials science	LANSCE			EOS, texture, and other properties of materials		Continue revitalization of LANSCE user facilities using RTBF		R, 2, 8
Computer Science									
Maintain core competencies in design, test, and manufacture of nuclear weapons	Computer science	Computing facilities		Maintain core competencies in design, test, and manufacture of nuclear weapons	Computer science	Additional R&D and office space	Activities related to all aspects of surveillance and certification must be used to justify enhanced capabilities.	Vulnerable Office Building Replacement	D, R, 1, 2, 3, 5, 6, 7, 8, 9, 10, 12, 14, 15, 16, 17
High Energy Density Hydrodynamics									
Fundamental understanding of weapons physics	Supplied basic data on ignition and thermonuclear (TN) burn and rad-hydro of secondaries	Trident, ATLAS	ATLAS is being moved to NTS	Trident similar as current.	Trident continues as current.	ATLAS moved to NTS.			D, 4, 10
		LANSCE			Nuclear cross sections; fission energy release; atomic ejecta impact on turbulence; bulge experiments		Continue revitalization of LANSCE user facilities using RTBF		R, 1, 4

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Threat Reduction									
Current Requirements	**Current Functions/Capabilities**	**Current Facilities**	**Current Issues/Concerns**	**Forecasted Requirements**	**Forecasted Functions/Capabilities**	**Alternatives/Options**	**Facility Strategies**	**Related Projects**	**Technological Linkages**
Advanced Hydrodynamic Testing									
Hydrotesting of simulated nuclear weapons components	Hydrotesting is the most important diagnostic for nuclear weapons performance short of nuclear testing.	PHERMEX	Scheduled for closure				PHERMEX is scheduled for mothballing.		1, 2, 3, 5, 6, 7, 8, 10, 12, 15
	Two-dimensional radiography, 5-10 experiments/yr	DARHT facilities		Dual-axis motion picture flash x-rays	Three-dimensional radiography, 10-20 experiments/yr	The completion of DARHT and supporting facilities is the heart of the Laboratory's hydrotest program. There are no viable options to AHF and advanced proton radiography techniques. Upgraded capabilities or new radiography facility	Completion of DARHT second axis. Diagnostic "X," Completion of assembly support facilities to use this facility	AHF; DARHT (Phase 2)	D, R, 1, 2, 3, 5, 6, 7, 8, 10, 12, 15
	Two-dimensional hydrodynamic testing and calculation support	LANSCE		Multiple-axis proton radiography for full 4p assemblies	Three-dimensional hydrodynamic testing and calculation support,A165 Proton radiography cinematography	Proton radiography using LANSCE as the source of diagnostic protons	Use LANSCE accelerator at TA-53.	AHF	D, R, 1, 2, 3, 5, 6, 7, 8, 10, 12, 15
	Flyer plates, pin shots, etc.	Multiple specialized firing sites for experiments of various types	Maintaining integrity of buffer zones is an issue. Protection of wildlife and environment		Flyer plate, equation of state, specialized testing of explosives and materials	Potential to create new contained firing facilities	See DX Division Consolidation Plan for Facilities	DX High Explosives Characterization; DX Shock & Detonation; Firing Sites Consolidation	D, R, 1, 2, 3, 5, 6, 7, 8, 9, 12, 14, 15
	Low and intermediate energy x-ray source and detector management.		Inadequate facilities.	Adequate shielded high bay space for low and intermediate energy x-ray radiographic development.	Source and detector development.	Refurbish existing high-bay facility	Look at all existing high-bay capabilities thoughout the Laboratory.		D, 1, 3, 5, 6, 7, 8, 9, 10
Nuclear Weapons Simulation and Computing									
Improve data representation of 3-D simulation codes	Develop and deploy tera-scale technology for visualization and large scale simulations.	Laboratory Data Communication Center (LDCC)		Improve data representation of 3-D simulation codes	Develop and deploy tera-scale technology for visualization and large-scale simulations	Continue to develop networked systems. Develop higher-speed platforms.	Continue development of 30-TeraOps and 100-TeraOps computer platforms. Complete NISC.	NISC	D, R, 1, 2, 4, 5, 6, 7, 8, 9, 10, 11
1-5 TeraOp regime	Computing	Supercomputing facilities		250-500 TeraOp regime	Computing	Metropolis Center	Construction completed		D, R, 1, 2, 4, 5, 6, 7, 8, 9, 10, 11

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Threat Reduction									
Current Requirements	**Current Functions/Capabilities**	**Current Facilities**	**Current Issues/Concerns**	**Forecasted Requirements**	**Forecasted Functions/Capabilities**	**Alternatives/Options**	**Facility Strategies**	**Related Projects**	**Technological Linkages**
Inertial Confinement Fusion and Radiation Physics (ICF&RP)									
Fundamental understanding of weapons physics	Supplies basic data on ignition and TN burn	Pulsed-power facilities, ATLAS	ATLAS is being moved to NTS.	Similar as current	Continue as current	ATLAS facility move to NTS. Pegasus move to UNLV.			D, 4, 6, 10
Nonproliferation and International Security									
Provide technology to prevent global proliferation of nuclear, chemical, and biological weapons and materials	Detector development, JTOT	Nonproliferation & arms control facilities		Provide technology to prevent global proliferation of nuclear, chemical, and biological weapons & materials	Detector development, JTOT	NISC, upgraded & possible relocated JTOT facilities		NISC	N/A
	Analytical chemistry and characterization	CMR (TA-03-29)	Current state of the facility					CMR Replacement	N/A
	Nuclear nonproliferation training	Sigma (TA-03-66), TA-18			Nuclear nonproliferation training		Relocate to TA-55 in coordination with Integrated Nuclear Planning (INP) effort.	TA-18 Mission Relocation	N/A
	Critical experiments, JTOT activities	Critical experiments (TA-18)		Provide technology to prevent global proliferation of nuclear, chemical, and biological weapons & materials	Critical experiments, JTOT activities	Relocation to more secure location	Relocate to TA-55 in coordination with INP effort.	TA-18 Mission Relocation	N/A
	Detector development and international security	International technology and security facilities			Detector development and international security	NISC	Construction of NISC as part of TA-03 revitalization	NISC	N/A
	Nuclear threat reduction	Nonproliferation and arms control facilities; International technology and security facilities			Nuclear, biological, and chemical threat reduction	NISC and supporting facilities. Definition of facility needs for controlling weapons of mass destruction (nuclear, biological, chemical).	Potential reuse application of CMR building	BSL-3 Lab	N/A
	Nonproliferation surveillance				Nonproliferation surveillance	NISC and supporting facilities		NISC; Homeland Security Building	N/A
	Nuclear, chemical, and biological surveillance				Nuclear, chemical, and biological surveillance	NISC and supporting facilities		NISC; BSL-3 Lab	N/A
Materials Disposition									
	The Laboratory has the nation's only mixed oxide fuel production capability.	Advanced Recovery and Integrated Extraction System (ARIES) glovebox line at TA-55	Increases in stockpiles of surplus fissile materials due to U.S.D211 and Russian arms control implementation. There is no nationally designated site and strategy for disposition.	Training center and fuel fabrication demonstrations.	Demonstrate technology for pit dismantlement and plutonium conversion.	Storage and disposal of surplus weapons-usable fissile materials, including plutonium ceramic verification and burning in reactors.	Use ARIES at TA-55 as training center for operators of future Pit Disassembly and Conversion Facility. Must include Defense Nuclear Facility Safety Board recommendations 94-1 and 97-2.		R, 16

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Strategic Research									
Current Requirements	**Current Functions/Capabilities**	**Current Facilities**	**Current Issues/Concerns**	**Forecasted Requirements**	**Forecasted Functions/Capabilities**	**Alternatives/Options**	**Facility Strategies**	**Related Projects**	**Technological Linkages**
Office of Science									
Neutrino, heavy-ion, and neutron experiments	Construction of a large detector system	High-bay labs, light labs	Space changes	More neutron experiments, new detectors, and Waste Isolation Pilot Plant (WIPP) basic science issues	Increase number of cryogenic systems and provide user interface for experiments at WIPP.	New labs at TA-53 matched to cryogenics and clean rooms	Look for labs away from TA-53. Space near the nuclear experiments.		D, 5, 8, 9
Fusion energy science	Basic research in plasma physics	Field Reversed Theta Pinch Compact Plasma Generator (FRX-C)		Magnetized target fusion proof-of-principle research	Growth in research scope	Upgrade in light lab and staff offices	ATLAS at NTS		D, 10
Health and Environmental Research (Bioscience)									
Develop new brain-imaging capabilities	Functional magnetic resonance imaging	TA-03-218	Aging building		Develop new capabilities for program growth.	Upgrade current facility	Define future space requirements and locate suitable space.		9
	Magnetoencephalography (MEG)	TA-03-40	Aging building with high electrical noise and lack of space			Move to another location in SM-40			9
	Optical imaging	TA-03-40	Aging building			Upgrade current facility			9

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17. Tritium Readiness

3.4 MISSION ESSENTIAL FACILITIES AND INFRASTRUCTURE

By identifying mission essential facilities and infrastructure, NNSA Headquarters will be able to prioritize maintenance, restoration, and recapitalization activities towards meeting the Deferred Maintenance Reduction commitment. The mission essential facilities and infrastructure will be assigned priority in RTBF and FIRP funding decisions. A definition of mission essential was developed at the Deferred Maintenance Reduction Summit II on December 3-4, 2002 and agreed to by NNSA Headquarters, the sites, and Management and Operations (M&O) contractors.

> **NNSA Definition of Mission Essential**: Those facilities and infrastructure that are necessary to perform the primary NNSA missions assigned to the Site. This would encompass any facility or infrastructure where the majority of the structure or utility, or its predominant use, is to support scientific research, production, or testing to conduct the Stockpile Stewardship Program.

The Laboratory has determined the set of NNSA Mission Essential Facilities and Infrastructure to include all facilities that are direct funded within the DP budget. Each of these facilities has a direct link to specific mission components with a NNSA/DP program sponsor. All NNSA facilities not included in this category, while still important to NNSA missions as a whole, are indirect funded. Table 3-8 shows the mission essential facilities broken out by individual mission component. Overall, there are 485 mission essential facilities totaling approximately 3,600,000 GSF. More information on the mission essential facilities may be found in Attachment G, and a map of their locations is on the following page.

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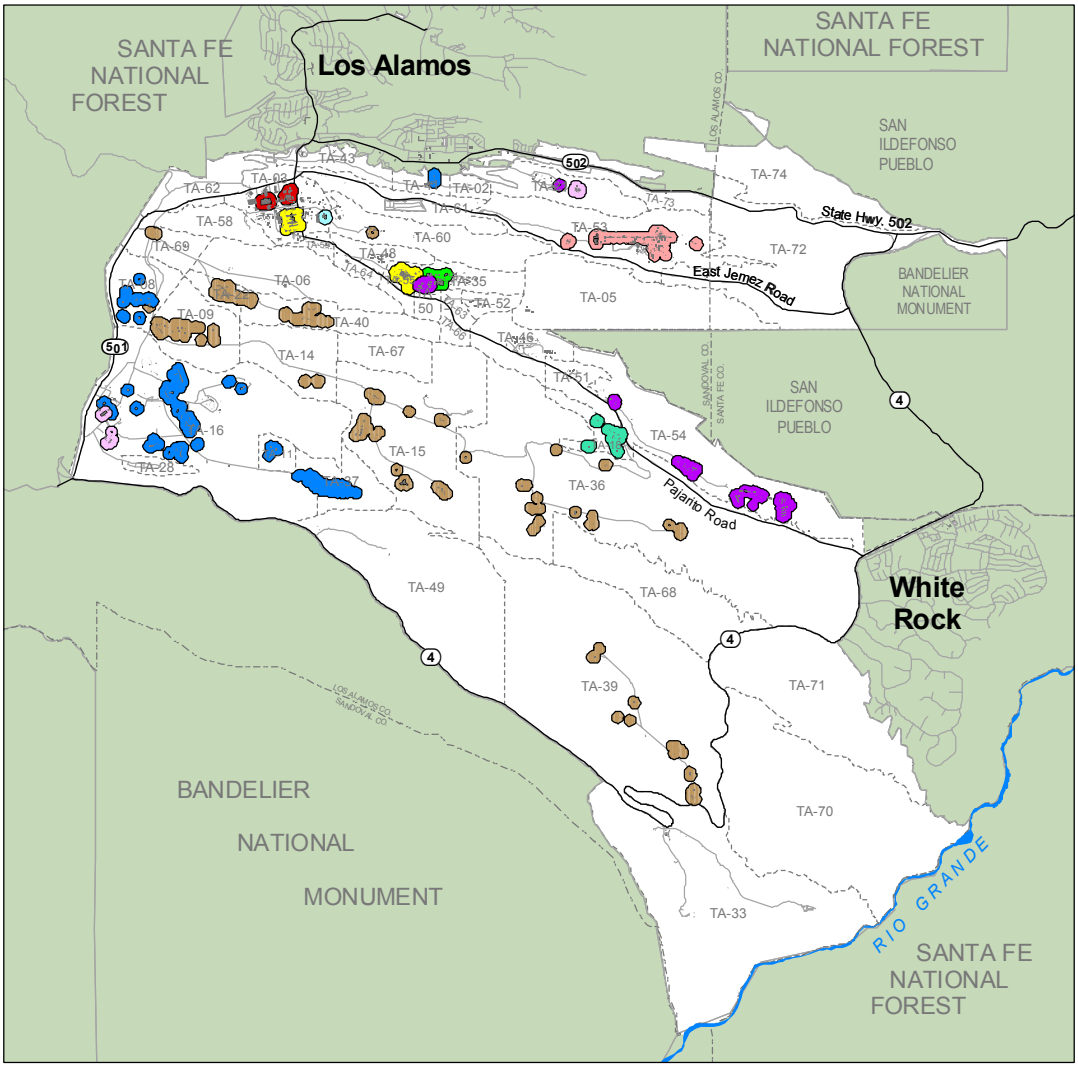

Mission Essential Facilities

LEGEND

- Waste Facilities
- TA-18 Facilities
- NMT Facilities
- LANSCE Facilities
- Tritium Facilities
- Dynamic Experimentation Facilities
- Beryllium Technology Facility
- Engineering Facilities
- ASCI Facilities
- ICF Facilities

8000 0 8000 Feet

(Facility footprints are buffered for visibility)

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Table 3-8: Mission essential facilities by mission component.

Mission Essential Facilities			
Readiness in Technical Base and Facilities			
NA-11			
	Engineering Facilities 89 buildings 312,700 GSF		
	High Explosives (HE) Facilities Machine Shops Assembly & Storage Testing Facilities	Enduring Mission Essential 60 buildings 193,100 GSF	Proposed Excess Mission Essential 29 buildings 119,600 GSF
	Dynamic Experimentation Facilities 197 buildings 449,600 GSF		
	Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) HE Science Firing Sites Detonator Facilities Pulsed High-Energy Radiographic Machine Emitting X-Rays (PHERMEX)	Enduring Mission Essential 101 buildings 262,000 GSF	Proposed Excess Mission Essential 96 buildings 187,600 GSF
	Los Alamos Neutron Science Center (LANSCE) Facilities 44 buildings 583,800 GSF		
	Accelerator Facilities Lujan Center Weapons Neutron Research (WNR) P-Rad	Enduring Mission Essential 40 buildings 582,300 GSF	Proposed Excess Mission Essential 4 buildings 1,500 GSF
	Waste Management Facilities 68 buildings 324,100 GSF		
	Radioactive Liquid Waste Treatment Facility (RLWTF) Radioassay and Non-Destructive Test (RANT) Facility Radioactive Materials Research Operations and Demonstration (RAMROD) / Waste Characterization, Reduction, and Repackaging (WCCR) Facility TA-54 Solid Waste	Enduring Mission Essential 60 buildings 270,700 GSF	Proposed Excess Mission Essential 8 buildings 53,400 GSF

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Mission Essential Facilities			
NA-12			
	Nuclear Materials Technology (NMT) Facilities 38 buildings 1,013,300 GSF		
	TA-55 Chemistry and Metallurgical Research (CMR) Facility	Enduring Mission Essential 25 buildings 408,600 GSF	Proposed Excess Mission Essential 13 buildings 604,700 GSF
	Tritium Facilities 11 buildings 116,000 GSF		
	TA-16 TA-21	Enduring Mission Essential 4 buildings 48,400 GSF	Proposed Excess Mission Essential 7 buildings 67,600 GSF
	Beryllium Technology Facility		
	TA-3-141	Enduring Mission Essential 33,300 GSF	
	TA-18 Facilities 29 buildings 76,600 GSF		
	TA-18	Enduring Mission Essential 2 buildings 2,900 GSF	Proposed Excess Mission Essential 27 buildings 73,700 GSF
Advanced Strategic Computing Initiative (ASCI) (NA-11)			
	Nicholas C. Metropolis Center Laboratory Data Communications Center (LDCC) Central Computing Facility (CCF)	Enduring Mission Essential 4 buildings 593,600 GSF	
Inertial Confinement Fusion (ICF) (NA-11)			
	Target Fabrication Trident	Enduring Mission Essential 4 buildings 162,400 GSF	
Balance of Plant 5.3M GSF 1.335 structures			

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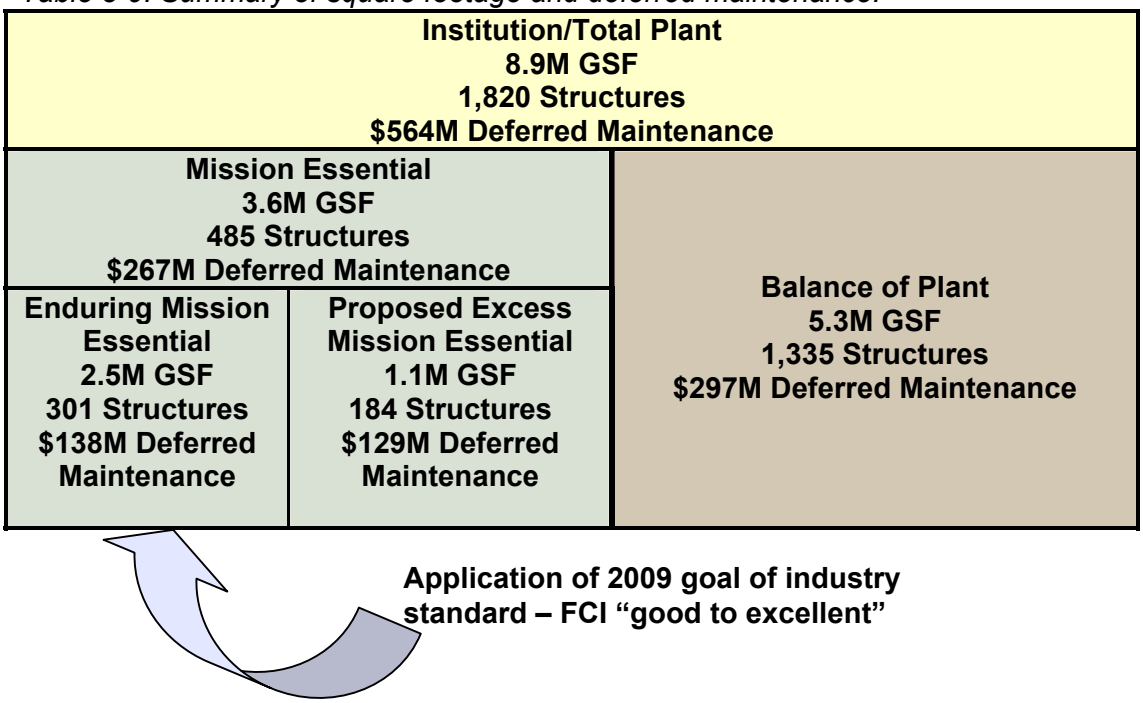
All of the Laboratory's facilities are being evaluated for the projected longevity of mission need. *Enduring* facilities are those facilities with mission needs extending beyond 10 years while *proposed excess* facilities have a mission need of less than 10 years or are temporary structures in "poor" or "failing" condition. Consequently, investment in the reduction of deferred maintenance will be prioritized with the length of mission need as a factor. As appropriate, facilities with a defined "end of mission need" will be identified for exclusion from the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards).

Table 3-9: Summary of square footage and deferred maintenance.



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3.5 FACILITIES AND INFRASTRUCTURE IMPACTS FROM NON-NNSA PROGRAMS

3.5.1 Non-DP Program Contributions

While the Laboratory is primarily an NNSA site, non-NNSA programs do provide financial support for facility operations. This support enables a financial synergy that is beneficial for all programs where they coexist. Refer to Table 3-2 for non-RTBF investment (including non-NNSA) to facility operations. In addition, non-DP programs contribute to institutional initiatives in direct proportion to the magnitude of the program. One such institutional area is the payment of utility costs, which includes a level of utility reinvestment as noted in the F&I Cost Projection Spreadsheet. Without the inclusion of non-NNSA programs, a higher level of NNSA investment would be required to sustain the facilities and infrastructure.

In addition to facility operations investments, there is also planned construction investment from sources other than what is included in the ICPP, RTBF, and FIRP. Refer to the Non-RTBF/FIRP Cost Projection Spreadsheet in Attachment A, which also includes some non-NNSA construction investment.

One activity from non-NNSA programs will impact the site's future NNSA facility and infrastructure activities. Long Term Environmental Stewardship (LTES) activities associated with the Risk Reduction and Environmental Stewardship (RRES) Division's Remediation Group will become an NNSA responsibility in FY16, upon completion of the Laboratory's Environmental Restoration program. The scope of the LTES activities include (1) project management, (2) regulatory compliance and stakeholder involvement, (3) vadose zone and groundwater monitoring for material disposal areas (MDA), (4) monitoring of groundwater wells, (5) management of data bases and information management systems, and (6) required reporting to regulatory agencies. The LTES activities will commence upon the completion of all response actions, disposal of waste from response actions, and decontamination and decommissioning of facilities under the jurisdiction of DOE's Office of Environmental Management. FY16 costs are estimated to be approximately $1.7M.

3.5.2 Potential Environmental Management (EM) Responsibilities

During the early 1990s, several facilities were transferred from DP to EM for surveillance and maintenance followed by decommissioning. All of these buildings were subsequently removed. In recent years, candidate facilities have been discussed but none have been transferred from DP to EM. Facilities that are candidates for transfer contain process contamination. Consequently, they pose a certain level of institutional risk until they are

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removed. If DP or other programs ultimately transfer facilities to Environmental Management (EM), it is critical that performance expectations be established and carried out to avoid prolonged risk at this NNSA site.

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3.6 ROLE OF TECHNOLOGY IN THE COMPLEX OF THE FUTURE

Prior to 1992, confidence in the certification of weapons was established through nuclear testing, where scientific understanding was simply a byproduct of demonstration. As such, there was no overarching certification methodology, and the Laboratory had an overly simplistic view about what was known and what could be delivered. This caused the Laboratory to "overcommit" itself; there was no planning for weapons work, additional work was readily accepted, and the scientific effort was not integrated. In response to the overcommitment, the Laboratory often delayed milestones and continuously "re-baselined" the work. Resources were used to meet near-term deliverables, investments were deferred, and facilities were allowed to decay.

Today, in the current era of science-base stockpile stewardship, the enormous complexity of certification is finally emerging. The Laboratory has realized that past practices will not enable it to meet the requirements of the future and is starting to develop the requisite project/program management skills and tools to assess and manage certification commitments. More focus is being paid to deliverables and milestones through the following actions:

- Allocating resources to priorities,
- Holding people accountable for program and project milestones,
- Reducing scope/options and assuming more risk to meet milestones,
- Retaining scope and moving milestones out,
- Focusing the workforce on the priorities,
- Developing a formal baseline to manage the program, and
- Improving business practices.

The key commitment for the Laboratory's new integrated weapons program is *building and maintaining an effective U.S. deterrent*. The following graphic provides a summary description of the capability requirements involved in this commitment. Specific facilities and infrastructure projects to support this capability are described in this TYCSP and are summarized in the SMART.

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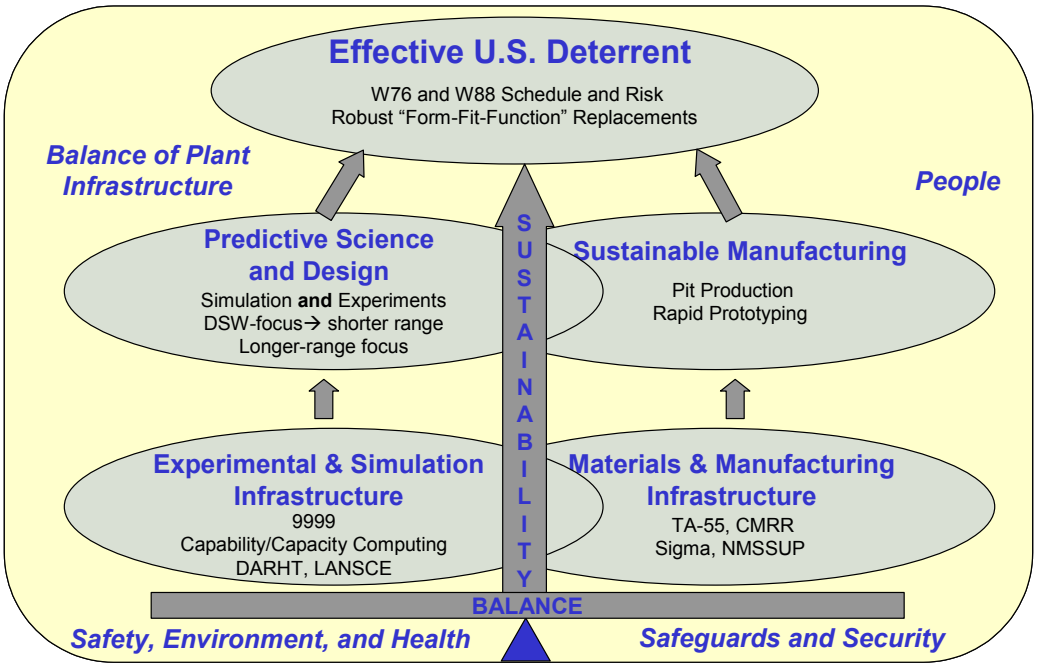
Figure 3-1: Building and maintaining an effective deterrent comprises many elements.



In order to meet this commitment, the Laboratory is embarking on two new technologies: sustainable manufacturing and predictive science and design. As shown in the graphic above, sustainable manufacturing will be used for pit production and rapid prototyping. It is product driven rather than process driven and will increase the scientific basis for manufacturing. Other benefits of sustainable manufacturing include the following:

- Concurrent design-manufacturing exploits the Laboratory's capabilities,
- Small lots with very high acceptance rates,
- Sustainable, state-of-the-industry technologies,
- Flexible manufacturing from one design to another, and
- Robust in-situ and non-destructive inspection technologies.

Predictive science and design will be used to closely integrate simulation and experimental programs. It will provide science-based understanding of uncertainties and exploit margins to avoid risk. Other benefits of predictive science and design include the following:

- Use quantifications of margins and uncertainties as a technical decision basis,

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- Enhance test readiness as insurance and resource, and
- Legacy of predictive ability to address evolving requirements.

As discussed earlier in this chapter, the recently formed PIB will be overseeing the development of Five-Year Program Element Plans, Five-Year Project Plans, and activity worksheets for the Laboratory's nuclear weapons program. As these plans are developed, infrastructure, facility, and technological needs will be more clear and become an integral part of developing the TYCSP.

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THE PLAN

4.1 PLANNING PROCESS

The FY04 TYCSP focuses on physical assets that support the Laboratory's missions and operations. It is one element of Laboratory strategic planning that includes NNSA and Laboratory requirements (in specific areas) and takes input from other plans to define facilities needed to accomplish the Laboratory's mission. Figure 4-1 diagrams the relationship of the TYCSP to other plans. Laboratory strategic planning processes evaluate four levels that build upon each other to achieve scientific and operational excellence. These levels are represented as *mission objectives, permit to operate, operational plans, and supporting plans*.

The *mission objectives* level defines the Laboratory's scope of work. It is developed through a top down strategic planning process, which includes development by the Laboratory Senior Executive Team of annual strategic goals in each program area.

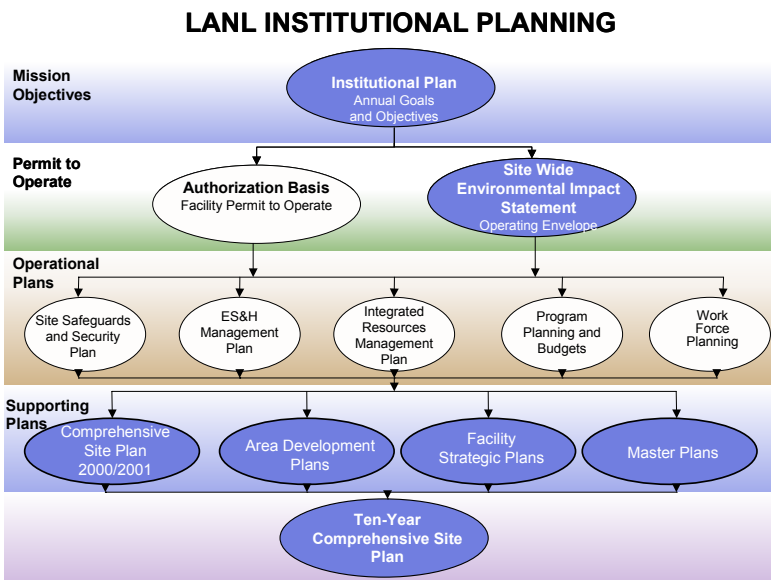

Figure 4-1: TYCSP relationship to other plans.

Environmental protection, health and safety, and technical limits are defined at the *permit to operate* level. The SWEIS and supporting plans that address individual projects (e.g., environmental assessments) and site-wide management plans (e.g., Integrated Resource Management Plan) define operating envelopes. Health and safety of personnel and the public and technical requirements for the operation of specific facilities are evaluated in the Authorization Basis (AB) process. These plans provide key operating limits that may affect facility planning.

The *operational plans* depicted in Figure 4-1 are site-wide in nature. They are interrelated in that each plan relies on information from and provides information to the other plans. Operational plans provide guidance and information from which facility investment plans

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are drawn or refined and included in the TYCSP process. The Environmental, Safety, and Health (ES&H) Management Plan identifies vulnerabilities that should be addressed in site and facility plans. The Site Safeguards and Security Plan provides vulnerability analyses results that support Safeguards and Security management and planning actions for the protection of DOE assets. Program plans and budgets provide insights into prioritization and growth sectors. The workforce plan includes critical skills requirements and broad estimates of changes in the workforce population based on budget projections that in turn drive space requirements to house the population.

Supporting plans further define and assist Laboratory implementation of operational plans and mission programs. They generally present physical development recommendations and proposals from site-wide to site-specific levels. Only supporting plans that address facility investment are depicted for this TYCSP.

The TYCSP is also aligned with Laboratory Performance Requirements (LPRs) and Laboratory Implementing Requirements (LIRs) that provide Laboratory expectations for operations.

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TYCSP Planning

Planning for the TYCSP includes a thorough review of the various Operational and Supporting Plans (Figure 4-1) to gather relevant information and to assure consistency with the Laboratory's stated expectations. These plans provide goals and assumptions (see summary below) that this TYCSP must maintain.

Goals

Comprehensive Site Plan
- Identify vision, principles, and strategies for physical systems

Area Development Plans
- Recommend best land-use for specific geographical areas

Facility Strategic Planning
- Identify more cost efficient approaches to perform future missions
- Propose structures (new or modified), land-use, and site selection to meet organizational strategic needs

Master Planning
- Propose structures (new or modified), land-use, and site selection to support area development.

Assumptions

- Strong mission focus will drive increases in workforce and need for additional space.
- Budgets for facilities (new construction and improvements) initially will be strong and will decline toward the end of the planning horizon.
- Security requirements will drive transportation and site selection considerations.
- Environmental concerns will continue to impact project approaches and cost.
- Transition points for NEPA review, space management, and project launch will be improved.
- Flexibility in implementation of Facility Strategic or Master Plans will enhance success.

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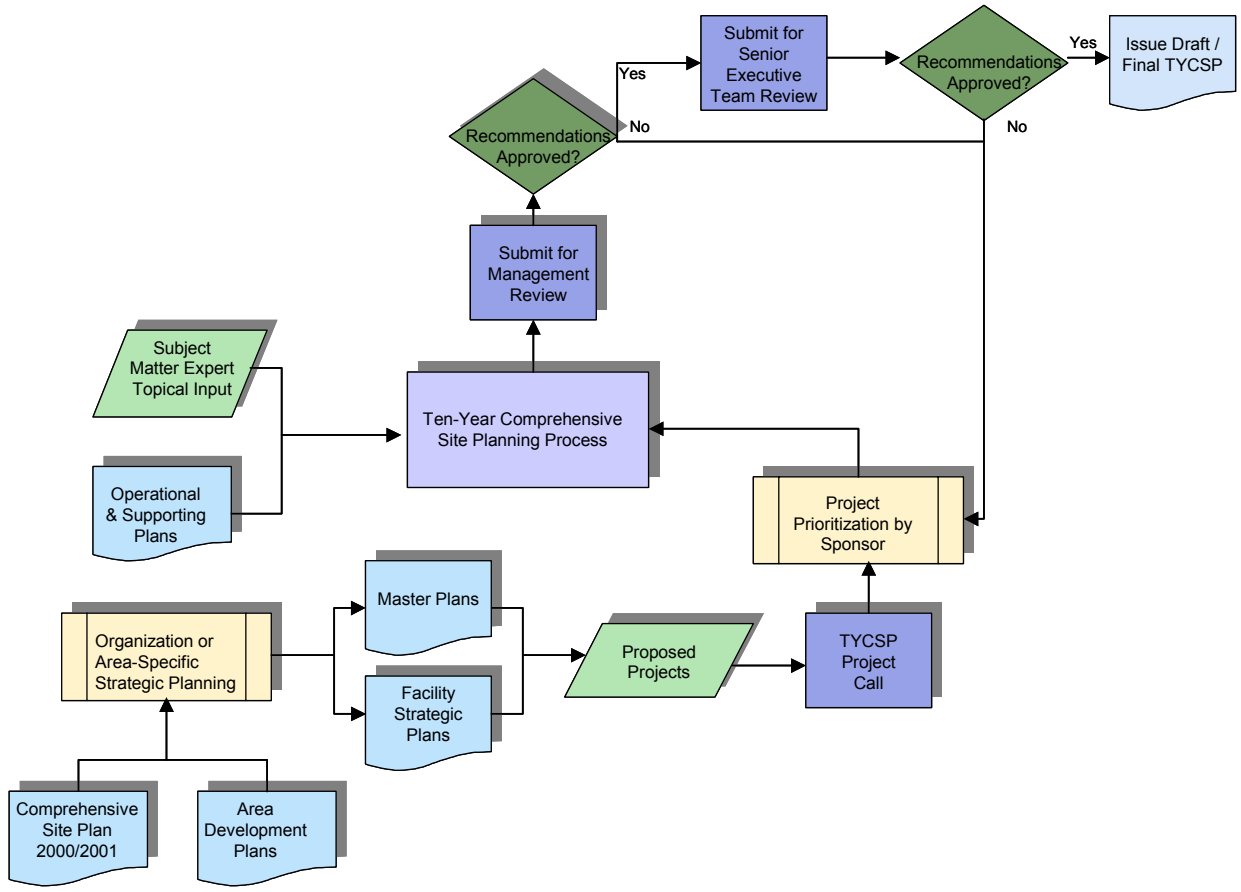
The TYCSP development process is collaborative and engages organizational owners of various Laboratory operational plans, Laboratory facility managers, line managers, and subject matter experts from various disciplines across the Laboratory (e.g., utilities, condition assessments, budgets, programs, and human resources). The DOE/Facility Information Management System (FIMS) data is reviewed and analyzed and provides the basis for evaluation of facilities. Figure 4-2 represents the planning process specific to the TYCSP.

Figure 4-2: The TYCSP planning process.



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The project lists (Attachment A) are initiated by an institutional call and are proposed by the Laboratory's operating organizations. Submissions provide definition, estimated cost, and prioritization within the requesting organization. The call includes all categories of funding (Line-item, GPP, IGPP, and Expense) and all sources of funds (NNSA and non-NNSA). Proposed projects are grouped for review and prioritization.

Individual organizations are encouraged to formally and strategically plan for facility needs. The Laboratory's CSPs and Area Development Plans (ADP), which define key planning assumptions and directions, are critical inputs to an organization's planning process. Consistency with institutional plans is also provided in the Laboratory's site selection process.

Management of the planning process is the responsibility of the SPCC, chaired by the Operations Directorate (ADO). ADO prepares a proposed institutionally prioritized project list within each of the potential funding sources for review by the SPCC. The SPCC recommends approval to the Laboratory Senior Executive Team (SET), the final approval entity for individual projects and their prioritization.

Planning Process Improvements

Continuous process improvement is required for the Laboratory to operate and maintain a safe, secure, compliant, and appropriately sized complex of facilities and infrastructure that meets current and future NNSA mission, program and workload requirements and is within fiscal constraints. Several initiatives are currently underway that directly contribute to improving the quality of site and facility planning.

Facility Revitalization

The Facility Revitalization effort will establish an aggressive program to enhance and optimize safe, secure, and efficient facility management. Facility management activities are valued, supported, and managed as an important business function. While Laboratory divisions have direct oversight and influence over daily operation and maintenance, facilities must be operated, maintained, and managed to ensure long-term viability for institutional and programmatic missions. In addition to the larger effort of improving the Laboratory's facility management function, two key goals directly affect site and facility planning – (1) establishing the base-line data for facility maintenance (deferred, corrective, and preventive) and (2) facility modernization (facility strategic planning).

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Institutional Infrastructure Planning

Comprehensive transportation and utilities planning is being pursued. The utility planning initiative will evaluate the ability of the existing systems and will recommend necessary changes to meet projected utility loads for the next ten years. The transportation planning initiative will address issues in security, safety, workforce size, and shifts in population locations. The process will also involve evaluation of impacts and benefits to the surrounding communities including the northern Pueblos, the Española valley, and the County of Los Alamos.

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4.1.1 Facilities and Infrastructure Overview

More than half of Laboratory facilities are currently greater than 30 years old, including nuclear and non-nuclear facilities. Over the next 10 years, facilities aged 30 or more years old will increase to 7 million GSF. Without implementing the proposed demolition and replacement of aging facilities, the Laboratory's ability to carry out the stockpile stewardship mission is seriously threatened. A dedicated revitalization effort is crucial for the long-term viability of this Laboratory.

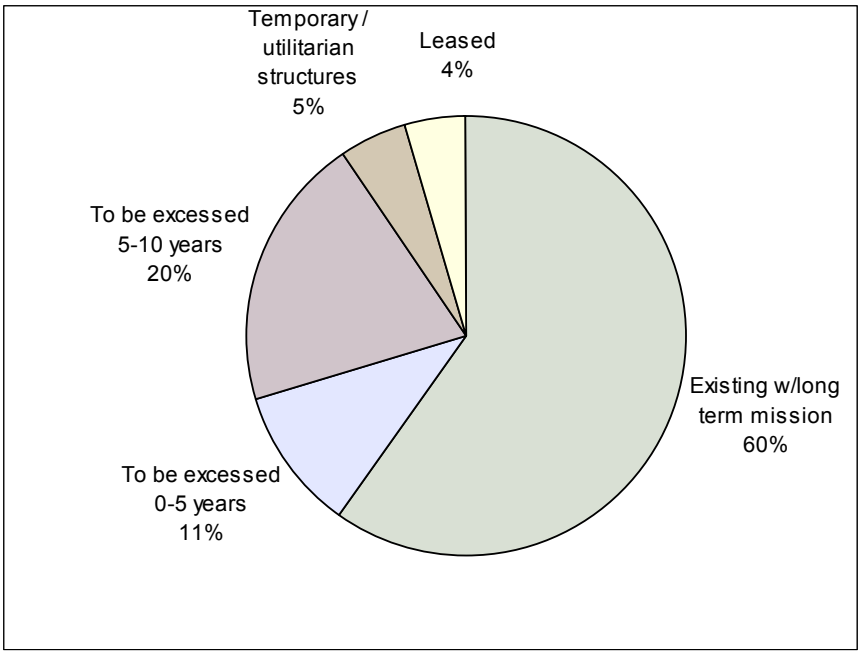

Figure 4-3: Summary of proposed facility disposition.

The Laboratory is forecast and summarized by the types of facility disposition expected by GSF in the future. Figure 4-3 represents the disposition of today's facilities based on an evaluation of mission need. The total of facility disposition for the Laboratory indicates over 60% of the structures as existing with a long-term mission, and these facilities are a priority for cost-effective facility management and maintenance. Thirty-one percent of the Laboratory's gross square footage is planned for excess within the next 10 years because of their inadequacy to meet future long-term missions.

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An important element in ensuring that facilities can meet mission requirements is adequate maintenance. NNSA has recognized that many sites throughout the complex, including Los Alamos, have not performed all maintenance activities in a timely manner. This has resulted in a *deferred maintenance backlog*, which directly impacts facility condition and performance. The first step in NNSA's initiative to restore, revitalize, and rebuild the complex is to reduce deferred maintenance, thus ensuring that existing facilities can meet current and future mission requirements. NNSA has established complex-wide corporate goals for deferred maintenance reduction, and the Laboratory has committed to achieving these goals.

NNSA Corporate Goals for Deferred Maintenance Reduction

- By the end of FY 2005 NNSA will stabilize its deferred maintenance
- By the end of FY 2009 NNSA will:
  - (1) Aggressively reduce deferred maintenance to within industry standards
  - (2) Return facility conditions, for our mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance divided by the replacement plant value is equal to or less than 5%)
  - (3) Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards

In two following sections, 4.1.2—Condition Assessment Survey and 4.1.5—Maintenance and Deferred Maintenance Reduction, the Laboratory's efforts to identify the current maintenance backlog, determine the overall condition of facilities, and steps to achieve the corporate goals are described.

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4.1.2 Condition Assessment Survey (CAS)

Condition Assessment Process

The Laboratory relies on the DOE Condition Assessment Survey (CAS)/ Condition Assessment Information System (CAIS) process to assess the condition of physical facilities and supporting infrastructure. The program is deficiency based where inspections and associated interviews with Facility Management staff and cognizant system engineers focuses on deficient systems, re-capitalization needs (replace in kind), and modernization requirements. The program fully supports the mission(s) of each facility asset and supporting infrastructure at the site. Deficiencies are aggregated into project-level definitions and reported to the FIRP Program Manager and responsible Facility Managers (FMs) for validation prior to submittal for funding.

Field assessments are prioritized according to two schedules for execution. The first priority schedule focuses on mission essential structures, systems, and components and recognizes geographical constraints and efficiencies. The second schedule reflects the "balance of plant" assets and identifies readily accessible assets to inspect should first priority assets be unavailable. Upon completion of inspections of the mission essential assets, the balance of plant inspection schedule becomes primary. This approach allows the Laboratory to maximize the contracted Parsons Brinckerhoff (PB) inspection staff's productive inspection and interview time of the assigned resources.

Field assessment of all fixed assets is conducted on a three-year cycle. Trained inspectors in the primary disciplines (mechanical, electrical, architectural and civil/structural) conduct the work. The inspections are non-intrusive and capture the evident deficiencies associated with the asset work breakdown structure (WBS) as defined in the CAS training materials. Approved Hazard Control Plans related to the execution of field assessments authorize each inspector to work in a safe and secure manner. Inspections are coordinated with ADO through the responsible FM and their planning staff.

CAS Inspectors conduct interviews with the responsible FM, recognized System Engineer, and other facility management staff to collect facility and system condition data that otherwise would not be evident to the inspector. The "corporate knowledge" regarding the maintenance, re-capitalization and modernization needs is tapped through the interview process. Then, the information is formatted and entered into the CAIS2000 database in the structure, system and component categories.

The Laboratory's condition assessment process has developed more refined interfaces with other elements of facility management tools and processes during FY03. Currently, the new Integrated Facility Management Program (IFMP) defines the linkages necessary

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to incorporate the CAS process and the CAIS database as an integral tool for planning, budgeting and execution, and maintenance reporting. The linkages provide a "closed" environment to ensure that deferred maintenance is managed as part of the normal execution of the maintenance program.

Data Management

CAS data resides in the DOE CAIS2000 database. Both Laboratory and contract CAS inspectors have access to data as it is implemented into the database. The CAS Program Administrator acts as the database administrator with professional support from Facility and Waste Operations Division (FWO's) Integrated Information Management Group. Each database user has a profile that defines their level of access to the data and system capabilities. All CAIS data is backed up nightly to ensure that the worst-case credible loss of data is limited to the data entered over one eight-hour day. Field notes and interview documentation are assembled into hard-copy records for each building and/or asset and are maintained as record files and source documentation.

CAS inspection data follows a procedure that ensures all of the data is reviewed, corrected, and validated prior to entry into the CAIS database. Inspectors perform a peer review during each inspection. After draft entry into the CAIS database, the CAS Program Administrator reviews the inspection data using queries and report reviews developed at the Laboratory. FMs and their staff review the reports for accuracy and completeness. Data is then committed to the CAIS database as final, validated inspection data.

Replacement plant values (RPVs) are also reviewed to determine their validity. Comparisons between escalated values for the assets, derived from the R.S. Means escalation factors based on initial acquisition dates and costs, and DOE FIMS model costs yield a disparity in a number of asset types and usage categories. Correction factors (see Table 4-1) align the RPV values in FIMS and CAIS with the results of the analysis, and the factors are applied to the RPV values in the FIMS database. As a basis for the analysis, engineered replacement values for projects currently in the design process are used as a "reality check" for the calculated RPVs.

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Table 4-1: Corrective factor results by FIMS usage code.

Building Types	Descriptions	Loader*	Low Range	High Range
Category II Nuclear	Hazard Category “02” in FIMS	3.684	2.145	6.325
Modulars	Building Type “T” in FIMS and Haz Cat not “02”	1.749	1.298	2.356
Offices	Building Type "B", Haz Cat not "02" and Use Code 100 series	1.749	0.789	3.876
Support	Building Type "B", Haz Cat not "02" and Use Code 200 series	1.655	0.882	3.104
Storage	Building Type "B", Haz Cat not "02" and Use Code 400 and 800 series	1.825	0.886	3.757
Process	Building Type "B", Haz Cat not "02" and Use Code 500 series	3.371	1.716	5.419
Services	Building Type "B", Haz Cat not "02" and Use Code 600 series	3.120	1.023	9.517
Labs	Building Type "B", Haz Cat not "02" and Use Code 700 series	0.921	0.432	1.964

*Loader is the corrective factor utilized to adjust RPV and deferred maintenance costs.

The samples are selected from the FIMS database and include all active Laboratory buildings constructed within the past ten years because older cost estimates are unreliable when escalation factors become large. RPVs calculated with the FIMS model process are compared to the RPVs calculated via escalation from original date and cost of construction. Where known estimates for replacement of Laboratory facilities are available, comparisons use all three values for RPV. From this data analysis, RPV correction factors were developed to better reflect current dollar replacement values by usage category for assets. The same process was applied to the major property types.

To develop the FY04 TYCSP, all adjusted RPVs have been uploaded due to the unique building level factors required to correct the values. This is a change from prior year philosophy for FIMS-calculated RPV values to be utilized with only the site factor contained in FIMS as the value adjustment. Additionally, the factors escalate the deferred maintenance values contained in FIMS based on the same analysis.

Condition assessment data is reported primarily to FMs for managing the deferred maintenance backlog and the reduction plan. Custom reports are crafted to meet the needs of FMs and FWO personnel responsible for input to this planning document. Reports and data extracts from the FIMS database provide feedback to DOE for tracking deferred maintenance by asset. The Laboratory is planning a web-based tool for access to a basic set of reports and CAIS2000 data downloads to better facilitate management of the backlog.

The CAIS database is the basis for defining projects that will be funded by FIRP for management and reduction of deferred maintenance in accordance with NNSA corporate

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goals. Maintenance project requests must be identified in the CAIS database to be considered valid. As part of the project approval process, facility-related projects utilize CAIS data to identify deferred maintenance that may be associated with project execution.

Projects are identified in the CAS database in one of two lists. The first lists individual record entries where the cost of execution to correct the deficiency indicates that aggregation with other line items may make the total cost prohibitive. The second lists an aggregation of identified needs/deficiencies into a project that makes sound engineering sense and the total identified cost for the project is reasonable. No fixed definition for the level of cost per project has been defined; however, the current approach is to keep total project cost at or below the GPP funding threshold where possible.

FIMS

FIMS is the Laboratory's database of record for real property assets including buildings, trailers, and other structures and facilities. The CAIS2000 database is updated periodically to synchronize the asset list between DOE and the Laboratory, which ensures that inspections and reportable maintenance data are accurately reflected. The Laboratory maintains an internal database that mirrors the FIMS elements and augments content to better serve the site's needs and to ensure that timely updates are entered when physical changes occur. FIMS data is utilized directly for updating the CAIS database, and FMs may view the FIMS data directly through the Laboratory's web. Deferred maintenance and actual maintenance cost data are analyzed through the use of FIMS as a historical data source for trending over multiple fiscal years.

Maintenance Budget Formulation

CAS data is used to develop annual maintenance work plans and budgets. Deferred maintenance requirements have been identified by optimum year for corrective actions using a technique with discrete budget WBS elements. Budget formulation is a "bottoms-up" process based on each asset's master equipment list. Deferred maintenance corrective costs, derived from the CAIS database, are reflected in each building-level budget request. Building-level budgets are rolled up to an FM level and reflect maintenance needs for a group of assets assigned to an FM. Finally, FM budget requests comprise the division level budget that accounts for maintenance and deferred maintenance investment requirements for all buildings, trailers, and other structures and facilities (OSFs). The budget strategy is based on the prioritized needs of the plant, realizing that the authorized funding for any given fiscal year may not fully fund all the needs.

Life Cycle Analysis

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CAS data is used to compare facility life cycle costs in order to determine effective investment strategies and minimize maintenance expenditures. The costs of corrective activities (to reduce deferred maintenance) and operations and routine maintenance are compared to replacement options to determine the most appropriate financial investment strategy to optimize DOE assets. The analysis is applied when decisions regarding space consolidation, renovation or mission support capability costs are required. The cost analysis process for cost comparisons relies on BLCC5 software developed for DOE. Additional analysis with spreadsheets and other tools are also employed. Whitestone Research software, currently under evaluation, may provide the Laboratory with a more suitable and robust analysis tool for life cycle cost modeling and cost comparison.

Table 4-2: Year-to-date CAS summary.

FMU	Deferred Maintenance Cost	Modernization Cost	RPV	Facility Condition Index (FCI)	Total Facility Condition Index (TFCI)
N/A	$59,866,587	$61,455,589	$1,317,971,288	4.8%	9.5%
1	$40,393,366	$26,260,326	$289,859,628	13.7%	22.8%
2	$31,997,315	$12,988,260	$265,930,853	13.7%	18.6%
3	$87,274,399	$35,776,839	$450,646,995	20.6%	28.5%
4	$61,501,827	$29,728,754	$197,566,708	31.3%	46.4%
5	$65,233,230	$25,424,098	$464,178,989	15.0%	20.4%
6	$38,796,101	$11,718,538	$109,483,393	34.8%	45.5%
6D	$20,115,198	$5,132,243	$77,440,763	25.6%	32.2%
7	$37,115,164	$6,069,713	$721,106,682	5.3%	6.1%
8	$39,280,830	$37,910,944	$67,155,385	57.4%	113.8%
9	$82,706,239	$77,578,540	$1,643,278,381	4.9%	9.7%
Total	**$564,280,256**	**$330,043,844**	**$5,604,619,065**	**10.3%**	**16.2%**

The CAIS RPV is the replacement cost of all structures, systems, and components as derived from the R.S. Means cost tables within the CAIS database. It is not comprehensive in definition of the systems for all buildings and is utilized for comparison across sites for similar asset model types. The Facility Condition Index (FCI) is derived as a ratio of deferred maintenance to RPV, which the Total Facility Condition Index (TFCI) is derived as a ratio of the sum deferred maintenance and modernization costs divided by the RPV.

The data reveal that the overall facility condition index for Laboratory assets (excluding utilities) as of July 30, 2003 is “ADEQUATE.” These scores result from baselining all the structures, systems and components for all assets listed in the FIMS database. CAIS is the database of record for the current condition of Laboratory assets. However, data in

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Attachment F reflect the validated condition of assets utilizing the DOE FIMS database as the database of record for the asset inventory.

Status of Survey Baseline

The field assessment and interview baselining has been completed for all buildings and temporary structures. The baseline process for utility systems and other OSF assets continues due to the difficulty of assessing the condition of buried utilities and other systems where access constraints prevent ready inspections. The PB contract assessment efforts were completed in June of FY03. Training has been provided for Facility Management, Core FWO personnel and KSL contractor personnel in order to expand the assessment capability and sustain the CAS effort without having to rely on contracting for inspection services. The net result of internal capability enhancements should provide more accurate and timely CAS information. Also, tracking adherence to the deferred maintenance reduction goals will improve for the same reasons.

Current and Future Facility Condition

The Laboratory's facilities fall into three different categories: Enduring Mission Essential, Proposed Excess Mission Essential, and Balance of Plant. Table 4-3 below summarizes the current condition of facilities in these three categories. Figure 4-4 provides more information on the number of facilities, square footage, and deferred maintenance for each category. While empirical data supporting the condition score is accurate as an estimate, other factors influence the final management decision regarding an asset's ability to support the current or future missions. The CMR building provides an example of the additional influences affecting condition scoring. While the CAS condition is in the "adequate" to "poor" range, the building fails to meet the current seismic requirements for long-term occupation and operation.

The following table provides a summary of the facility condition index score in each major category and represents an aggregate condition of the assets contained in each category.

Table 4-3: Summary of FCI by facility category.

Category	Summary FCI
Enduring Mission Essential	Fair (FCI = 10.13)
Proposed Excess Mission Essential	Adequate (FCI = 7.07)
Balance of Plant	Fair (FCI = 12.96)

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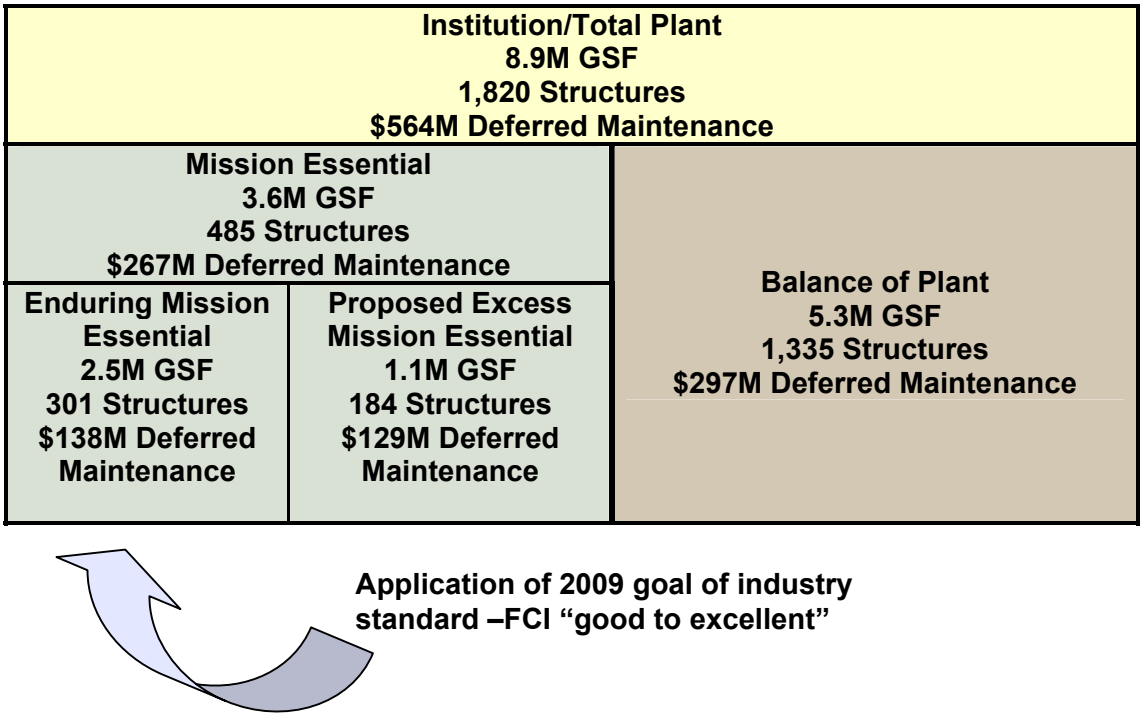
Figure 4-4: Breakdown of GSF and structures with estimated deferred maintenance.



Mission essential assets proposed for excess vary in condition and suitability for re-use. They are operated in a safe and secure manner and meet the mission needs but are targeted for space consolidation and footprint reduction. These actions will gain efficiencies of operation and realize economies of scale improvements and cost avoidance/reduction in deferred maintenance and operations costs.

Suitability for NNSA Mission

Many of the current mission essential assets are not defined as "enduring mission essential" as described below. Approximately one million square feet of mission essential assets have been identified as inadequate and are to be decommissioned or are defined to be excess facilities within ten years. Those assets, while currently supporting the NNSA mission, are now or will be deteriorated to the point of minimal availability and usefulness to mission during the next 10 years.

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Table 4-4: Primary utilities and current condition.

System	Current Condition
Water Distribution	Adequate
Electrical Distribution (High Voltage)	Adequate
Sanitary Sewer System	Adequate
Gas Distribution	Adequate
Roads and Grounds	TBD
Steam and Condensate Distribution	TBD
Los Alamos Bridge	Fail

Future Condition

The Laboratory is committed to the NNSA deferred maintenance reduction goals to stabilize deferred maintenance growth by FY05 and reduce the FCI to a score of good to excellent for mission essential assets and achieve an aggregate facility condition index for the balance of plant of adequate by FY09. The FCI is derived by dividing each asset's deferred maintenance mortgage cost by the replacement plant value, and as such, is deferred maintenance expressed as a percent of RPV. The Laboratory anticipates challenges that will influence the ability to achieve the desired end state conditions of the facility assets. Anticipating the required end state for many of the assets in the inventory is influenced by the changing mission requirements assigned to the assets of interest. The Laboratory reserves the responsibility to make these assignments and clearly recognizes the need to meet mission goals in the most cost effective manner. The changing mission influences affect categorization of assets, desired or defined end state condition needs over time, and the associated maintenance needs. While asset management targets move, dedication to properly manage best use and stewardship of assets is reflected in current facility management programs and processes.

The clear goal of cost effective management of the Laboratory's facilities and infrastructure drives the CAS program and related programs and processes. The interface between CAS and other facility management programs is defined in the IFMP. The program requirements drive the Laboratory to achieve the corporate goals for future condition of the asset inventory and provide structure and accountability for facility and infrastructure management. Appendix F describes the desired future condition of assets based on the current knowledge of available or projected funding and resources.

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Acquisition of Sufficient Funding

The Laboratory has developed budget and needs funding models based on Whitestone Research data that provide guidance on the appropriate level of funding required for maintaining functional assets. The Laboratory believes that the current approved funding level for maintenance cannot sustain the plant. Analysis of funding requirements by primary usage categories for the asset base indicates that the maintenance budget must increase by approximately 6% per year to keep pace with current aging and degradation rates, inflation, and level of deferred maintenance. The current funding for the budget is 1.71% of the RPV. Acquiring sufficient funding impacts the Laboratory's ability to do science since a large portion of maintenance dollars are derived from a tax on total Laboratory funding. FIRP is closing the funding gap, but additional maintenance allocations are required to reduce the overall deferred maintenance to an acceptable level, sustain the entire plant, and keep deferred maintenance at acceptable levels.

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4.1.3 Utilization

Space Management Process

Laboratory space management encompasses all real property owned and/or leased by UC on behalf of DOE. The Integrated Space Management Program (ISMP) manages the Laboratory's space as an asset and ensures maximum support for its scientific mission. The ISMP establishes requirements that are implemented for managing space, administering space allocations, managing the occupancy and vacancy of space, managing space changes, excessing space, and reporting space utilization.

The Associate Director for Operations (ADO) exercises overall space management responsibility on behalf of the Laboratory and is the institutional owner of all space. ADO utilizes a Space Management Committee (SMC) that represents each directorate. Directorate Space Managers (DSMs) manage the space within their directorate and assist ADO in meeting the overall space management goals and objectives at the institutional level via participation in the SMC. Facilities & Waste Operations – Facility Planning (FWO-FP) works in a staff capacity to ADO and the DSMs in assuring the orderly execution of the business of the SMC. Additionally, FWO-FP ensures required refinement and implementation of the ISMP, monitors space management actions across the Laboratory, serves as the Laboratory point of contact for institutional space management issues, and works to integrate institutional space issues across directorates.

The ADO directs an annual review of space allocation and utilization for each directorate, and the review process results in the establishment of a target space allocation for each directorate. This target space allocation is based on Laboratory space standards, best practices in space management, budget and programmatic objectives, and other criteria established by ADO. Each directorate develops a plan for meeting the space target within the first quarter following the review.

Once space is allocated by the ADO, each AD is responsible for the ongoing management of their space allocation. All space activities, including assignments and/or reassignments, changes in space use, adding new space, excessing space, and siting structures are managed by the directorate and coordinated with FWO-FP.

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Summary Results of Space Studies

Table 4-5 summarizes facility utilization by total square footage. Data were obtained from the Laboratory's space database.

Table 4-5: Summary of existing space (data as of June 2003).

Building Type	Occupiable Square Feet	% of Total Occupiable Square Feet	Number of Personnel*	% of Total Personnel
Permanent	4,461,424	80%	12,056	74%
Trailer	122,055	2%	804	5%
Transportable	268,899	5%	1,824	11%
Commercial/Leased	290,538	5%	1,498	9%
Other	470,615	8%	13	<1%
TOTAL	5,613,531	100%	16,195	100%

**Personnel figure includes staff, contractors, students, post-docs, collaborators, and badged visitors.*

Table 4-6 summarizes office space per person at the Laboratory with actual data from 2001 through present and a five-year projection based on identified facility changes and expected population growth. The Laboratory tries to economically utilize office space consistent with General Services Administration (GSA) standards. The GSA standard for the Laboratory is recognized as 135 square feet per person. Office space utilization has consistently decreased below the standard of 135 square feet per person for the past two years and will continue to drop in the next few years as population is expected to grow more quickly than office facilities.

Table 4-6: Summary of office space per officed person.

	FY01	FY02	FY03	FY04	FY05	FY06	FY07
Primary Office Space (in K)	1546.6	1607.4	1506.0	1447.3	1462.2	1473.0	1500.0
Officed Population (in K)	11.6	12.5	13.0	13.0	13.0	13.1	13.1
Office SF/Population	133.3	128.6	115.8	111.3	112.4	112.4	114.5

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Table 4-7 summarizes total space per person again with actual data from 2001 to present and a five-year projection based on identified facility changes and expected population growth.

Table 4-7: Summary of total space utilization.

	FY01	FY02	FY03	FY04	FY05	FY06	FY07
Total GSF (in K)	8,688.8	9201.5	9371.0	9253.8	9209.8	9207.9	9261.9
Total Population (in K)	14.7	15.1	15.4	15.4	15.4	15.5	15.5
GSF/Population	591.1	609.4	608.5	600.9	598.0	594.1	597.5

Space Needs

In the coming years the Laboratory will be working to relocate staff currently housed in leased space to on-site space. Since nearly all of leased space is used for office facilities, the office needs at the Laboratory site will greatly increase (accommodations for over 1,400 staff). Couple this effort with the congressional mandate to remove facilities at the same rate of new construction, and we have a tremendous space management challenge for the next few years. The approach being explored is to reduce non-office and inefficient office space – focusing on increased utilization and/or replacement of inefficient facilities.

One of the key strategies aimed at eliminating inefficient structures is the construction of quality GPP office buildings. In addition to a positive impact on operating costs, workers will be provided an improved work environment and organizations will yield higher efficiencies through the co-location of functions. Most of the buildings vacated will be temporary trailers and transportables which, in addition to previously mentioned efficiency and maintenance issues, are vulnerable to fire. However, some staff is expected to be moved from permanent structures.

The FIRP cost projection spreadsheet in Attachment A includes a number of GPPs proposed from FY05 through FY13 titled “Vulnerable Office Building Replacement.” Identification of specific projects in each fiscal year will be based on prioritization related to the funding source. The table below identifies vulnerable office building projects funded between FY01 and FY04.

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As previously noted, Table 4-8 has a focus on eliminating deficient structures with quality GPP office buildings. Due to expanded workforce requirements, programs (non-RTBF/FIRP) are also investing in the construction of new facilities.

Table 4-8: Vulnerable office building replacements.

Project	Beneficial Occupancy	GSF
Chemistry Division Office Building	FY03	22,000
Weapons Engineering Office Building	FY03	22,000
TSE Office Building	FY03	24,100
HSR Clinic	FY03	19,000
MST Division Office Building	FY03	20,000
S-3 Office Building	FY03	20,800
D Division Office Building	FY03	18,000
FWO Office Building	FY04	19,400
Total		**165,300**

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4.1.4 Excess Facilities Elimination/Disposition and New Construction

The quantity of excess facilities has been escalating at the Laboratory for a number of years. Fundamentally, this situation exists because a significant portion of facilities were constructed in the 1950s for a Cold War mission driver. With the evolution of building codes, ES&H requirements, and safety standards, the adaptation of many of these facilities is often not economically feasible to meet today's mission needs. Although the institution seeks other adaptive uses, ultimately D&D often becomes the most effective solution.

During the early 1990s, some buildings were transferred from DP to EM for demolition, which was accomplished. However, in spite of a number of submittals of candidate buildings, no further buildings were transferred to EM. In 1998, several buildings were proposed for removal under a proposed DOE funding initiative that never actually received any funding.

In 1999, DP-10, through RTBF, provided $2M in funding, which was split between S&M of excess facilities and the D&D of 27 small structures. With the same level of funding in FY00, a few more structures were removed, including two contaminated bag houses in the core of TA-03. After the Cerro Grande Fire in May 2000, the Laboratory requested and received approximately $20M to remove debris from damaged and destroyed buildings, in addition to the removal of excess buildings in flood or fire risk areas. The DP-10 RTBF funding for D&D and S&M had budget increases to $3.8M in FY01, with $3M in FY02.The FY01 funding accomplished the demolition of the Sherwood complex in the core of TA-3, one of the highest-profile D&D projects in recent memory. In FY02, Beginning in FY03, RTBF will only fund surveillance and maintenance with FIRP funding D&D. To date in FY03, approximately 140,000 GSF of excess space has been demolished.

The progression of D&D activities since 1999 is significant in that it is a start in establishing not only a level of success, but also in establishing expectations for further removal of excess structures. Consequently, the Laboratory is working to access any possible funding source to remove buildings with no further use. Planned funding sources are as follows:

- FIRP has emerged as the most aggressive long-term sponsor in removal of obsolete facilities at the Laboratory.
- Cerro Grande Rehabilitation Project (CGRP). As noted, this funding is dedicated to additional removal of "at risk" buildings but will end in FY03.

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- Individual Project funded. Examples include removal of the TA-53 cooling towers in FY02; Nonproliferation and International Security Center funded removal of several structures being vacated in FY03; and the SM-43 (315,000 square feet) demolition in FY06.
- F&I Initiative. Discrete projects that can be removed within the FY.
- Transfer of Process Contaminated Buildings from DP to EM. Discussions have occurred regarding a potential transfer of process-contaminated buildings with an ultimate goal of removal. At this time the Laboratory is not aware of ultimate commitments within DOE regarding schedules.

Supporting Information:

- In general, buildings are being excessed because of consolidation plans, which require smaller footprints to carry out the current and anticipated mission requirements. Refer to the condition assessment tables for the timeframe in which facilities will no longer be needed within each mission grouping.
- Annual S&M costs required for pending disposition are not collected on individual structures. Currently, DP-10 budgeted S&M is approximately $1.2M per year.
- In most cases, disposition means are through actual demolition with recycling of materials where appropriate. Some trailers and transportables are sold or excessed with the contractors responsible for removal from the Laboratory site. The Laboratory contracts with a number of companies for the majority of all D&D work. No unacceptable impacts to DP activities will occur as a result of implemented disposition.
- Specific D&D plans (including cost, scope, and schedules) for each structure are typically developed in the preceding FY.
- Refer to the F&I Cost Projection Spreadsheet for D&D cost/budget planning.
- A variety of waste types are anticipated in most structures. Asbestos is considered routine considering the age of each structure. In addition, known contamination and special considerations (such as radiological or historical) are noted in the table.

Attachment E-1 provides the current list of buildings that have been transferred from owning divisions to the institution and includes those buildings being removed with CGRP funding or funding from other sources. Attachment E-2 captures the gross square footage of NNSA proposed construction at the Laboratory, along with the year of beneficial occupancy, for Line Item, GPP, IGPP and other projects from FY02-FY13. New facilities are counted only when they are completed and occupied (year of beneficial occupancy), and construction projects started prior to FY03 are not counted against the Congressional requirement for comparing new construction to demolition (one for one requirement). Attachment E-3 is a chart of the Laboratory's gross square footage of excess facility elimination compared to new construction.

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4.1.5 Maintenance and Deferred Maintenance Reduction

The Laboratory recently completed the baseline inspection and interview process to identify the deferred maintenance mortgage, which as of July 31, 2003 was $564M (see Attachment F). Comparison of FY02 to FY03 reported deferred maintenance indicates a large increase in the amount of deferred maintenance. This increase is based on the baseline condition assessment project executed in FY03 and reflects the Laboratory's effort to identify deferred maintenance and is not indicative of a growth trend. A 4% annual growth rate is assumed, and the FY03 data reported herein is perceived to be an accurate and complete accounting.

Projections for deferred maintenance reduction are based on the growth rate noted above, and the assumption that funding profiles for FIRP and RTBF funding will keep pace with inflation. In the case of RTBF funding, the reduction in total amounts authorized to spend in FY03 had a negative effect on the Laboratory's ability to meet the corporate goals for deferred maintenance reduction and limits confidence that once the reduction goals are met that the condition of the plant can be maintained over time.

Meeting the Corporate Goals

The following graphics show projections for the deferred maintenance in accordance with the corporate goals. The model assumes escalation of the RTBF funding for direct funded facilities and includes the projected levels of FIRP funding. The deferred maintenance growth rate is assumed to be 4% per year. Additionally, deferred maintenance is identified as a budget line in each building-level budget formulation sheet. The current effect of the deferred maintenance buy-down funded from sources other than FIRP is not known at this time, as the Laboratory has just completed the baseline condition assessment. During FY04, the effect will be better understood and factored into the models for the reduction plan. The following graphs depict the plan for reduction of deferred maintenance based on the stated assumptions.

To stabilize deferred maintenance as required by the corporate goals, the Laboratory must commit to increasing maintenance funding by 6% per year for five years and sustain the plant with a 4% maintenance budget increase into the future following the reduction phase. Reducing the deferred maintenance backlog to meet the goals requires FIRP funding as described in Figure 4-5.

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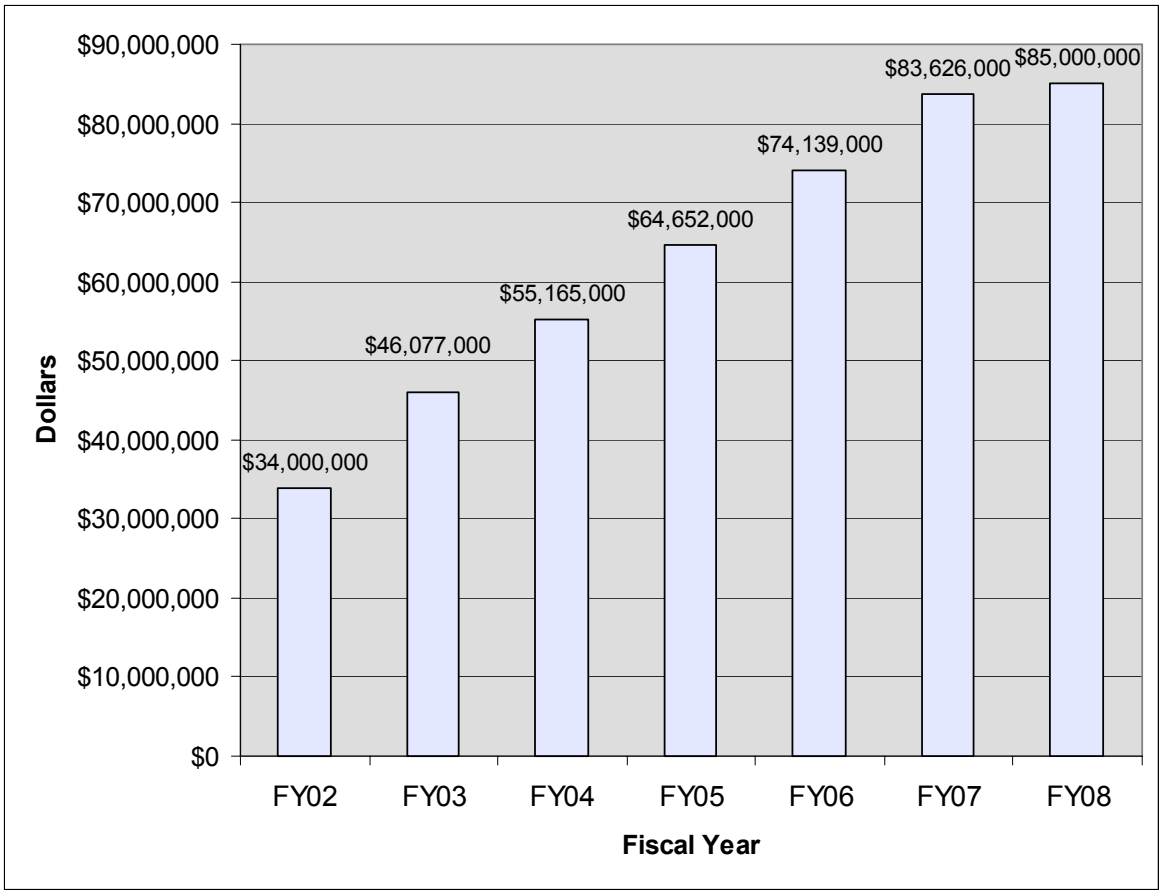
Figure 4-5: FIRP funding profile required for deferred maintenance reduction.



FIRP funding levels with regard to current deferred maintenance identified appear to be adequate, as modeled, to address the reduction goals of NNSA. Assuming a continued maintenance funding gap inducing a 4% increase in deferred maintenance, and an identified deferred maintenance level of $570M, and the total identified FIRP allocation through FY08 of approximately $350M, the Laboratory can reach the NNSA goals. As defined in the Laboratory's model, the end state of deferred maintenance will be $437M by FY09, and the corporate goals will be achieved. This assumption is predicated on the required expense maintenance funding from other sources increasing to meet inflation. If the deferred maintenance growth rate increases, internal maintenance funding does not keep pace with inflation and plant needs, or the authorized funding is decreased, the aggregate goals will not be met by the end of FY08.

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The following charts describe the deferred maintenance buy-down model based on the assumed FIRP funding above and required growth of the maintenance budge as described.

Figure 4-6: Enduring mission essential deferred maintenance reduction model.

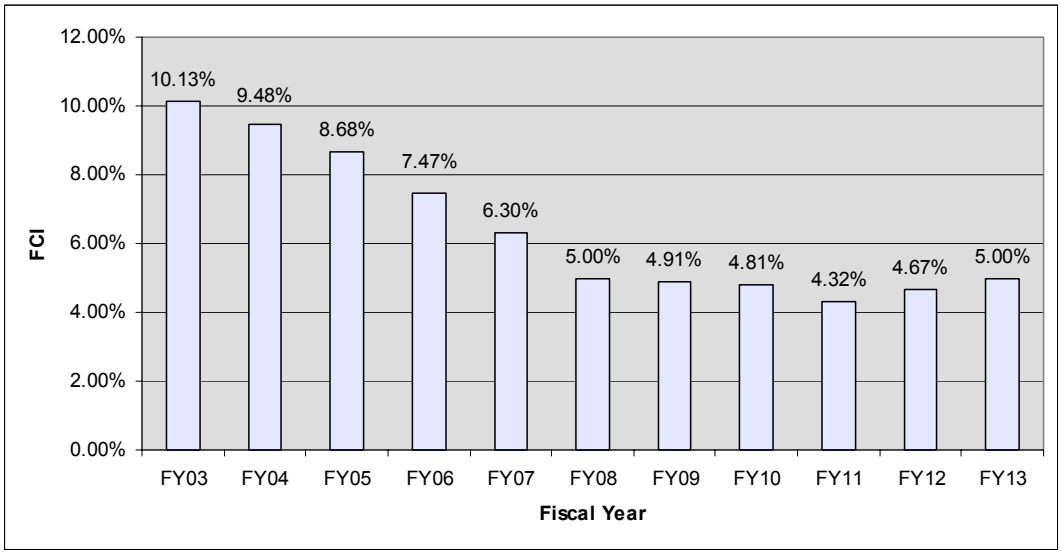

Figure 4-7: Proposed excess mission essential deferred maintenance reduction model.

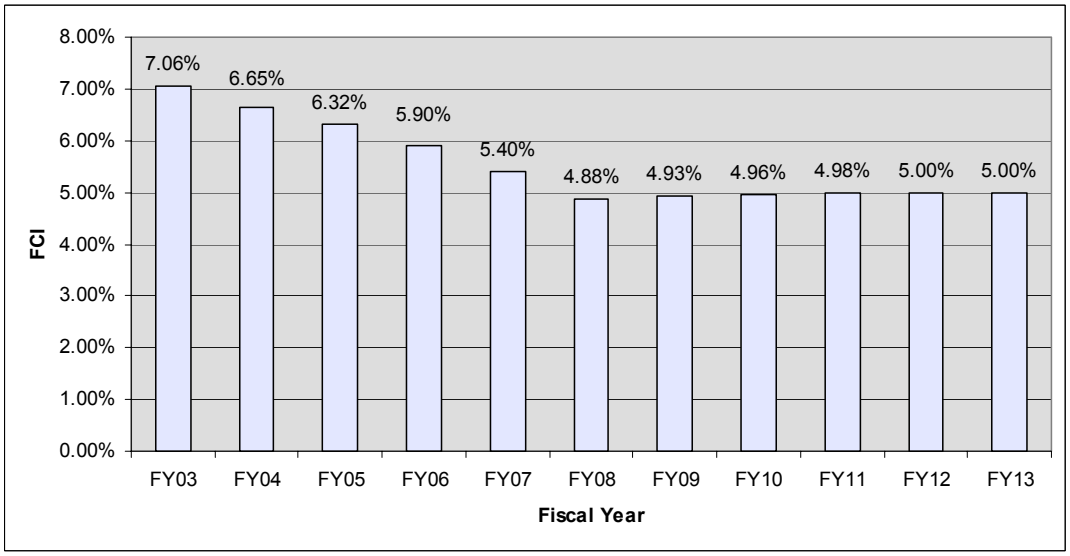

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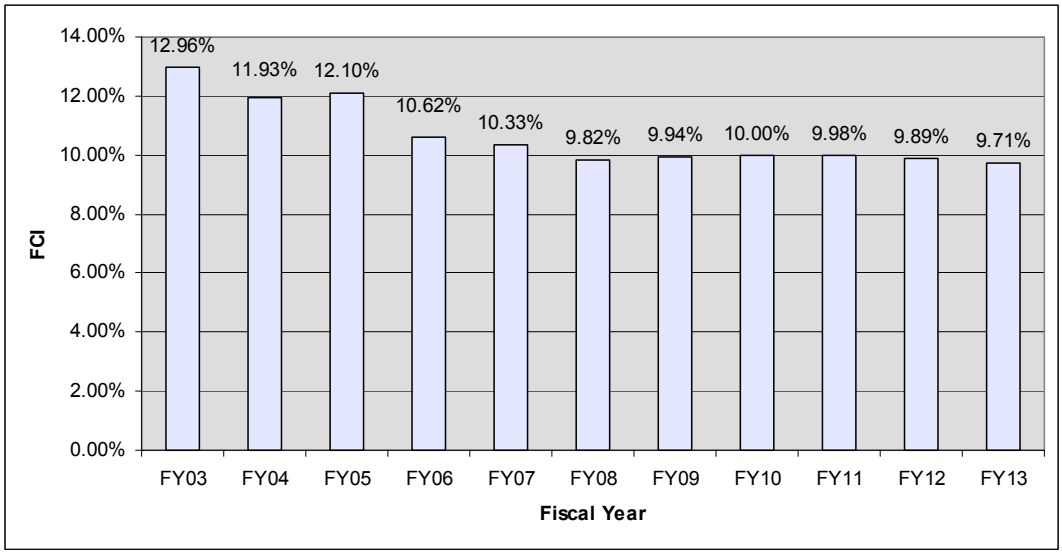
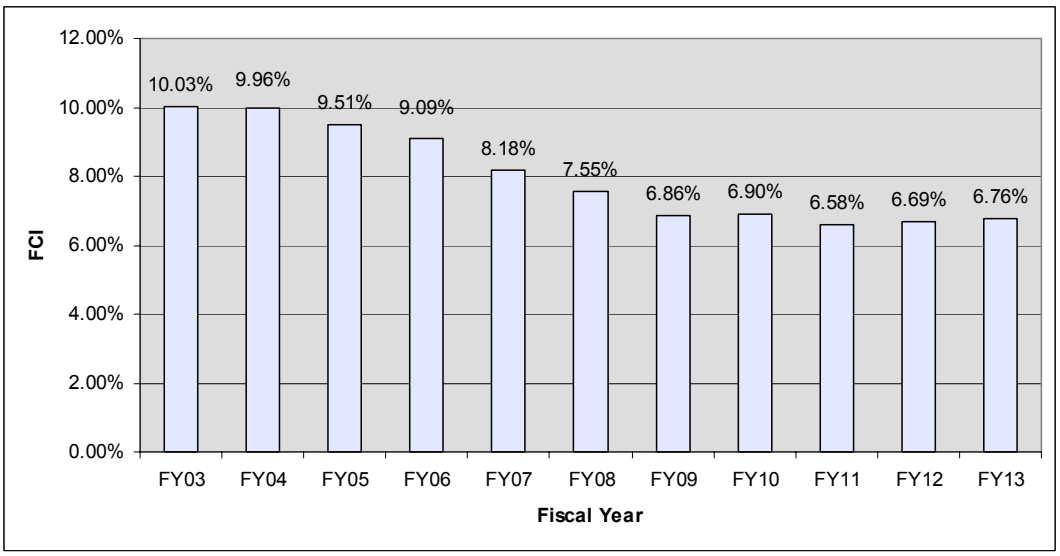
Figure 4-8: Balance of plant deferred maintenance reduction model (includes utilities and OSFs.



The following chart represents the FCI for assets in total (all three facility categories) with the needs/funding gap factored in. The chart depicts the FCI for all assets currently identified in FIMS.

Figure 4-9: Aggregate FCI.



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Maintenance Needs versus Maintenance Funding Levels

The Laboratory must increase the maintenance budget by 6% to meet the corporate goals and satisfy maintenance needs. This translates into an estimated $6M increment for the FY04 maintenance budget and for each year through FY08. Thereafter, an estimated $4M increment above inflation will be required, reflecting a 4% per year increase in the maintenance budget. The needs for maintenance as a function of RPV traditionally are utilized to indicate targets for appropriate levels of maintenance to sustain an asset, or group of assets, over their useful engineered life-cycle.

Whitestone Research (and others) would indicate that the levels of required maintenance range from 2% to 4% of the RPV for a typical asset. The Laboratory's current calculated RPV is $5.6B. At an estimated 2% of RPV maintenance investment (based on the age profile of the asset base), The Laboratory is expected to invest $112M in maintenance in FY04 based on the Whitestone model. The anticipated FY04 maintenance budget is $96M utilizing the above models, with FIRP closing the $14M "gap." The Laboratory spent $90M on maintenance in FY03 indicating an investment to RPV ratio of approximately 1.7%, appropriate, perhaps for a new asset base, but inadequate for the aged facility inventory.

This ratio indicates an under-funding scenario that will leave the Laboratory with a funding gap of approximately $2M/year, contributing to a growth of deferred maintenance. With the addition of FIRP funding, the gap is closed and provision is created to invest FIRP funding allocations toward reducing deferred maintenance. The assumptions in the graphical plan (above) model the current financial environment. An annual maintenance work planning process is being developed to help allocate maintenance and facility-related investments with the goal of maximizing efficient use of authorized funding from all sources.

In addition to RTBF, which funds maintenance of the mission essential facilities, the Laboratory taxes itself internally to fund maintenance of the balance of plant. The funding structure targets science as the mission of the Laboratory and consequently directs funding as necessary to execute its mission. Maintenance funding, as a tax, limits the funds available to execute the primary mission of the Laboratory and was historically allocated based on minimum impact to the primary science mission. The Laboratory has embarked on a path to clearly identify the maintenance needs of the plant and is now better able to identify the funding necessary to sustain the asset base for facilities and infrastructure. Historically, funding requests from the budget process were based on historical spending profiles and current escalation factors. Utilizing this methodology, the growth of the budget is limited to the increase of the cost of money. The historical level

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of budget requests and consequent funding authorization did not consider the true needs of the plant.

Proactive Steps to Reducing Deferred Maintenance

Deferred maintenance reduction budget requests are included in the annual maintenance work plan. The prioritized requests will be funded at the FM, Division, and Institutional levels as funding becomes available. Deferred maintenance reduction project funding requests are submitted to the FWO Institutional Projects Office (FWO-IP) for consideration for FIRP funding. The level of funding requested is based on the "optimum year" for correction of deficiencies or identified needs within an asset. The optimum year is determined via a prioritization process that evaluates likelihood of failure of a structure, system or component, and consequence to the program/process in the event of failure. The deferred maintenance reduction and re-capitalization needs, at a building level, are included in the annual work plan for each building when the optimum year for corrective action is less than, or equal to the budget year. This approach provides visibility to all potential funding streams to procure funding. Prioritization provides a method to remove corrective activities from the execution plan when funding or programmatic needs dictate.

Reduction in deferred maintenance is an important aspect of facility management. FWO Division has assumed responsibility for management of deferred maintenance reduction project management through the FWO-IP Office. FWO-IP applies rigor in project management and program execution to assure that allocated resources are focused on projects that stabilize or reduce deferred maintenance across the Laboratory. Funding requests for deferred maintenance reduction projects are identified, developed and focused through the CAS Program with execution oversight from the Program Office. Projects are planned in advance of need for corrective activity and the authorization for project funding is coordinated through a single entity within the Laboratory. There is a dedicated staff to insure the proper level of effort and rigor is applied to the program.

FWO is undertaking other reengineering efforts to ensure proper facility management and maintenance. A new budget formulation process is being designed to identify the true facility management needs in order to better manage the needs versus authorized funding gap. Work management processes are being crafted to realize efficiencies. Accounting functions are being changed to provide visibility and transparency in actual expenditures and feed a process of continuous improvement in maintenance work management. Process performance measurement indicators that drive corrective behavior are being crafted and implemented. Other reengineering elements include the following:

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- Integrating the CAS program into the maintenance management, work control processes and real property management requirements,
- Prioritizing maintenance activity to include deferred maintenance in the annual work planning process,
- Restructuring the FM organization to centralize, standardize, and integrate maintenance processes to address deferred maintenance and general plant management,
- Adapting the Lawrence Livermore National Laboratory Facility Asset and Ranking System (FAaRS) as a prioritization tool to direct maintenance effort to mission essential facilities and sensible candidates for re-use or mission adaptability,
- Developing financial models for maintenance needs based on Whitestone Research models and piloting Whitestone software to validate maintenance and capital reinvestment, and
- Developing and implementing a budget process based on the facility master equipment list (MEL) to ensure inclusion of deferred maintenance reduction elements in the annual budget submittal.

Measuring Progress and Laboratory Objectives

The corporate goals for deferred maintenance reduction were established by NNSA and agreed to by each NNSA site. The Laboratory has identified its own set of objectives for meeting the corporate goals.

- **FY04 Objective 1:** Towards stabilizing deferred maintenance growth, the Laboratory will increase the maintenance budgets by 6% in FY04.

- **FY04 Objective 2:** Through the application of FIRP funds, execute $ 22M of reported deferred maintenance deficiencies identified in the CAIS2000 database.

The Laboratory will utilize the work management system to plan and execute work and capture expenditures targeted toward deferred maintenance reduction. The work management cost data will be correlated to the CAIS2000 database to identify and report deferred maintenance status. The budget formulation process for FY04 provides a discrete line and associated budget codes to identify indirect funded and some direct funded deferred maintenance projects and track execution at a building level. Direct funded FIRP projects that meet or exceed GPP level funding requirements are identified through the Infrastructure Programs Office within FWO-IP. Projects that affect reduction in deferred maintenance will be tracked through the FWO-IP project Office. Deferred maintenance buy-down as a result of project execution will be captured in the LANL CAIS2000 database and reported as required.

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Facility Management Processes for Effective Maintenance—Cost/Optimized Availability Approach

The Laboratory is developing and beta testing a performance measurement model that provides real-time input for analysis and corrective actions. The process is currently targeted at workflow management to mine resources and efficiencies from existing budgets and human resources. The measurement capability of the system is not limited to work flow management, and will be expanded to other areas as it is proven and implemented Lab-wide. The goal is to have the system robust in all areas of maintenance and work management to provide information that helps manage the facilities for optimized availability.

The system, known as the Inspection Deficiency Report (IDR) system is modeled after a similar system in use by the United States Navy for shore-side ship maintenance. The measurement data regarding workflow stagnation is provided by all personnel involved in the planning, scheduling, procurement, staging and execution of facility-related maintenance work.

The preventive and predictive maintenance plan is developed directly from the facility MEL. All FMs are actively engaged in reviewing and updating the MEL. The MEL forms the basis for the PM/PdM (fixed cost) budget for each fiscal year. The MEL is recognized as the core of the maintenance program and is being analyzed with respect to the corrective maintenance (variable costs) expenditures to target opportunities to optimize the maintenance program. Where PM/CM ratios deviate from the industry norm of 70% / 30%, analysis and iterative continuous improvement corrective action is taking place. The goals of the IDR system approach, much like the Navy's ship maintenance approach, is to optimize asset availability by managing the high-cost level of effort inherent in corrective maintenance, and redirect the resources to preventive and predictive maintenance. Reductions in cost (cost savings in any given year) will be reinvested for deferred maintenance reduction.

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4.1.6 Utilities

The ownership and distribution of utility services are split between DOE and Los Alamos County. Utility systems at the Laboratory include electrical service, natural gas, steam, water, sanitary wastewater, telecommunications and data networks, and refuse. Electrical service includes a Public Service Company of New Mexico 115 kilovolt (kV) line from Albuquerque, a DOE owned 115 kV power transmission line from the Norton substation, and a steam/power plant at TA-3 used on an as-needed basis. Distribution power consists of approximately 34 miles of 13.2 kV distribution lines connecting to the input side of low-voltage transformers at Laboratory facilities. The natural gas system includes a DOE-owned high-pressure main and distribution system throughout Los Alamos County and pressure-reducing stations at Laboratory buildings. Steam systems include generation and distribution at TA-3 and TA-21. The water system includes supply wells, water chlorination, pumping stations, storage tanks, and distribution systems. Sanitary wastewater systems include septic tanks and a centralized sanitary wastewater collection system and treatment plant. Refuse collection and disposal is handled by the Support Services Subcontractor and combined with refuse from Los Alamos County in a landfill managed by Los Alamos County on land leased from DOE.

Table 4-9: Utility system lengths.

		Approximate Length (feet)
Electrical System	Primary Overhead	213,900
	Primary Underground	130,500
	Noncategorized Primary	291,000
	115 kV Transmission	117,300
	Total Electrical	752,700
Sanitary Sewer System	Drain	100
	Effluent	18,700
	Force Mains	57,900
	Gravity	667,800
	Total Sanitary Sewer	744,500
Water System	Distribution	476,600
	Drain	2,400
	Nonpotable	62,100
	Service	88,000
	Transmission	237,200
	Total Water	866,300
Natural Gas System	Distribution	307,100
	Service	167,700
	Total Natural Gas	474,800

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General Utility Issues

Utility issues at the Laboratory are both site-wide and utility-specific. The general site-wide utility issues are discussed below followed by individual system issues. The Laboratory's major utility systems are aging. Deterioration of these systems could cause service disruptions and create safety hazards. Modernizing of the Laboratory's utility infrastructure is therefore important. Table 4-10 shows when underground piping was installed at the Laboratory and illustrates the aging utility infrastructure.

Table 4-10: Percentage of underground utility piping installation by decade.

Utility	1940s	1950s	1960s	1970s	1980s	1990s
Sanitary Sewer	N/A	22%	11%	6%	17%	44%
Natural Gas	N/A	46%	36%	10%	7%	1%
Steam	N/A	86%	0%	4%	10%	0%
Water	38%	26%	12%	5%	16%	3%

The major utility systems were not installed within designated utility corridors, but were installed via the shortest route possible and on an as-needed basis. The result is a maze of utility lines. This causes high development costs for new facility construction when utilities must be relocated. By locating utilities in corridors planned to accommodate future expansion and by planning developments accordingly, the Laboratory will be able to grow efficiently and to better achieve its mission.

The existing layout and size of the Laboratory has resulted in the decentralization of utility systems and service. This decentralization has resulted in reduced efficiency and increased costs. Focusing growth in development areas serviced by major utility corridors and providing infrastructure in areas projected to grow would facilitate cost efficient and effective development and maintenance of the utility system.

The incremental nature of development at the Laboratory along with programmatic changes has resulted in the piecemeal retrofitting of utilities to accommodate expansion. This has been excessively expensive, energy inefficient, and has resulted in utility downtime. Planning and constructing looped utility systems to accommodate needs projected for the expansion of any development site would eliminate the costly and inefficient retrofitting of systems.

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The Laboratory in conjunction with DOE has identified a need to be more competitive and to improve utility business operations more like the standards in the utility industry. Areas targeted in this effort are to improve each utility system's reliability, to improve energy management and conservation, to increase water conservation, and to transfer gas and water transmission facilities that are more efficiently operated and maintained by a public utility company. Making improvements in these areas will result in overall cost savings and reduced utility rates. Performance measures for reliability and energy savings are in place.

Electrical Power

The Laboratory is supplied with electrical power through a partnership arrangement with Los Alamos County, known as the Los Alamos Power Pool, which was established in 1985. The capacity rating of the Pool resources, less losses, is 105 megawatts (MW) and 83 MW (summer and winter seasons, respectively). The transmission import capacity is contractually limited to 105 MW and 83 MW (summer and winter seasons, respectively). Power delivered to the Pool is limited by the two existing regional 115 kV transmission lines.

Onsite electric generating capacity for the Pool is limited to the existing TA-3 steam/power plant, which has an operating capacity of 12 MW in the summer and 15 MW in the winter.

There are approximately 140 miles of transmission and primary electrical distribution lines at the Laboratory. Although the Laboratory's electrical power system is in generally good operating condition, there are specific concerns that will require attention.

- Switchgear and circuit breakers in several locations are old and obsolete for the current system and need to be replaced.

- Step-down transformers, which supply all the electric power to the Laboratory's main technical area (TA-3) and the Los Alamos townsite, are old and do not provide adequate redundancy. At TA-3, the 50-year old transformers (30 MW capability each) serve a 50 MW-plus load. Since a single transformer cannot address the entire load, there is no redundancy.

- The two existing 115 kV transmission lines that carry all the bulk electric power for the Laboratory and Los Alamos County terminate on a common bus and therefore lack true redundancy.

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- The program to monitor usage, power quality, and log events does not cover all applicable buildings and needs to be expanded.

Portions of the 13.8 kV aerial distribution lines are not adequate to carry the anticipated loads in 2011. Replacing existing conductors with heavier conductors and adding new circuits to support them are required to accommodate these future loads. This replacement work has been done for some recent projects (DARHT, Weapons Engineering Tritium Facility (WETF), the Metropolis Center, and NISC) and will continue for new projects.

Electrical Power Projects

- Switchgear in several locations at the Laboratory is currently being replaced as part of an ongoing project.
- The Western Transmission Area 56 million-volt amperes (MVA) transformer was put into service in 2002. It allows the replacement of the TA-3 transformers, and several other transformer replacements are planned.
- To address electrical power redundancy and availability, there is a funded project to construct a new 115 kV transmission line, approximately 10 miles long, across DOE administered property.
- The Laboratory's metering network program, which monitors usage, power quality, and log events from a central computer, has continued to expand with 96 buildings currently included. Fifty buildings will be added to the system each year.

Sanitary Waste Disposal System

Sanitary liquid wastes are delivered by dedicated pipelines to the sanitary wastewater systems consolidation (SWSC) plant at TA-46. The plant has a design capacity of 600,000 gallons per day. Some septic tank pumpings are delivered periodically to the plant for treatment via tanker truck. After treatment, the liquid is currently recycled to the TA-3 power plant for use in cooling towers or is discharged to Sandia Canyon under an NPDES permit and groundwater discharge plan. The solids are dried in beds at the SWSC plant and are applied as fertilizer as authorized by the existing NPDES permit.

The sanitary wastewater collection system is in poor to satisfactory operating condition, with many miles of aged and obsolete underground piping that needs to be replaced or upgraded. There are areas of the Laboratory that are served by pumping

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stations instead of gravity sewers. Replacement of these stations with the lower maintenance and operating cost gravity sewers will increase capacity and upgrade the system. The treatment plant is in excellent operating condition and will adequately accommodate future demand.

Sanitary Waste Projects

- Replace broken sewer lines,
- TA-3/58 gravity line, and
- The Cooling Tower Water Conservation project, planned for late FY03 completion, will also use SWSC water instead of potable water to a set of cooling towers.

Radioactive Liquid Waste (RLW)

There are three treatment facilities for handling the Laboratory's RLW—at TA-21, TA-53, and TA-50, and a collection system that consists of 22,000 feet of piping. Both the TA-21 and TA-50 treatment facilities (RLWTFs) are over 35 years old and in poor condition. The TA-50 facility is undersized for handling its current load of waste generated by approximately 1,800 points at the Laboratory. Other concerns are separated treatment operations and inadequate storage capacity, which could be overwhelmed by a surge of RLW. The piping in the collection system is in good condition, however flow meters at generator facilities do not function well and it is difficult to sample RLW for compliance with acceptance criteria.

RLW Projects

- Repairs to the stem wall at the TA-50 RLWTF, which are needed to protect the TRU waste lines from erosion control,
- Radiological laboratory upgrades to bring chemical water sample analysis equipment up to industry standards, and
- RLWTF Upgrade, a major project to extend the useful life of the facility.

Central Steam System

The Laboratory has two primary sources of steam, the power plant in TA-3 and the TA-21 distributed steam plant, with capabilities of 360,000 pounds per hour and 36,000 pounds per hour, respectively. The power and generation plants have the capacity to deliver three times the current demand, and this will accommodate future

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development in the TA-3 area. Steam distribution is primarily underground in over 20 miles of aging steel piping. Approximately 86% of all the steam underground piping was installed in the 1950s. The return condensate system has several problems as follows:

- Steam system return lines are made of various materials, only some of which have cathodic protection, and deterioration is rapid in certain areas,
- A condensate return rate of 50% is currently achieved and should be increased to improve central plant performance, and
- There are sections of the steam system that have had a high leak rate and high repair requirements that need replacement.

Central Steam Projects

- TA-3 steam condensate lines,
- Flue gas recirculation ductwork, and
- Power plant steam piping replacement, cooling tower piping replacement, feed water piping, and condensate return piping.

Water Supply System

Before September 8, 1998, DOE supplied all potable water for the Laboratory, Bandelier National Monument, and Los Alamos County. This water was obtained from DOE's groundwater right to withdraw 5,541.3 acre-feet/year or about 1,806 million gallons of water per year from the main aquifer and 1,200 acre-feet/year from the San Juan/Chama Transmountain Diversion Project. On September 5, 2001, DOE conveyed 70% of the entire groundwater right and 100% of the right to San Juan Chama water to the County. The County is currently performing an engineering feasibility study of utilization of San Juan Chama waters.

The Laboratory has a target water consumption of 1,662 acre-feet/year. Water demand based on projected growth may require water beyond recent usage levels. In accordance with the LANL Site-Wide Water Conservation Plan key recommendation, an Interim Water Conservation Committee has been established and an Acting Water Conservation Officer appointed.

In order to address the concerns over future water availability, the Laboratory has initiated a project to increase the TA-3 and TA-53 cooling towers' cycles of

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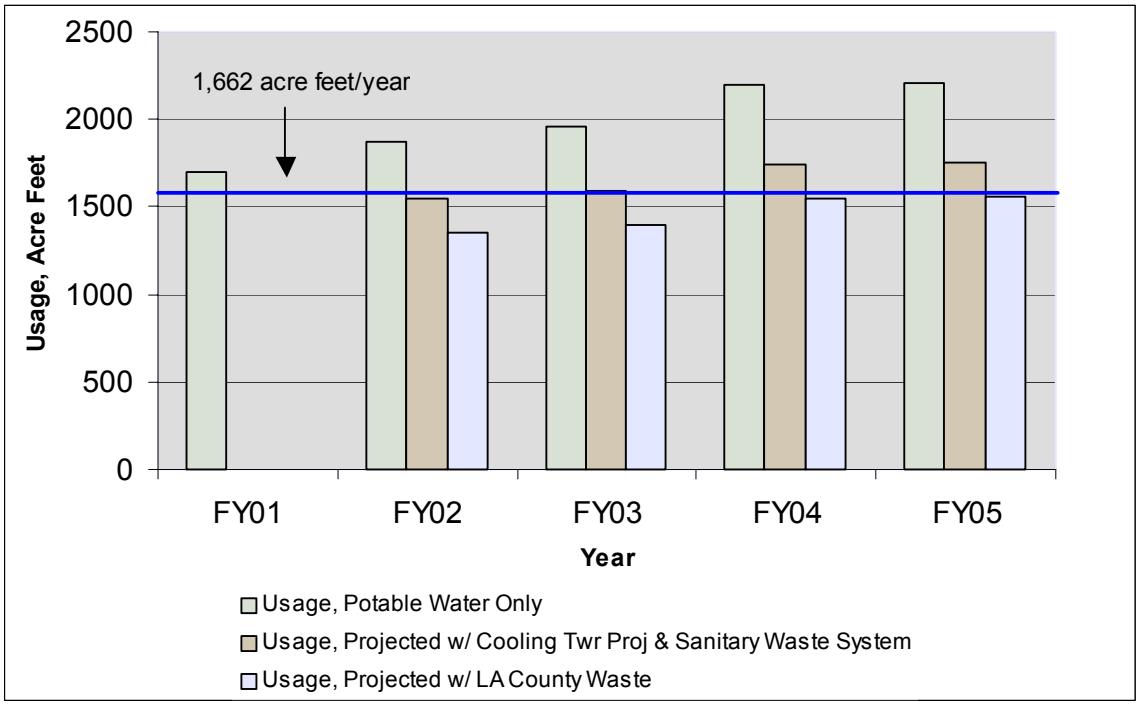
concentration from two to six and is investigating the following water saving opportunities:

- Greater use of recycled water within the Laboratory,
- Use of Los Alamos County wastewater for current and future Laboratory needs,
- "Sustainable design" of new facilities to include water-saving fixtures, reuse of gray water, low water use vegetation in landscaping, use of "natural" space cooling versus water cooling, and
- Complete reuse/recycle for potential use in irrigation, cooling, recreation, fire suppression, and recharge.

Figure 4-10 illustrates the anticipated effects of water conservation on total water usage.

Figure 4-10: Effects of water conservation on total water usage.



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Potable water is obtained from deep wells located in three well fields. This water is pumped into production lines, and booster pump stations lift this water to reservoir storage tanks for distribution. The well fields can easily provide forecasted water demands for the next 10 years. The Laboratory water system is in generally good condition with the following two areas of concern:

- The water pressure in lower-elevation areas often exceeds the pressure rating for the distribution pipe, and

- Some fire hydrants are connected to undersized lines that need to be replaced.

Water Supply System Projects

The water distribution system has been enhanced by the installation of equipment to control the pressure. A preventative maintenance program is in place for this system and the Laboratory is working on a project to connect it to the Supervisory Control and Data Acquisition (monitoring and alarm) system.

Natural Gas

Approximately 80% of the natural gas used is for heating (both steam and hot air), and the remainder is used for electrical production. The electrical generation is used to fill the difference between peak loads, electric transmission curtailments, plant testing, and the electric contractual import rights. In general, the natural gas system is old, with approximately 80% having been installed in the 1950s and 1960s. An aggressive cathodic protection installation and maintenance system was deployed about 1988, and this improved the integrity and condition of the system. However, there is one current area of concern with the natural gas system. The three-inch gas pipe serving TA-55 is too small to carry peak load capacity in the event of loss of the six-inch main serving TA-55.

Natural Gas Projects

- A full capacity redundant border metering station was placed in service in July, 2003, and the restriction to a portion of the East Jemez Road six-inch line has been corrected. These actions address concerns that were mentioned in the previous TYCSP.
- The notice to proceed on the Pajarito Road gas line project occurred in FY03 with completion of the project by early 2004. This project will provide an additional line and solve the above concern at TA-55.

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Utility Planning

The Laboratory has a Mitigation Action Plan for its utility systems that addresses in part specific measures for electrical power. The SWEIS Mitigation Action Plan 2001 Annual Report is valid for the next two years and includes: 10 year bulk electrical forecast to DOE; secure additional electrical services; yearly update of load shedding procedure; power consumption plan for fixed consumption level; options survey by DOE and the Laboratory; and utility procurement plan by DOE.

The Laboratory has undertaken a Utilities Condition Assessment Plan to assess the existing and future condition of the Laboratory's water, gas, wastewater, electric, and steam outside distribution, collection, and transmission systems.

Planning for Each Utility

- Describe system components and analyze the following:
  - Drawings and maps,
  - Preventative and corrective maintenance history,
  - Reliability and outage history,
  - Available system capacity and demand information,
  - System and component operating data,
  - Regulatory, environmental, and industry standards compliance, and
  - Workforce knowledge.
- Develop methodology for Utility Component Risk Assessment
  - Identify critical system components,
  - Identify potential risks to service provided including reliability expectations, capacity requirements, environmental and regulatory requirements, and outside forces (fire, extreme weather, etc.),
  - Assign a risk rating based on probability and consequences of failure plus availability of alternative service, and
  - Identify mitigation options for risk rating considered unacceptable.
- Create a Utilities Sustainment Plan based on the above information:
  - Calculate future utilities demands based on LANL population, employment, and building projections,
  - Use modeling to develop expansion or modification options based on historical demand and long term projections,
  - Incorporate supply source projections from county and state utilities,
  - Determine and prioritize needed utility systems improvements, and
  - Implement a utility systems continuous improvement plan.

This plan will include the consolidation, analysis, and trending of preventative and corrective maintenance observations provided by system engineers and supervisors. Information will be used to plan short and long-range projects to improve all utility systems. Factors to be considered are the future utility system capabilities, potential threats to existing services such as the end-of-operating life issues, maintenance history, and alternative solutions to ensure adequate utility delivery systems.

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4.2 PRODUCTION READINESS / PLANT CAPACITY

The *FY 2002 Production Readiness Assessment Site Manager's Report (U)* addresses facility and infrastructure readiness/plant capacity issues and the activities that are underway or planned to alleviate deficiencies. These issues are summarized below, with facilities grouped separately as "nuclear" and "non-nuclear" facilities.

4.2.1 Directed Stockpile Work Management

Los Alamos DSW production is funded by NA-12 and is integrated with design agencies at Lawrence Livermore National Laboratory and Sandia National Laboratory (SNL). Production projects also interface with other weapons complex sites by supplying products or receiving components for use in manufacturing weapons parts and systems. Facilities, equipment, personnel, and infrastructure resources are integral in producing the parts used to certify the safety and reliability of the stockpile. Activities that compete with production for these resources include nuclear and non-nuclear parts for aboveground tests and sub-critical experiments, surveillance of parts returned from the stockpile, fabrication of mock pits, and process and product development. The Laboratory's Associate Director for Weapons, Engineering and Manufacturing (ADWEM) manages allocation of funding for Stockpile Stewardship and Management programs. The ADWEM line organizations manage the allocation of facility, equipment, and personnel resources to support the various program projects.

4.2.2 DSW Facilities

Many facilities are required for production and surveillance activities that support the DSW mission. Table 4-11 lists the key facilities that support pit production and surveillance, detonator component production and surveillance, neutron tube target loading, mock pit fabrication, detonator packaging, and other surveillance/manufacturing infrastructure activities. This table also contains facilities that support operation of production facilities.

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Table 4-11: Key facilities supporting DSW mission needs.

DSW Project	Key Facilities
Production	
Pit Production	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Sigma Complex • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Buildings
Detonator Production	TA-22 Detonator Production and Test Facilities
Neutron Tube Target Loading	• TA-21-209 Tritium Science Technology Building • TA-16-450 Weapons Engineering Tritium Facility
Mock Pit Production	• TA-3 Sigma Complex • TA-3 Main Shops
Beryllium Manufacturing	• TA-3-141 Beryllium Technology Facility • TA-3 Main Shops
Detonator Packaging and Transportation	TA-22 Packaging Buildings
Manufacturing Infrastructure	• TA-16-200 Secure Computing • TA-16 Office Buildings
Surveillance	
Pit Surveillance	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Facility • NTS
Actuator Surveillance	• TA-22 Detonator Production and Test Facilities • TA-16
Valve Surveillance	• TA-16-209 Inspection Facility • TA-16
Detonator Surveillance	• TA-22 Detonator Production and Test Facilities
Other Surveillance	• TA-55 Plutonium Facility

Descriptions of mission assignment and facility improvements needed are summarized in the following sections. The information is grouped into separated sections for nuclear facilities, non-nuclear facilities, and manufacturing infrastructure. This grouping parallels the Laboratory's facility management organization, where non-reactor nuclear facilities are managed separately from other facilities. None of

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these facilities are exclusively dedicated to DSW work; therefore their management and facility priorities reflect multiple demands on staff, equipment, and physical plant. A description of the institutional planning process and long-range plans for these and related Laboratory facilities are available in the Laboratory's *Comprehensive Site Plan 2001*, LA-UR-01-1838.

Nuclear Facilities

This section presents the Laboratory's nuclear facilities in Table 4-12, and the list is comprised of those facilities that primarily support pit production, pit surveillance, and neutron tube target loading activities.

Table 4-12: Nuclear facility status for DSW missions.

Facility Status	Function(s)	Issues	Activities Underway to Address Issues
TA-55 Plutonium Facility			
Facility currently meeting DSW needs. Modifications are required to meet future capacity demands for production and storage.	• Pit manufacturing foundry, machining, joining, welding, assembly, inspection, and testing • In-process pit NDT • Pit process and product development • Pit surveillance disassembly, inspection and evaluation • Fabrication of pit certification program parts and components • Recovery of stored legacy plutonium material • Vault storage of pit and RTG items, shelf-life units, materials awaiting processing, 'in-process' materials/items, scrap materials and finished product • Process control analytical chemistry	• Facility >20 years old and in need of plant support system upgrades • Constrained production capacity due to: 1. Limited process and inspection equipment 2. Limited floor space for production 3. Inadequate vault storage capacity for stockpile and surplus 4. Equipment shared with other functions	• FY06 TA-55 Infrastructure Reinvestment Project (LI) • New Manufacturing Technical Support Facility office building currently under construction (GPP)

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Table 4-12 Continued

Facility Status	Function(s)	Issues	Activities Underway to Address Issues
TA-3 CMR Building			
Facility is marginal in ability to reliably support future missions	Analytical chemistry and material characterization support for TA-55	Facility 50 years old; in need of replacement	CMR Replacement Project (LI). Proposed site is at TA-55.
TA-21-209 Tritium Science and Technology Building TA-16-450 Weapons Engineering Tritium Facility (WETF)			
Facility addition and equipment will come on line to support future DSW mission needs after 2001	Neutron tube target loading currently at TA-21-209 must relocate to TA-16 WETF	• One currently operational loader not capable of supporting future schedule • Building 16-450 at WETF will be operational to allow installation of one loader, relocation of a loader from TA-21-209, and installation of a third loader in FY03	• FY04 WETF Deferred Maintenance Project (FIRP) • FY03 Stockpile Support Building at TA-16 (non-RTBF, non-FIRP)
TA-50 Radioactive Liquid Waste Treatment Facility			
Facility is currently supporting DSW missions	Final treatment of liquid radioactive and industrial wastes from TA-55, CMR, TA-21, TA-16, Sigma, and Main Shops	40 year old facility in need of plant and treatment process improvements	FY07 Radioactive Liquid Waste Treatment Facility Upgrade (LI)
TA-54 Solid Waste Management Facility			
Facility is currently able to support DSW missions	Management of solid radioactive waste generated at TA-55, CMR, TA-21-209, and TA-16 nuclear facilities and TA-3 Sigma and Main Shops.	Transfer of TRU waste stored at TA-54 to WIPP proceeding	N/A

The overall production mission for neutron tubes and neutron generators is an SNL mission. Los Alamos has the portion of the production mission involving tritium loading of the targets used in every neutron tube produced at Sandia. Current requirements on the secondary schedule for neutron tube targets are being met using one loader. Future production requirements will require two or more loaders, and a

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facility is being reconfigured and upgraded to house the production equipment. Scheduled completion in 2003 will permit loading operations to be moved from existing facilities to the upgraded WETF building (TA-16-450).

Non-nuclear Facilities

In 1993, the Non-nuclear Reconfiguration Program (NNR) began transferring activities from Rocky Flats, Mound and Pinellas to other sites in the weapons complex. As a result of the NNR changes, Los Alamos became responsibile for fabricating weapons detonators and beryllium parts, making mock pits for joint test assemblies, surveillance of detonators removed from stockpile systems, and loading tube targets needed for neutron generators fabricated at SNL.

The non-nuclear facilities presented in Table 4-13 support pit and mock pit production, beryllium parts production, detonator production and surveillance, actuator surveillance, and valve surveillance.

Beryllium operations have been conducted at Los Alamos for over 40 years. Consequently, NNSA directed Los Alamos to capture the beryllium technologies that existed at the Rocky Flats plant after it closed. To enable Los Alamos to produce beryllium components for the nuclear weapons stockpile in a single facility, a building (TA-3-141) was refurbished and designated as the Beryllium Technology Facility (BTF). Los Alamos completed the Readiness Assessment for the BTF in FY 2001 and completed fabrication of the first parts in April 2001.

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Table 4-13: Non-nuclear facility status for DSW missions.

Facility Status	Function	Issues	Activities Underway to Address Issues
TA-3-66 Sigma Building			
Facility is marginal in ability to support future DSW missions	• Mock pit fabrication • Welding/ joining development	• >45 year old facility needs plant upgrades for continued operations • Additional process equipment needed	No projects planned or funded to upgrade facility
TA-3-141 Beryllium Technology Facility (BTF)			
New facility is on-line and machining beryllium parts	• Supports pit and mock pit production • Beryllium part fabrication • Beryllium material supply • Coating of beryllium parts	Facility does not currently house the entire suite of capabilities necessary for the entire Be life cycle	FY03 Cartridge Filter House Install (FIRP).
TA-8 Radiography Buildings			
Facility is currently meeting DSW support needs	• Nondestructive testing of pit parts, pit assemblies, and other DSW products • Certification support for non-DSW components	• Capacity issue for remote site • Requires transport and significant security • Working on capability at TA-55	• TA-8 Radiography Upgrades proposed (RTBF), but not funded for FY05 • FY05 Radiography Facility planned for TA-55 (LI)
TA-22 Detonator Production and Test Facilities			
Current production rate utilizes full production capability and floor space of primary building	• Detonator production • Detonator inspection and testing • Actuator and detonator surveillance and testing	Expanded facilities and additional production and test equipment needed for increasing DSW requirements in addition to buying detonators	FY02 High-Powered Detonator Facility (non-RTBF, non-FIRP)

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Table 4-13 Continued

Facility Status	Function	Issues	Activities Underway to Address Issues
TA-3-39/102 Main Shops			
Facility is marginal in long term ability to support DSW missions	• Supports pit and mock pit production • Depleted uranium machining and inspection	• >45 year old facility needs plant upgrades • Additional equipment needed to meet production schedules	FY06 ESA Fabrication Facility Replacement and FY09 Demolition (LI)
TA-22 Packaging Buildings			
Facilities can support DSW missions	Detonator and related item transportation container storage, inspection and management	N/A	
TA-16-209 Inspection Facility			
Facility can support DSW missions	Valve surveillance	No notable issues at 16-209	
TA-64-1 Central Guard Facility			
Facility is able to support DSW missions	• Central alarm station for security systems • Houses security operations staff and systems	Alarm system in need of upgrade	

Currently, beryllium items are the only components on the directive schedule. Although beryllium shells are not on the schedule, fabrication of pits with beryllium shells destined for the WR stockpile could begin as early as 2003. In addition, the BTF will need to produce beryllide components that will require extensive R&D, new equipment, and additional space. Other programs that require the BTF are fabrication of mock pits and components for hydrodynamic tests and subcritical experiments.

Responsibility for detonator manufacturing was transferred to LANL from Mound between 1993 and 1998. The production mission was constrained to existing facilities that were designed for R&D activities. Since the mission assignment to Los Alamos, both the required production quantities for each detonator system and the number of detonator types being fabricated simultaneously have increased significantly; the surveillance program competes for resources in the inspection and test firing stations.

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Manufacturing Infrastructure

The Laboratory's facilities needed for the manufacturing infrastructure activities supporting DSW are listed below.

Table 4-14: Manufacturing infrastructure facility status for DSW missions.

Facility Status	Function(s)	Issues
TA-41-1 Storage		
Facility has been phased out of DSW support missions	Provides bonded storage and receiving of classified parts and materials	• Facility is aging and remote from supported DSW operations • Risk of flash floods following the Cerro Grande fire caused permanent personnel relocation to TA-16; functions are being transferred to TA-16 although some material is still stored here
TA-16 Office Buildings and Secure Computing		
Facility can support DSW missions	Houses ERP/IFS system personnel and work stations	No notable issues

One important aspect of the Laboratory's infrastructure development is covered under the Non-nuclear Readiness campaign for streamlining business practices. This task creates a supply chain assurance for engineering materials by developing business conventions and quality assurance standards for acquisition of commercial off-the-shelf components. The critical areas addressed include: leveraging best industry practices and solutions; reliability assessment and component qualification for WR use; component modeling to aid selection; and assessment of component performance under process conditions.

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4.3 ES&H REGULATORY ISSUES

The Laboratory's ES&H management processes are designed to enhance ES&H performance, preparation of tactical and strategic plans, achievement of Operational Excellence Goals, business efficiency, Appendix F of the UC/DOE Prime Contract performance expectations, and most importantly, the Laboratory's commitment to the DOE policy of attaining "daily excellence in the protection of the worker, the public, and the environment." Issues and funding presented below were developed in response to the FY05 Unified Budget Call that included the NNSA ES&H Management Process requirement for FY03-FY09.

Compliance issues relate to non-compliances with NNSA directives, and federal or state laws and regulations. Commitments are issues relating to non-NNSA "regulators" such as the DNFSB or the Environmental Protection Agency (EPA).

Table 4-15 ES&H activities and issues.

Compliance Issues	Funding
Quality Assurance Improvement	Funded
Appendix F Safety Analyses	Funded
Hydrogeologic Work Plan	Funded
New Mexico Environmental Department (NMED) Corrective Action Order	To be determined
Commitments	**Funding**
Ozone Depleting Equipment 2005	Funded
DNFSB Recommendation 2000-2	Funded

Resource adjustments throughout each fiscal year are managed through the Laboratory's continuously improving ES&H management processes, which require managers to thoroughly define project/program scope, identify ES&H hazards, establish ES&H resource requirements, monitor progress, and relay data to responsible management and funding organizations.

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4.3.1 Compliance Issues

Currently, two compliance activities (Hydrogeologic Work Plan and New Mexico Environment Department (NMED) Corrective Action Order) and one commitment (DNFSB Recommendation 2002-2) are under funded in future years. In addition, key issues that can affect facilities (Quality Assurance, Ozone Depleting Equipment, and AB) are noted below.

Hydrogeologic Work Plan

The Laboratory's Hydrogeologic Work Plan describes activities necessary to characterize the hydrogeologic setting and enhance the Laboratory's groundwater monitoring program. The original plan scope included installation of up to 32 regional aquifer wells over seven years (FY99 through FY05) with joint funding by DOE EM and DP. In 2002, NMED initially issued a finding of Imminent and Substantial Endangerment (ISE) with an accompanying Corrective Action Order, which was withdrawn and reissued as an Order on Consent. Requirements of the Order on Consent, which is currently being negotiated, replace and move beyond the requirements of the Hydrogeologic Workplan. The plan will be considered complete upon closure of the following activities:

- Six wells (R-2, R-4, R-6, R-11, R-26, and R-29) installed in calendar year 2003,
- Fact sheets and completion reports for these wells provided to NMED within 30 days and 120 days, respectively, after the completion of the wells, and
- Submission of the hydrogeologic setting report provided to NMED by the end of calendar year (CY) 2004.

With implementation of these activities, NMED has tentatively agreed that all requirements for site-wide hydrogeologic characterization included in the RCRA permit, the Hazardous & Solid Waste Amendments (HSWA) module, the Corrective Action Order, and the two 1995 NMED letters will be fulfilled. Thus, the Hydrogeologic Work Plan will have been completed with the installation of 23 of the 32 planned wells. The remaining nine wells will be included in consent order.

In addition, negotiations on the consent order include:

- Requirements for 2003 and 2004, such as preparation of Investigation Work Plans to specify future Resource Conservation and Recovery Act (RCRA) groundwater investigation activities, and

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- An "Interim Facility-Wide Water Monitoring Plan" to include RCRA-related monitoring activities for wells installed in 2003 and other existing wells.

With implementation of these activities, NMED should agree that all requirements for site-wide hydrogeologic characterization included in the RCRA permit, the HSWA module, the Corrective Action Order, and the two 1995 NMED letters will be fulfilled.

The following table represents the funding profile for completion of the planned monitoring wells during the FY03-FY06 timeframe.

Table 4-16: Funding for monitoring wells through FY06 ($K).

Funding Source	FY03	FY04	FY05	FY06
RTBF/Operations of Facilities	6,900	10,000	12,900	3,200
ER	6,000	6,000	—	—
TOTAL	**12,900**	**16,000**	**12,900**	**3,200**

The negotiated order on consent will contain requirements for installation of additional site specific characterization/monitoring wells in order to complete the corrective action process. Many of these wells will be installed to determine the nature and extent of groundwater contamination. The order will set forth a schedule for installation of these wells, which will be funded by DOE EM, over the next 10 plus years. The order will also contain a requirement for a comprehensive groundwater monitoring program with a quarterly reporting requirement that will be ongoing for the foreseeable future.

In addition, the Laboratory's Performance Management Plan for Accelerating Cleanup sets forth a plan completing the EM mission by 2015. Ten monitoring wells are proposed to fulfill the expected RCRA/HSWA monitoring obligations relative to historic releases and surface waste sites. These wells will monitor contaminant migration and will be down gradient of key liquid discharge locations, primarily in Los Alamos, Pueblo, Mortandad and Water Canyons. Where possible, these wells will have supplementary benefits and may serve as multipurpose monitoring wells relative to Material Disposal Areas, RCRA units and groundwater discharge plans. However, additional wells are expected to be needed to fulfill all groundwater monitoring needs and the ten wells proposed comprise the EM required component for monitoring.

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NMED Corrective Action Order

On May 2, 2002, NMED issued a determination to the Laboratory alleging that radioactive, hazardous, and solid wastes have been released and "may present an imminent and substantial endangerment to human health or the environment" (ISE Determination). NMED also released for public comment a Draft Order requiring corrective action based on the ISE Determination. Both NNSA/DOE and UC took strong exception to these two actions and provided comprehensive legal and technical comments to NMED.

On November 26, 2002, NMED issued a Final Order alleging an ISE. On December 26, 2002, NNSA/DOE and UC filed protective lawsuits appealing and challenging the order, and negotiations began in January 2003. Extensive requirements contained in the order include the following:

- Monitoring and sampling of all Laboratory canyons,
- Groundwater monitoring wells,
- TA-54 (Solid Waste Site) investigation,
- Investigation and cleanup of solid waste management units,
- Cleanup of soil, ground water, and surface water,
- Procedural methods for sampling and analysis, and
- Compliance schedule.

The costs associated with these compliance activities are being evaluated and funding is to be determined.

Quality Assurance

The final Code of Federal Regulation Rule for nuclear safety management (10 CFR 830) establishes new requirements for the Laboratory's nuclear and radiological facilities. The Laboratory identified and self-reported weaknesses in implementation of the CFR and DOE O 414.1A in a Price Anderson Amendment Act Noncompliance Report (NTS-ALO-LA-LANL-LANL-2000-0014). Actions to address weaknesses were initiated in early CY03 including forming a new Performance Surety Division with responsibility for leading improvements in quality management; preparing an Institutional Quality Management Implementation Plan approved for implementation; issuing new institutional quality requirements; forming a new Quality Steering Group; and strengthening procurement processes.

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Appendix F Safety Analyses

Appendix F of the UC-NNSA Contract provides specific expectations for improvement in the Laboratory's authorization basis processes. The expectations center on development and implementation of Safety AB documentation for both nuclear and non-nuclear facilities and bringing consistency and quality to implementation of Technical Safety Requirements (TSRs) and the Unreviewed Safety Question (USQ) process. A single institutional Safety Basis Office, within the Performance Surety Division, has institutional responsibility for the Laboratory's AB program while line organizations have AB responsibility for individual facilities.

Key commitments of the AB program and current status include the following:

- By April 2003, all nuclear facilities were compliant with 10CFR830, Nuclear Safety Management Rule, subpart B, Safety Basis development. LIRs for Facility Hazard Categorization (300-00-05) and Nuclear Facility Safety Authorization (300-00-06) were met for nuclear facilities,
- Non-nuclear facilities met requirements of LIRs for Facility Hazard Categorization (300-00-05), and Non-nuclear AB (300-00-07). Non-nuclear Hazard Category A & B facilities are required to provide a Facility Safety Analysis in accordance with the LIR 300-00-06, and
- USQ and TSR programs continue to be standardized and improved providing key elements in reducing TSR violations to the minimum.

DNFSB Recommendation 2000-2

DNFSB recommendation 2000-2, addressed the reliability of vital safety systems. As an on going effort, additional funds will be required as new safety systems are added. Commitments related to development of the Laboratory's systems engineering program and institutionalization of safety system assessments are being addressed through the Integrated Facilities Management Program. Failure to adequately fund this item in future years could result in increased risks in nuclear facility operations.

Elimination of Ozone Depleting Equipment (ODE)

A working group to provide direction and assistance towards the elimination of ODE, consistent with the EPA and DOE's 2005 goals for phasing out CFCs. From their efforts, significant progress has been made towards the goal, with only one major replacement project remaining at LANSCE. The EPA goal requires elimination of pre-1984 chillers larger than 150 tons and using Class 1 Ozone Depleting Substances.

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Not replacing these chillers would potentially result in failure to meet the EPA and DOE improvement goals.

4.3.2 Improvements

Core improvements are required to raise or maintain levels of compliance and risk management. Table 4-16 lists the activities, projects, and programs that strive for continuous improvement in ES&H. Descriptions of the most visible improvements are provided.

Table 4-17: Activities for ES&H improvement.

Core / Improvements	Priority	Funding
Rad Liquid Waste Treatment Replace/Upgrade	High	Funded
Industrial Hygiene & Safety Program Improvements	High	Funded
RCRA Improvements	High	Funded
Firing Site Hazards Analysis	High	Funded
Chemical Management	High	Funded
Perchlorate Ventilation Analysis	High	Funded
Conduct of Operations Improvements	High	Funded
Self Assessment Improvements	High	Funded
Wildfire Prevention	High	Funded
Potential Environ Pathways (Tanks Spill Prevention)	Medium	Funded
Fire Protection Improvements	High	Under funded
Electrical Infrastructure Upgrades	High	Under funded
Traffic Safety Improvements	High	Under funded
Configuration Management	High	Under funded
Unlisted Electrical Equipment Evaluation	High	Funded
Pressure Systems Evaluation	High	Funded
Work Control Enhancements	High	Emerging issue
Area G Permitting	High	Emerging issue
Landfill Closure	High	Emerging issue
Behavioral Safety Training	High	Emerging issue
PCB Elimination	Medium	Under funded
Ozone Depleting Equipment 2010 Goal	Low	Emerging issue

Radioactive Liquid Waste Treatment Facility Upgrade

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The Laboratory's existing RLWTF, commissioned in 1963, treats low-level radioactive liquid waste and is vital to supporting the Laboratory's mission needs. When constructed, this facility met all applicable codes and standards for design, construction, and environmental regulatory requirements. With the advent of new codes and regulations, the facility currently requires several upgrades, including the replacement of old equipment and non-routine maintenance. While discharges meet today's applicable limits, regulations may continue to be lowered in the future.

Firing Site Hazard Assessments

For many years, open-air explosives testing and research involving beryllium, uranium, and other materials occurred on the southwest portion of the Laboratory. Recently, health standards for beryllium have become more stringent and subject to public attention. Laboratory studies are underway to evaluate risks to workers, the public, and the environment associated with the outdoor explosives tests.

Perchlorate Ventilation Assessments

Historically, perchlorates were used in several Laboratory facilities resulting in potential contamination of ventilation systems. Over the past several years, the most highly contaminated ventilation systems, TA-48 and the CMR facility, have been removed. The extent of perchlorate contamination within ventilation systems and associated risks at several other Laboratory facilities needs to be evaluated.

Traffic Safety Improvements

Traffic safety throughout the Laboratory is a continuing concern due to roads and traffic devices that do not meet all applicable codes or are not ideally designed. As a result, traffic congestion and safety problems are increasing, and in recent years, there have been several serious traffic accidents. The Laboratory Traffic Safety Committee and Los Alamos County have completed engineering studies and implemented improvements for the Laboratory's public roads. In addition, long-range site planning processes have identified new roads and other improvements to reduce congestion and enhance traffic safety.

Area G Permitting

Area G is the Laboratory's Solid Radioactive Disposal Site, which has operated as a shallow landfill disposal unit since the 1960s. Prior to the mid 1980s, the site was also used for limited disposal of hazardous materials, making a small part of the site

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subject to closure requirements of the RCRA. At present, the Laboratory is obtaining a new RCRA Permit and is interacting with NMED regarding the permitting status of this site.

County Landfill Closure

Historically, the Laboratory has used the Los Alamos County Landfill for disposal of sanitary wastes under agreement between the County and NNSA. The County's current landfill is anticipated to reach full capacity and close in 2004. Both the County and NNSA are evaluating options for disposal of their respective sanitary waste streams.

PCB Elimination

The Toxic Substances Control Act (TSCA) regulates use, storage, and disposal of equipment containing polychlorinated biphenyls (PCBs). While allowing limited continued use of PCB equipment, the TSCA removes from commerce all PCB contaminated equipment. The Laboratory adopted a goal of being PCB free and has stepped up its efforts to reduce its inventory. Although the inventory of PCB items was further reduced to about 422 items in 2002, additional significant reductions are expected in 2003 pending adequate funding.

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4.4 WORKFORCE PROFILE

The Laboratory workforce comprises employees of UC (8,707), KSL (1,517), PTLA (606), supplemental contract labor (1,402), student assignments (1,595), and guests/affiliates (1,601). The workforce, as of June 2003, includes approximately 15,400 people. These statistics include a temporary influx of summer students and guests that join the Laboratory for short-term assignments or special programs and crafts workers that support seasonal site and construction activities. It is estimated that the temporary summer staff represents some 350 people included in Figure 4-11. The career workforce (excludes guest/affiliates, PTLA, and KSL) comprises approximately 11,700 of the 15,400-member workforce.

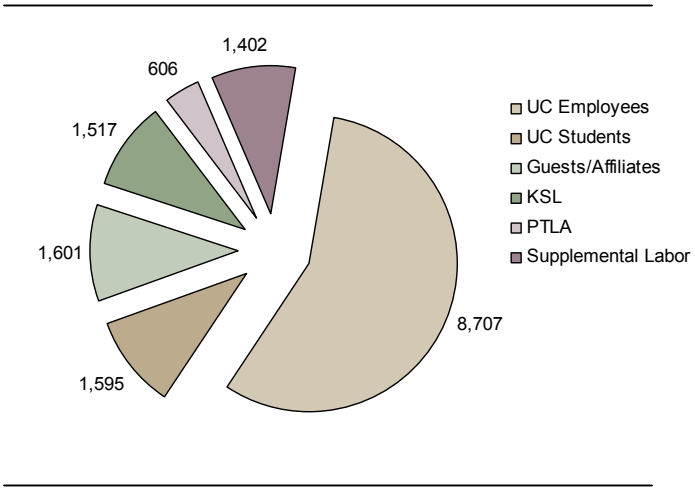

Figure 4-11: Total Los Alamos employees, June 2003.

Figures 4-12 and 4-13 further characterize the career workforce as of June 2002 in terms of ethnicity and levels of education.

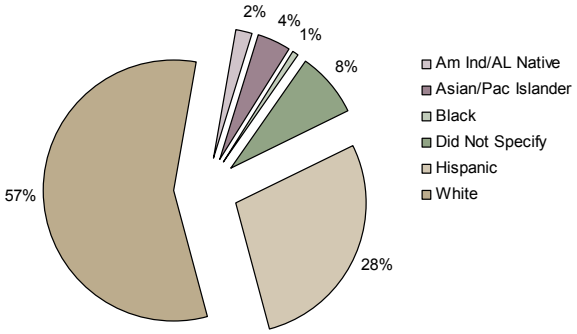

Figure 4-12: Career workforce ethnicity.

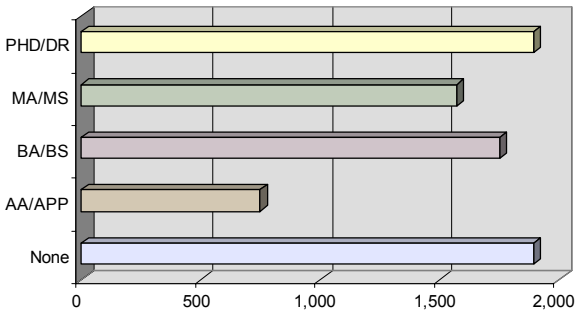

Figure 4-13: Regular UC employees by highest degree.

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Optimizing performance of human resources is fundamental to mission success. The Laboratory fosters excellence in a workforce that is richly diverse in people and capabilities by taking a planned approach to attracting, acquiring, aligning, developing, and retaining talented people. By encouraging a positive, supportive, and creative atmosphere, and by providing facilities that enhance information exchange and include modern capabilities, NNSA, DOE, and other missions are enabled.

Table 4-17 provides current workforce numbers by Directorate. The projected increases for FY03 are based on projected hires and terminations for the rest of the fiscal year. An estimate of potential workforce changes is provided for the out years (FY04-FY07). Critical skills are a subset of the total workforce and defined as positions assigned 25% or more to the stockpile stewardship mission. A critical skill position is required to maintain the nuclear deterrent capability indefinitely or is required to support a specific tangible aspect of stockpile stewardship. In addition, a critical skill position must meet at least one of the following additional attributes.

- **Extended Time to Acquire**—skill and related proficiency can only be acquired after some extended period of explicit on-the-job training/experience (2 to 3 years or more)
- **Complexity of Skill**—skill is related to a scientific, technical or engineering discipline required by the mission, or to the management of a technical aspect of the mission
- **Uniqueness of Skill**—skill is unique to the mission of the nuclear weapons complex
- **Difficult to recruit and retain** — candidates for the critical skill position are difficult to recruit or employees with the critical skill are difficult to retain.

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Table 4-18: Current and projected workforce levels by directorate.

		FY02	Current (June 2003)	FY03*	FY04**	FY05**	FY06***	FY07***
Institutional Science Base and Support Divisions								
	Work Force	3,591	3,980	3,806	3,850	3,850	3,869	3,889
	Critical Skills	123	278	106	106	102	103	104
Strategic Research								
	Work Force	1,817	1,850	1,926	1,948	1,948	1,958	1,968
	Critical Skills	231	252	286	287	292	295	298
Threat Reduction								
	Work Force	1,426	1,474	1,512	1,529	1,529	1,537	1,544
	Critical Skills	107	132	118	118	120	122	123
Weapons Engineering & Manufacturing								
	Work Force	1,888	1,843	2,001	2,024	2,024	2,034	2,044
	Critical Skills	620	603	911	916	929	939	948
Weapons Physics								
	Work Force	2,445	2,567	2,592	2,621	2,621	2,634	2,647
	Critical Skills	471	573	591	593	603	609	615
Total								
	Work Force ‡	11,167	11,714	11,837	11,972	11,972	12,032	12,092
	Critical Skills ****	1,552	1,838	2,010	2,020	2,046	2,067	2,087
Net Increase								
	Work Force		547	670	135	0	120	122
	Critical Skills		286	458	10	26	20	21

***FY03 projections are based on projected hires and terminations for the rest of the fiscal year.**
****Projections an increase per DOE Budget Formulation Guidance for FY04 and FY05**
*****Projections assume slow growth (FY06-0.5%; FY07-0.5%) as conservative estimate.**
****** FY02 are EOY actuals, Current represents Q203 figures and FY04 - FY07 represent projected needs**
‡ Excludes KSL, PTLA, Affiliates, and Guests.

As of June 2003, there has been a net increase of 547 in the Laboratory workforce since the start of FY03. This represents 82% of the total expected increase of 670.

From the beginning of FY03 through FY07, the Laboratory will experience a moderate (approximately 8.3%) increase in the number of personnel. Primarily increasing mission and program requirements drive the impact. In the same time period the Laboratory will see a 34% increase in resources that specifically address the "Commission on Maintaining United States Nuclear Weapons Expertise" (Chiles Report). PTLA, in response to increased security requirements is anticipated to increase by approximately 100. The support services subcontractor, KSL, will likely remain constant. Projected increases call for facilities to support a career workforce of approximately 15,000 people.

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In addition to the impact and need for hiring critical skills positions, the Laboratory is facing an aging population and will see increases in retirements over the next five to ten years. Figure 4-14 illustrates the age distribution of the UC Regular work force and the years of service within each age category. The data indicates approximately 20% of the workforce is now eligible for retirement using the sum of age and years of service as a benchmark. Historical data shows that retirements increase significantly when the sum reaches 75 or more. A second benchmark includes employees with 20 or more years of service, which indicates approximately 30% of the workforce is considering retirement.

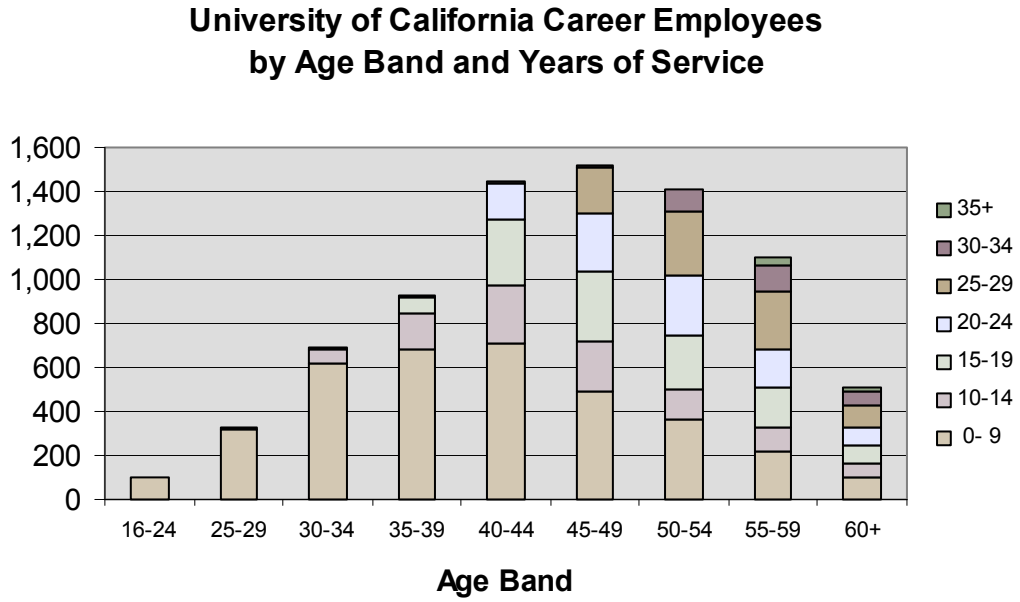

Figure 4-14: Age distribution and years of service for UC regular population.

Recruitment of entry-level resources (five or less years from a bachelor's degree) is a key Laboratory goal. Since the beginning of FY01, efforts in hiring early career technical staff members (TSMs) has increased the number of UC Regular TSMs under the age of 35 by 120. Presently there are 38% more UC Regular TSMs under the age of 35 than there was at the end of FY00.

Providing quality facilities with state-of-the-art capabilities is a significant factor in the Laboratory's recruiting efforts. Projected attrition, including retirements, is approximately 4.5%, more than double the rate as compared to FY94 or FY95. The

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diversity of the Laboratory's workforce will also impact facilities planning. Increasingly the Americans with Disabilities Act must be taken beyond compliance by applying common sense solutions.

Initiatives and projects presented in this section are developed with and by the operating divisions that will hire and support the growing workforce. Many organizations are proposing changes to the site footprint that will, in some cases, reduce the footprint while absorbing the increased staff through state-of-the-art facilities and equipment that is designed and constructed for specific functions and needs.

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4.5 SECURITY

4.5.1 Assets

The Laboratory's security is complicated by the size of the site, scope of work, and diversity of its holdings. With over 150 security areas, Category I / II nuclear facilities, 6.5 million classified records, 2,000 classified computers, and many metric tons of nuclear material distributed over approximately 40 square miles of rugged terrain, the safeguards and security program at the Laboratory is one of the most complex, geographically diverse, and operationally challenging programs in the world. This operational environment demands a security program capable of dealing with ever-changing and ever-escalating threats. The Laboratory continually strives to develop and maintain a multi-layered security program that supports the roles of both security and science as integral components of the Laboratory's mission.

4.5.2 Protection Strategies

The Laboratory has taken aggressive action to improve its protection strategies for asset holdings. Major protection strategies include the following:

- Pajarito Road was closed to non-Laboratory traffic, which increased protection for nuclear facilities,
- A line item project is being developed to control vehicle access to the site (Security Perimeter Project),
- Vehicle screening posts were created to address post 9/11 security challenges,
- A program using dogs to screen incoming vehicles for explosives is being implemented,
- A line item construction project is underway to replace the aging alarm system (NMSSUP Phase I),
- A line item construction project is in development to upgrade the physical security system at TA-55 (NMSSUP Phase II),
- A perimeter alarm system upgrade/enhancement to improve detection capability was completed,
- New video capture equipment was installed to increase detection capability,
- Alarm video switching equipment was installed for more reliable assessment, and
- Alarm encryption equipment was installed for more secure assessment.

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Denial Strategy Implementation Plan (DSIP)

The purpose of the DSIP Project is to ensure that the Laboratory develops and implements a strategy for protecting assets at TA-55 in response to the DOE performance objectives set forth on October 3, 2001. Currently an Interim Denial Protection Strategy is in place as agreed to with NNSA/LASO. The TA-55 Vulnerability Assessment (VA) will be updated annually in order to meet the Site Safeguards and Security Plan (SSSP) and new Design Basis Threat (DBT) requirements. Funding will be requested as needed to address resource requirements. NMSSUP Phase II is being pursued to help provide engineered solution(s) that will increase confidence in the strategy and potentially reduce annual operating costs.

4.5.3 Integration

Protection Program Management Team

The Security and Safeguards (S&S) Division has developed a management level working group that provides direction and establishes Laboratory S&S policy. This team ensures that appropriate levels of protection are in place against the approved DOE DBT and that a graded approach is applied to security planning and resources. The Protection Program Management Team (PPMT) provides a forum for S&S mission prioritization, stakeholder cooperation, and risk management. S&S policy and funding options are evaluated by the PPMT so determinations are made with the appropriate levels of input. The PPMT also ensures that the Laboratory's SSSP documents provide the protection measures and strategies necessary to ensure acceptable levels of protection for DOE assets. These protection actions cover SNM and classified matter, as well as government and contractor employees, the public, and the environment against loss, destruction, harm, or compromise. PPMT membership includes the LASO manager and S&S director, the S-Division leader, and S Division groups.

4.5.4 Special Security Projects to Address New Threats

The Laboratory continues to initiate security and safeguard projects to further enhance security at the Laboratory as well as address new threats. Following is a brief description of some these projects. A more complete description of many of these projects is included in the SSSP and other specialized site security plans.

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Security Perimeter/By-Pass Roads

This project is designed to support institutional security objectives by closing selected roads to the public depending upon the security posture in place at a particular time. New roads and access control stations will upgrade the physical protection around critical assets. Access to these roads by Laboratory badge holders will be maintained, and traffic by non-DOE badge holders in the TA-3 area will be eliminated as required. In addition, access control stations will be constructed to screen vehicles entering the laboratory.

Relocation of the Distribution/Receiving/Transportation Complex

The project is designed to remove commercial vehicle traffic from inside the TA-3 area. The distribution/receiving/transportation complex has been sited on the southwest side of East Jemez Road. This site is at the edge of the Laboratory's property and far from the core of Laboratory facilities.

Bio-Safety Laboratory

The Laboratory is constructing a stand-alone state-of-the-art bio-safety laboratory. This one-story, approximately 3,200 square foot facility will accommodate research to enhance public health capabilities and reduce the threat from terrorism using biological weapons. Key design on this facility will include single-pass, non-circulating HVAC system and HEPA filtration.

Chemistry and Metallurgy Research Replacement (CMRR)

The Chemistry and Metallurgy Research Facility Replacement Project (CMRR) is a long-term project that will relocate and consolidate mission critical analytical chemistry, material characterization, and actinide research and development capabilities. The project will ensure continuous national security mission support beyond 2010 at the Laboratory.

TA-18 Relocation Project

The Los Alamos Critical Experiments Facility (LACEF) project will provide for the movement of all Category I/II/III/IV nuclear operations, personnel, materials and infrastructure from the existing site to NTS Nevada for CAT I/II and to another location in Los Alamos for CAT III/IV (except for SHEBA, which will be at a site not yet determined). DOE/NNSA has received considerable scrutiny regarding the security at TA-18.

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NMSSUP Phase II

This project will address the security system at TA-55, the Laboratory's key nuclear facility that houses and processes Category I quantities of SNM. Phase II includes the upgrade or replacement of the existing exterior intrusion detection and assessment system and installation of interior intrusion detection, assessment, delay, access control, and security communications equipment for TA-55. Access control facilities for the Protected Area and Material Access Area will be replaced or upgraded. These systems will be integrated with the Argus security control system that has been installed under NMSSUP Phase I. The NMSSUP Phase II project is currently nearing CD-0.

4.5.5 End State of Security Efforts

Considerable effort has been put into safeguards and security at the Laboratory over the past few years. Much of that effort has been successful, but there is still more work ahead.

The SSSP document also address what the "End State" of all of the suggested security enhancements should be and provides a definitive goal and a positive direction in which to direct Laboratory security efforts. It will be of critical importance in the future, as security resources are appropriated to meet the ever-changing needs of the Laboratory.

Many of the projects discussed in the SSSP have been designed to address new requirements from the DOE/NNSA and to aid the Laboratory mission by ensuring that the projects are performed securely in the most cost-effective manner possible. These projects will ensure that the Laboratory is able to accomplish its mission for the nation.

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4.6 TRANSPORTATION AND PARKING

The Laboratory's remote location, topography, and development pattern create unique transportation problems. Its location on a series of mesa tops separated by deep canyons and the dispersed arrangement of facilities combine to make access between Laboratory facilities difficult and circuitous. Development of roads and parking has been incremental, often guided by short-term needs. The incremental growth has neglected pedestrian, bicycle, and transit improvements. Maintenance of the transportation infrastructure has generally been inadequate to keep up with needs.

The Laboratory has determined the following transportation strategies for guiding both short and long-range site planning.

- Develop a transportation infrastructure that provides for security, emergency, and safety needs.
- Move public traffic out of the Core Planning Area by developing an arterial loop road around TA-3.
- Move truck and other large vehicle traffic out of densely developed areas by relocating delivery and distribution activities to areas along East Jemez Road.
- Provide adequate parking to accommodate future development. Move existing parking out of prime developable areas.
- Locate new parking facilities at the perimeters of built zones where connections to on-site transit can be easily made.
- Develop strategies to reduce conflicts between public traffic and secure zones.
- Create a multi-modal transportation system that supports regional transportation needs.
- Integrate/develop a complete transportation system that incorporates pedestrian, bicycle, and transit improvements.

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Construction activities in the northwest sector of TA-3 prior to FY03 eliminated over 800 parking spaces. While new lots replaced some of the lost spaces, they were built in other areas of TA-3, away from where population increases are occurring. Three parking structures are currently planned for the northern sector of TA-3. One funded as part of the new National Security Sciences Building will be constructed to the east of the Otowi Building in the FY05-FY06 timeframe. The second parking structure, funded as an IGPP and located just to the west of building TA-3-31, is under construction with completion anticipated in February 2004. This project will result in 200 net parking spaces. The third structure is planned for IGPP funding in FY04 and will be located near the intersection of Diamond Drive and East Jemez Road. Two other surface parking areas near the TA-3 Wellness Center and in the area of the former asphalt batch plant site along East Jemez Road are currently planned for a gain of about 380 parking spaces. Discussions with the Los Alamos Research Park, just to the north of TA-3, resulted in the lease of some additional parking spaces.

In May 2003, the New Mexico State Transportation Department established a regional park and ride system to provide commuter bus service between the cities of Santa Fe, Española, and Los Alamos. The total impact on parking demand, particularly in the TA-3 area, has not been determined, though most of the estimated 3,400 riders are destined for TA-3. The Support Services Subcontractor is providing on-site transportation from the bus center location at Diamond Drive and East Jemez Road to other Laboratory locations as required. The commuter bus service was initially funded for only 18 months during construction work along Highway 84/285. However, a permanent regional transit authority may be formed eventually to maintain the service.

Increased population at TA-55 is also causing parking shortages in that area, and two new surface lots are planned to improve the situation. In the short-term, an IGPP funded lot has been proposed located to the south of the new office building currently under construction. In the long-term, a 500-car lot is proposed to the south of the Pecos Road and Pajarito Road intersection.

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The Site-Wide Future Transportation Map on the following page shows projects that are underway or *proposed* that support the Laboratory's transportation strategies for the next 10 years.

① **TA-3 Security Perimeter Project and Loop Roads** — Revitalization efforts in TA-3 call for a security perimeter road and east and west side loops to route traffic around the core of TA-3. This allows TA-3 to be accessible but secure.

② **Options for Pajarito Road** — The development of a nuclear campus at TA-55 will make the security and safety conflicts with public traffic on Pajarito Road more pronounced. Project 2a, which is closure of Pajarito Road to public traffic with a guard gate approximately one-half mile from White Rock, has been completed. Two alternatives (2b and 2c) will continue to be discussed.
2b Building of a parallel bypass road south of the current alignment.
2c Building of a north-south connector road between Pajarito Road and East Jemez Road east of TA-46.

③ **Add Secondary Access** — Secondary access roads are proposed to improve site circulation, emergency response times, contingency planning, and firefighting capability. A major component would be a north-south connector between Pajarito Road and East Jemez Road and a second bridge to the town site to reduce public traffic in the core of TA-3.

④ **Regional Connection to Santa Fe** — A long-range regional road connection to Santa Fe and Albuquerque needs to be considered. This would be a New Mexico Department of Transportation project. Alternate routes as shown on map were as proposed during the preparation of a 1990 environmental impact statement (FHWA-NM-EIS-90-01-DS). A second major access to Los Alamos is a safety and security need.

⑤ **Upgrade East Jemez Road** — Traffic increases have occurred on East Jemez Road with the closure of Pajarito Road to public traffic. Improving the total length of East Jemez Road is needed as a result of this closure.

Develop Pedestrian Trails — Laboratory staff desires bicycle and pedestrian trails for both work and recreational purposes. These trails can serve dual purposes as fire access, utility corridors, and unpaved emergency access. (Not Shown)

Integrate Transit Use — As space for surface parking becomes more restricted, the need to integrate transit planning increases. Site-wide transit planning is needed. (Not Shown)

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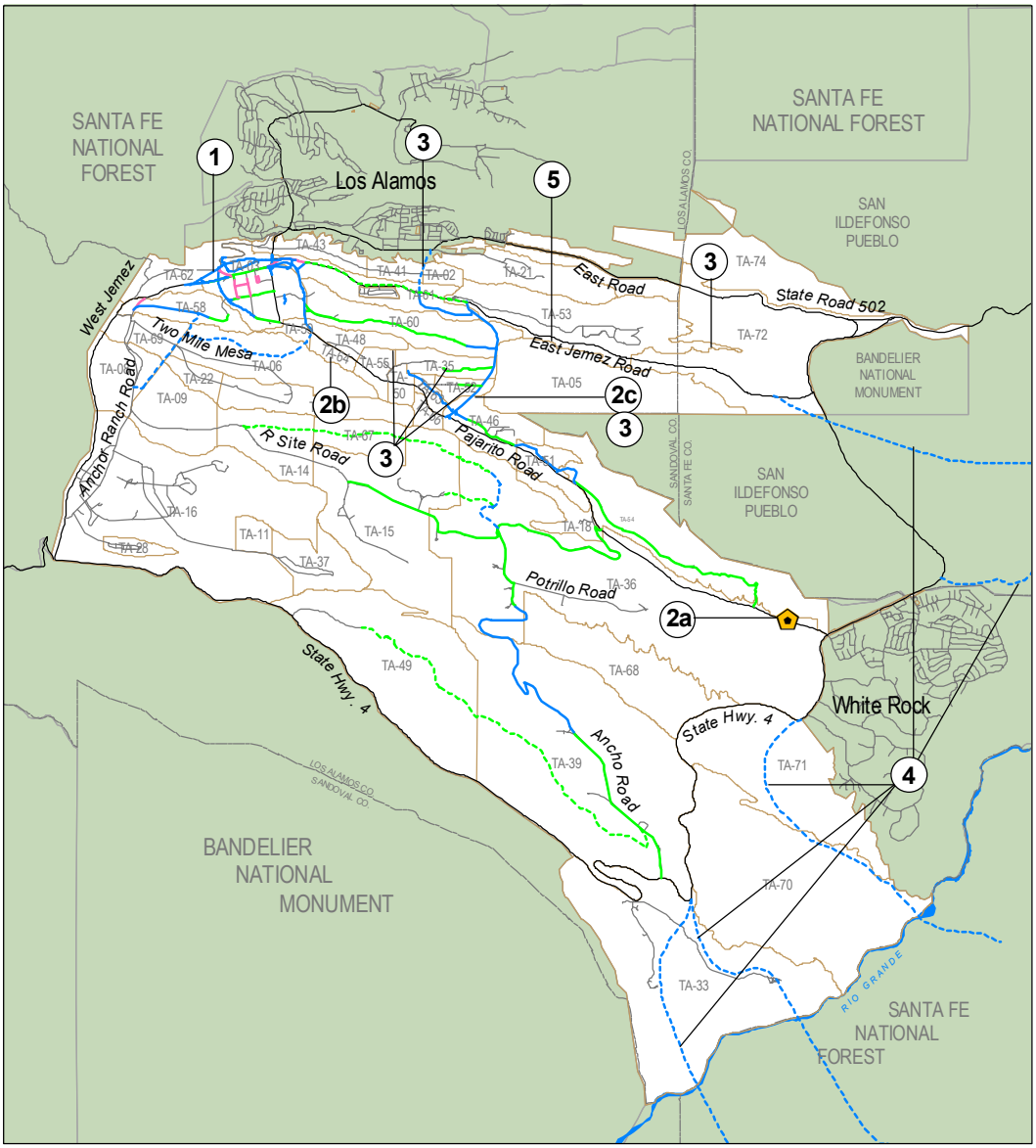

Future Transportation

- New Construction
- New Long Range Proposed
- Road Improvements
- Improve Long Range Proposed
- Road Elimination

- Guard Station
- (1) Reference Number

8000 0 8000 Feet

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4.7 CURRENT PLANNING INITIATIVES

The Laboratory has continued to produce ADPs and master plans for various Laboratory areas during the past year. Areas studied and planned include TA-21, TA-33, TA-53, TA-3, parts of the Pajarito Road Corridor, and several other smaller areas (TAs 63, 66, 52, 54 and 58). The plans consisted of either an area development plan or a localized master plan. Within the area development plans, master plans were produced for TA- 46 and TA-48. The level of planning performed varied based on current needs within these different areas. Summaries of some of the more involved urban planning efforts undertaken recently are presented below. Although physical planning documents were produced, planning is an interactive, ongoing process, and the documents will be updated as necessary.

4.7.1 TA-33 Master Plan

The TA-33 Master Plan presents a recent change in the Laboratory's intentions for the area, going from plans of closure to those of growth. Activities at TA-33 are expanding to meet the Nonproliferation and International Security (NIS) mission of the Laboratory, including new missions related to homeland security. The plan identifies key new facilities that will allow the site to meet its client's needs, remain flexible, and expand activities.

The plan recommends a new entrance road to improve safety, an internal loop road to improve site circulation and access, and a controlled entry gate for security. New landscaping will provide security screening, and relocation of the Very Large Antennae is proposed to a less visible location. In addition, the master plan provides for a flexible test facility area, special programs facility area, and both unclassified and classified office areas. Other proposals include a logistics area, technology transfer area, wellness center, and a new warehouse.

4.7.2 LANSCE Area Development Plan

The LANSCE ADP (TA-53) was completed in March 2003. The vision for TA-53 is to create a world-class national user facility with expanded capabilities to support over 1,000 annual users. This effort will require maintaining accelerator capabilities and support facilities, modernizing to enhance mission capabilities, developing an Advanced Hydrotest Facility (AHF), eliminating temporary facilities, and enhancing pedestrian and bicycle safety.

The major activity nodes at the scientific campus will be a visitor center, a LANSCE and

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Physics (P) Divisions office/laboratory facility, a parking structure, a linear accelerator, a weapons neutron research facility, and enhanced Lujan Neutron Scattering Center. Minor activity nodes will include an isotope production facility, an engineering technology laboratory, a low energy demonstrator accelerator, additional office space, a P Division user facility, an open storage yard, and a wellness center/cafeteria. The physical plan is based on a central parking facility and a pedestrian open space system around which work sites are oriented. The goal is to create the image of an architectural campus where quality science can be conducted in a cost efficient and safe manner.

4.7.3 Pajarito East ADP

The Pajarito East ADP includes master plans for TA-54 and TA-46. The ADP anticipates the closure of TA-18 and protection of the TA-51 research fields. FWO Division developed a new master plan for TA-54 that allows the division to meet its mission for the foreseeable future. Most of the proposed growth is planned for the western end of the TA, and improvements include a new intersection with Pajarito Road, new office buildings, and new storage pits.

The Pajarito East ADP includes a new access control facility at the eastern end of Pajarito Road near White Rock. (The western control points are to be developed along the northern edge of TA-3 within a different ADP.) This security facility will provide control of vehicular access far from any key Laboratory facilities.

4.7.4 TA-46 Master Plan

The TA-46 master plan addresses the potential needs for several divisions currently located within the TA, however the divisions have not yet fully committed to TA-46 as their long-range plan. The master plan allows for ESA Division to continue its current activities and proposes two new buildings to maintain and upgrade onsite capabilities. Several old buildings would be removed. The plan does not alter current Bioscience (B) Division activities or the commercial activities of the Isotopes of Carbon, Oxygen, Nitrogen, and Sulfur (ICONS) facility. C Division's plan for involving their TA-46 facilities, including the new Chemistry (C) Division office building, expands westward with several new facilities. Finally, the master plan depicts a development build-out for RRES Division with up to three new buildings to meet future needs. The master plan addresses circulation, open space, parking, pedestrian networks, and a more attractive physical environment than currently exists.

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4.7.5 TA-3 Master Plan

During the past year, the TA-3 master plan was updated. The new plan is based on previous TA-3 revitalization plans that were developed several years ago with management and key stakeholder input. Key points to the updated master plan are described below and a map is included on the following page.

TA-3 Master Plan

GOAL: Develop the core area to provide the unifying center of the Laboratory.

CHALLENGE: The Laboratory infrastructure must be revitalized.

VISION: Create a secure environment, integrated well-designed buildings and a pedestrian circulation network to encourage creative interactions between people.

DESIGN PRINCIPLES

- Organize primary exterior space with pedestrian networks and open space.
- Enhance security by excluding public traffic from the core area.
- Secure Laboratory traffic through access control gates.
- Consolidate parking to structures along the main loop arterial roads.
- Promote efficient infrastructure and land use through infill and increased density.

FRAMEWORK ELEMENTS

- Road network
- Parking structures
- Infill development
- Security
- Shuttle
- Pedestrian and open space network

PHASING 0-5 Years

- Consolidate parking into structures.
- Remove deficient facilities.
- Build National Security Sciences Building.
- Continue infill with other buildings.
- Begin open space and pedestrian network development.
- Develop road and access network for security and parking.
- Develop disposition plan for CMR, Shops, Physics and Sigma.

PHASING 5-10 Years

- Build major infill facility south of new NSSB.
- Create central pedestrian network open space.
- Continue consolidation of parking into structures.

PHASING 10+ Years

- Continue development of infill buildings within the Core Area.
- Continue development of pedestrian and open space network.
- Continue to remove old facilities.

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4.7.6 Los Alamos Science Complex

The Laboratory is faced with a serious problem of aging infrastructure that threatens our ability to carry out the Laboratory's mission and impacts our ability to attract and retain top talent. One-half of the Laboratory's facilities are in poor or fair condition and two-thirds are greater than thirty years old. In the past, preventive facility maintenance was deferred for technical programmatic priorities. Over time, this practice has resulted in a backlog of needed repairs that threatens to overtake the Laboratory's ability to address these problems. Many of these facilities are reaching the end of their useful life and would require major upgrades to continue operations that meet future mission needs and should be considered for eventual decontamination and decommissioning.

Since 2000, the UC President's Office and the Laboratory have been developing alternative methods (e.g., third-party financing) in addition to traditional construction mechanisms such as congressional line-item or GPP funding for financing the construction of the Los Alamos Science Complex (Science Complex). The Science Complex will provide twenty-first-century laboratory and research space to help lead the Laboratory's mission of "Science for the Nation". Providing multi-disciplinary, modern, competitive, high-quality space and amenities, DOE will be able to rejuvenate their facilities and to attract and retain world-class talent and resources by offering mission-related scientific research in a unique and powerful collaborative setting that is designed to be environmentally sound and highly cost effective.

Over the next 10 years, UC and LANL intend to use a three-phase approach to construct third-party financed facilities for lease by the DOE. These facilities serve the federal needs and releases capital value in underperforming assets. During the past year, Oak Ridge National Laboratory (ORNL) has successfully built three buildings for a total of $71 million dollars using third-party financing. This approach clearly shows that construction can be completed much faster, and the costs can be kept much lower because of the elimination of the government's year-to-year uncertainty in the availability of funds while conforming with the Office of Management and Budget (OMB) budgetary rules.

The Laboratory has completed the conceptual design, planning and project prioritization for Phase I which will include B, Computer & Computational Sciences (CCS), Earth & Environmental Sciences (EES) and Theoretical (T) Divisions. New infrastructure to support construction of five buildings for a total estimated cost (TEC) of $140 million dollars has been included in the planning. Approximately 1,200 persons will be relocated from within the 40 square miles that the Laboratory encompasses. 402,000 GSF of new space will be constructed and the divisions involved in Phase I will vacate 279,000 net

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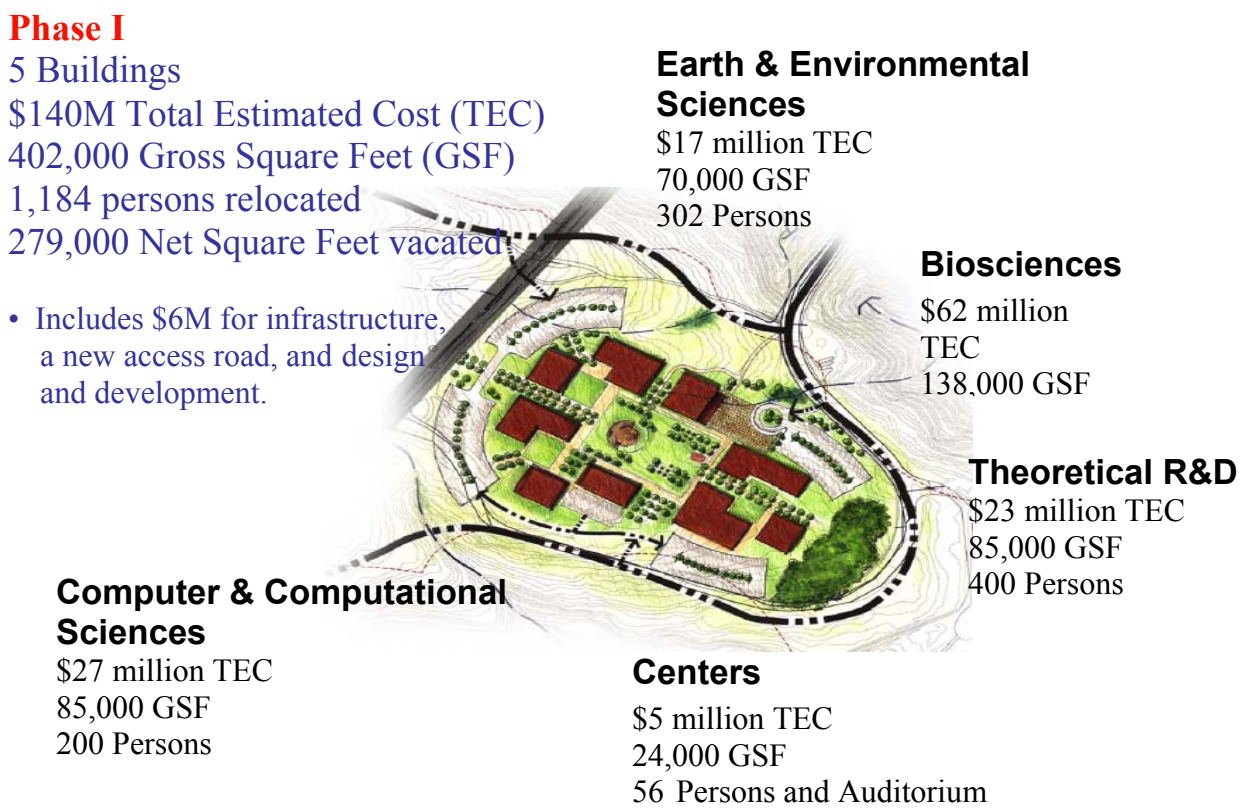
square feet of space. The impacts of the vacated space on the Laboratory's deferred maintenance backlog will be evaluated as part of the Science Complex's business plan that will be submitted to NNSA for CD-1. Preliminary planning for Phase II has begun and includes B, C, and Decision Applications (D) Divisions. Phase III planning has not begun at this time.

A development site known as Two Mile Mesa North has been chosen for the Science Complex. Located at TA-58, Two Mile Mesa North, the development will be within walking distance to TA-3, the Laboratory's main technical area and where frequent interactions occur. The Two Mile Mesa site has minimal environmental constraints for development.

Working with NNSA Champion, Everet H. Beckner, Deputy Administrator for Defense Programs, NA-10, the Laboratory will complete Critical Decision (CD)-0 by the end of FY03 and CD-1 by the first quarter of FY04. Construction is expected to commence in CY04.

Figure 4-15: Los Alamos Science Complex Phase I.



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4.7.7 TA-21 Reuse Planning

In February 2003, personnel from the Department of Energy Headquarters (DOE HQ) Defense Programs visited the TA-21 site and indicated their desire to pursue evacuation of the site. Public Law 105-119 requires the transfer of lands that are not considered mission critical for Laboratory operations, and the TA-21 site was identified to Congress as a potential site for transfer. Major portions of TA-21 have been withheld from transfer because of buffer requirements, but these requirements have recently been reduced. As a result, a majority of Land Transfer Tract A-16 (major portion of developed TA-21 shown in Figure 4-16 in orange) no longer meets mission critical requirements and could be transferred to Los Alamos County, which wants the land for industrial development. However, some of the tract will require continued DOE ownership due to operational buffer zones and areas with contamination. NNSA would like EM to take control of the site as soon as possible for cleanup operations.

Current operations at the TA-21 site will remain at the current level or be reduced in the future. TA-21 is currently occupied by parts of five divisions (ESA, IM, BUS, FWO, and RRES) that are part of three directorates (WEM, ADA, and ADO), and the primary

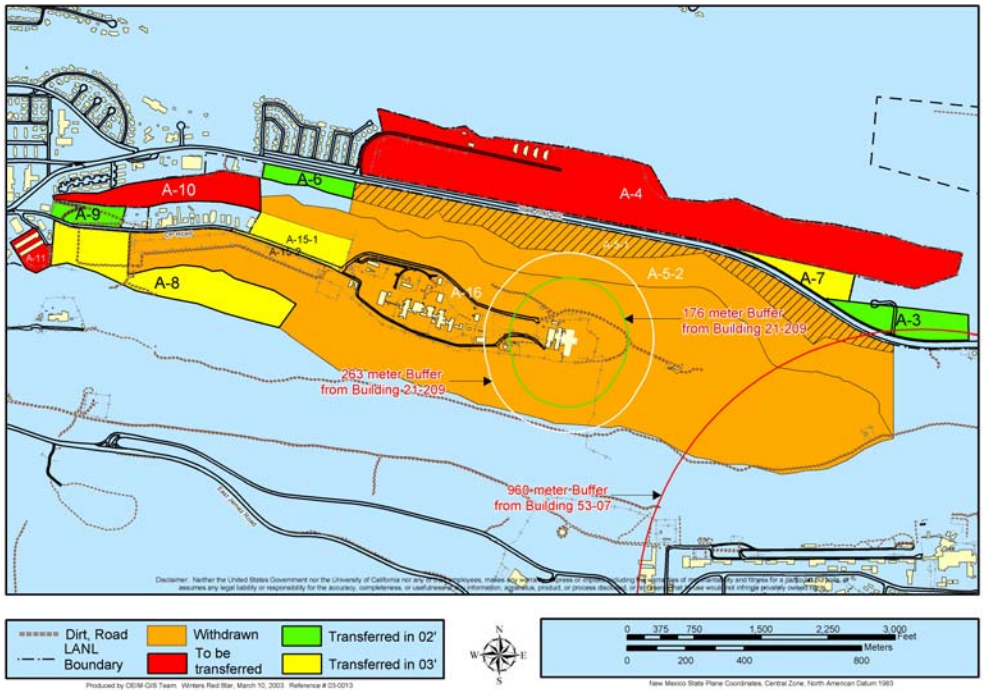

Figure 4-16: TA-21, Airport, and DP Road land transfer tracts.

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support services subcontractor (KSL). Over 200 staff occupy the site in about 65 buildings (239,000 square feet). There are 65 potential release sites and 95,000 square feet of buildings on the excess list.

To date, portions of the tritium operations have been moved to the WETF at TA-16, and the remaining tritium operations will be moved in the near future, significantly reducing on-site inventories and the requirement for large buffer zones. The central portion of TA-21 contains structures built over 50 years ago for a variety of operations using plutonium, uranium, and other materials. These buildings will be removed, and the resulting brownfield evaluated for potential reuse.

Due to the need to retain ownership of portions of TA-21, the Laboratory will develop, gain agreement and funding for, and implement a plan to reuse those portions unacceptable for transfer. Planning to date for TA-21 includes the following three activities:

- Exit strategy alternatives analysis,
- Area development planning (mostly for "de-development"), and
- Reuse scope development for one identified alternative.

TA-21 Planning Goals

- Prepare a comprehensive plan for and complete conveyance and transfers actions as appropriate
- Reduce Laboratory footprint
- Reduce building space
- Reduce environmental restoration costs
- Reduce operations and space costs
- Maintain or enhance environment, human health, safety, and security

TA-21 reuse planning involves identification of sites within tract A-16 for reuse either by the Laboratory, if not transferred, or external entities if transferred. Once the boundaries of A-16 subtracts for partial land transfer to Los Alamos County are identified, development of an exit implementation plan and schedule can proceed in parallel with reuse strategies.

One reuse strategy is a multi-use industrial development option that would benefit both NNSA and Los Alamos County, with the possibility of third party financing of brownfield development. Another concept under consideration is developing a multi-use service center for regional land management agencies. The service center would attract supporting businesses and allow more immediate reuse of the property. In addition, it could provide integrated facility space for Laboratory organizations focused on environmental stewardship, public outreach, and education.

More detailed migration, project development, D&D, remedial action, and financing implementation strategies will be developed as planning efforts continue. The

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recommended TA-21 reuse alternative will be developed into a pre-conceptual site and project development plan.

4.7.8 Integrated Nuclear Planning (INP)

NNSA and the Laboratory have established the Integrated Nuclear Planning (INP) effort for integrated planning of nuclear facilities and capabilities. INP, through the recently created INP Project Director position, is chartered to provide an integrated, coordinated plan for the consolidated construction, refurbishment/upgrade, and retirement of nuclear facilities over the next 20 years. INP also includes NNSA membership and participation. Consistent with NNSA programmatic guidance and in support of integrated planning activities, the TA-55 affected project teams are key members and participants of the INP process. Additionally, the Laboratory's SPCC routinely receives briefings from the project directors/leaders and reviews project interactions throughout the Laboratory, including TA-55.

Los Alamos has an aging nuclear materials facility infrastructure spread throughout the Laboratory site. The Laboratory performs critical research and development (R&D) in support of DP missions at a number of sites and nuclear material facilities. Many of these facilities and their associated equipment are in need of upgrades, replacement, or refurbishment. INP provides a means to best ensure that these changes to critical Laboratory facilities are carried out in a coordinated, cost-effective manner.

A variety of consolidation and revitalization/refurbishment activities intended to maintain and upgrade the Laboratory's long-term nuclear capabilities are in the pre-conceptual planning stage. Consolidation of nuclear and non-nuclear facilities to a minimal number of secure areas or functional areas will optimize use of facility capabilities and minimize future costs. Flexibility in the development of concepts for managing both program and facility uncertainties will improve facility usefulness over time. Relocating essential capabilities from aging facilities to upgraded or new facilities will maintain and improve the Laboratory's response to current and future missions.

The INP effort ultimately relies on joint Laboratory and NNSA workshops to validate capabilities, requirements, and priorities. To date, five INP workshops have been held with active participation from Laboratory and NNSA/DOE program, line, safety, and security organizations. The first workshop was held on April 18, 2001 and provided NNSA and the Laboratory a consensus mission set for INP. The second workshop was held July 10–11, 2001, and this workshop provided a "validated list of capabilities" and "project elements" to be included in the CMRR and TA-18 Mission Relocation projects.

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Additionally, the workshop chartered the INP Team to propose an integrated plan for addressing capabilities or project elements that are not included in the CMRR or the TA-18 Mission Relocation projects but are necessary to meet overall NNSA missions. Specific examples of such project elements included the long-term storage of SNM; radiography of SNM components; infrastructure needs for TA-55; and infrastructure reinvestment and security needs for TA-55.

A third workshop, held July 23–24, 2002, accomplished the following:

- Validated a disposition path for project elements related to supplemental capabilities, site-infrastructure needs and security requirements that are necessary to execute the mission,
- Established Laboratory and NNSA consensus on planning and project coordination between various ongoing INP construction projects,
- Updated NNSA guidance regarding a path forward for INP as it relates to the TYCSP efforts, and
- Addressed coordination needs between INP efforts and other NNSA nuclear construction activities as they relate to NNSA missions.

A fourth workshop, held in early 2003, was limited to discussions regarding the TA-18 mission relocation to the Nevada Test Site. The workshop was also to validate the scope of that project.

The fifth INP workshop, a Laboratory INP/CMRR Preliminary Layout Selection, was held on June 9-10, 2003. The objectives of that workshop were:

- To validate Laboratory recommendations on CMRR preliminary nuclear facilities layout selection,
- To obtain consensus on CMRR project phasing recommendations in support of a decision by NA-10 to allow Acquisition Execution Plan development, and
- To update NNSA on the status of other INP activities at the Laboratory including discussing the SNM Storage Strategy, NMSSUP Phase II status, and CMR Disposition.

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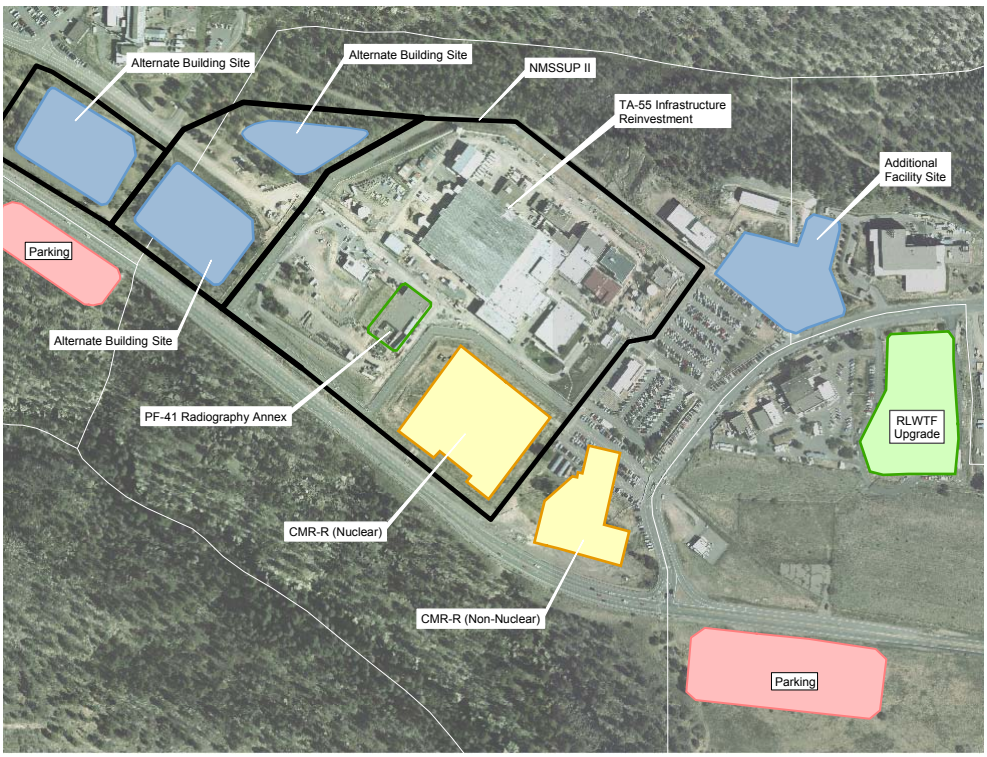
A sixth workshop to review the status of all INP-related projects is anticipated in late summer of 2003.

Figure 4-17: INP pre-conceptual site plan at TA-55.



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4.7.9 Nuclear Facilities Consolidation

Within ADO, efforts continue that will fundamentally change the state of the Laboratory's nuclear facilities. In FY02-03, the SET, specifically the ADO, recognized the following with regard to nuclear facilities:

- A significant cost premium is associated with operating a nuclear facility due to such activities as AB development and implementation, Quality Assurance, Price Anderson liabilities, and security,
- Many of the Laboratory's nuclear facilities are large, aging facilities that do not meet current design codes,
- Some nuclear facilities have overlapping missions while others are undergoing changes in missions,
- Improvements in the organizational structure and operating processes and procedures are needed across all nuclear facilities in order to achieve higher operating efficiencies and cost reductions, and
- The Nuclear Safety Management Rule (10 CFR 830 - promulgated in January 2001) requires development of detailed AB documentation and implementing TSRs for all nuclear facilities. It has a deadline of April 2003.

Historically, the Laboratory has maintained approximately 20 nuclear facilities. The following map is a snapshot of the nuclear facilities that were in existence as of April 2000[1], representing over 1.8 million square feet of nuclear space. The orange color denotes the facilities that did not comply with 10CFR830 safety basis requirements as those requirements were still in draft final stage at the time. With few exceptions, each nuclear facility had an AB, however, many were prepared under older DOE orders while a few were more recent and have since been declared 10CFR830 compliant.

The ADO and Laboratory divisions have undertaken the following initiatives to significantly change the nuclear facility footprint:

- The INP process is resulting in the design and construction of new nuclear space that will replace several facilities that are reaching end of life,
- Under the Facility Revitalization Project, some consolidation of missions and facility management will occur. Standardized processes and procedures will be implemented to operate these facilities more efficiently,

[1] DOE/LANL List of Los Alamos National Laboratory Nuclear Facilities, PS-OAB-101, Revision 0, April 2000.

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- A number of facilities that have reached end of mission life are accelerating de-inventory of radiological materials (including holdup) in order to move toward D&D, and
- Several divisions recognized the limited nature of nuclear work in some facilities and took actions to consolidate their activities or to remove these facilities from the nuclear listing.

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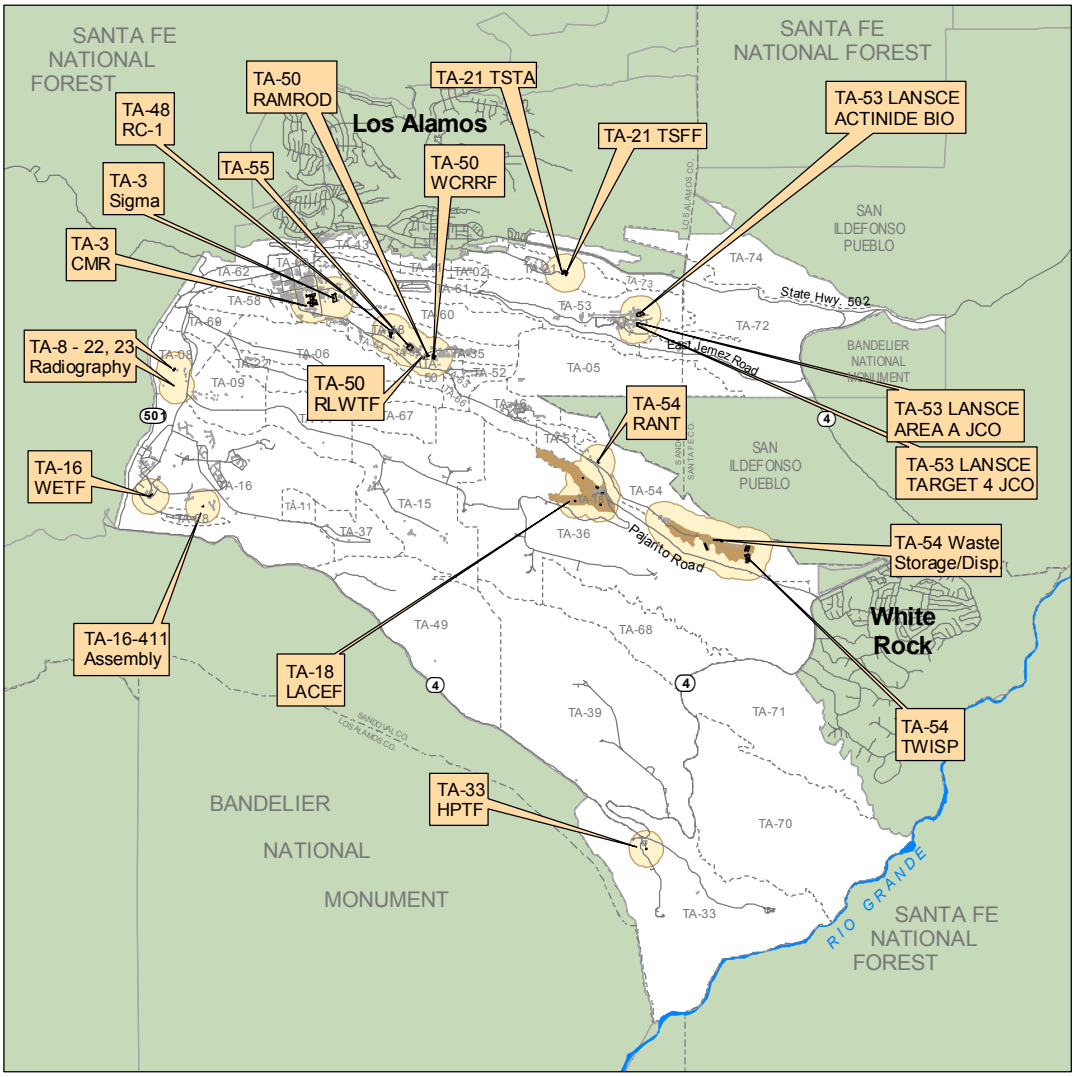

Nuclear Facility Consolidation

Begin Phase 1 - April 2000

LEGEND January 2001 total square feet = 1,779,190

- Compliant Facility 10CFR830
- Compliant Nuclear Facility (500-ft. buffer for visibility)
- Non-Compliant Facility
- Non-Compliant Nuclear Facilites Land Mass
- Nuclear Facility (1000-ft.buffer for visibility)

9000 0 9000 Feet

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The next map depicts the Laboratory's nuclear facilities that could be in place by 2011. This final transition places nuclear capabilities at locations or sites that have specific capabilities. For example, tritium activities would be accomplished at the TA-16 area, actinide work (R&D, manufacturing) within the TA-55 corridor, and accelerator nuclear work at the TA-53 site. The 2011 footprint could be as low as 0.7 million square feet, an approximately 60% decrease from the 2000 footprint. While these plans are not firm, they represent a realistic vision. In addition, any new nuclear facility proposed in the future will fit within the functional capabilities outlined and depicted in the following map.

In FY03 significant progress was made towards implementing the above described plan. All AB submittals required by 10 CFR 830 were met prior to the April 2003 deadline. The TA-48, Tritium Systems Test Assembly (TSTA), and Radioactive Materials Research Operations and Demonstration (RAMROD) facilities were all removed from the nuclear facilities listing. Another project, Transuranic Waste Inspection Project (TWISP), was completed earlier, and any residual activities will be addressed in the TA-54 DSA. Work continues towards consolidating the LANSCE documentation as well as the de-inventory of the Tritium Science Fabrication Facility (TSFF) for future removal and D&D. Work also continues towards the CMR Replacement project as well as consideration for the future disposition of the Los Alamos Critical Experiments Facility (LACEF). Also in FY03, a limited cost study by D Division, concluded that as much as $41M could be saved on an annual basis if the entire consolidation plan is completed by 2011.

These numbers could change as future planning by DOE and the Laboratory continues and as Laboratory missions and plans evolve. Due to the synergism of the initiatives, the Laboratory should be able to achieve an improved nuclear end state within the horizon of this TYCSP such as:

- A smaller nuclear footprint,
- Modern, code-compliant facilities,
- More cost-effective, efficient operations, and
- The ability to meet future mission needs with greater assurance, in a quality manner, and in accordance with integrated safety management (ISM) principles.

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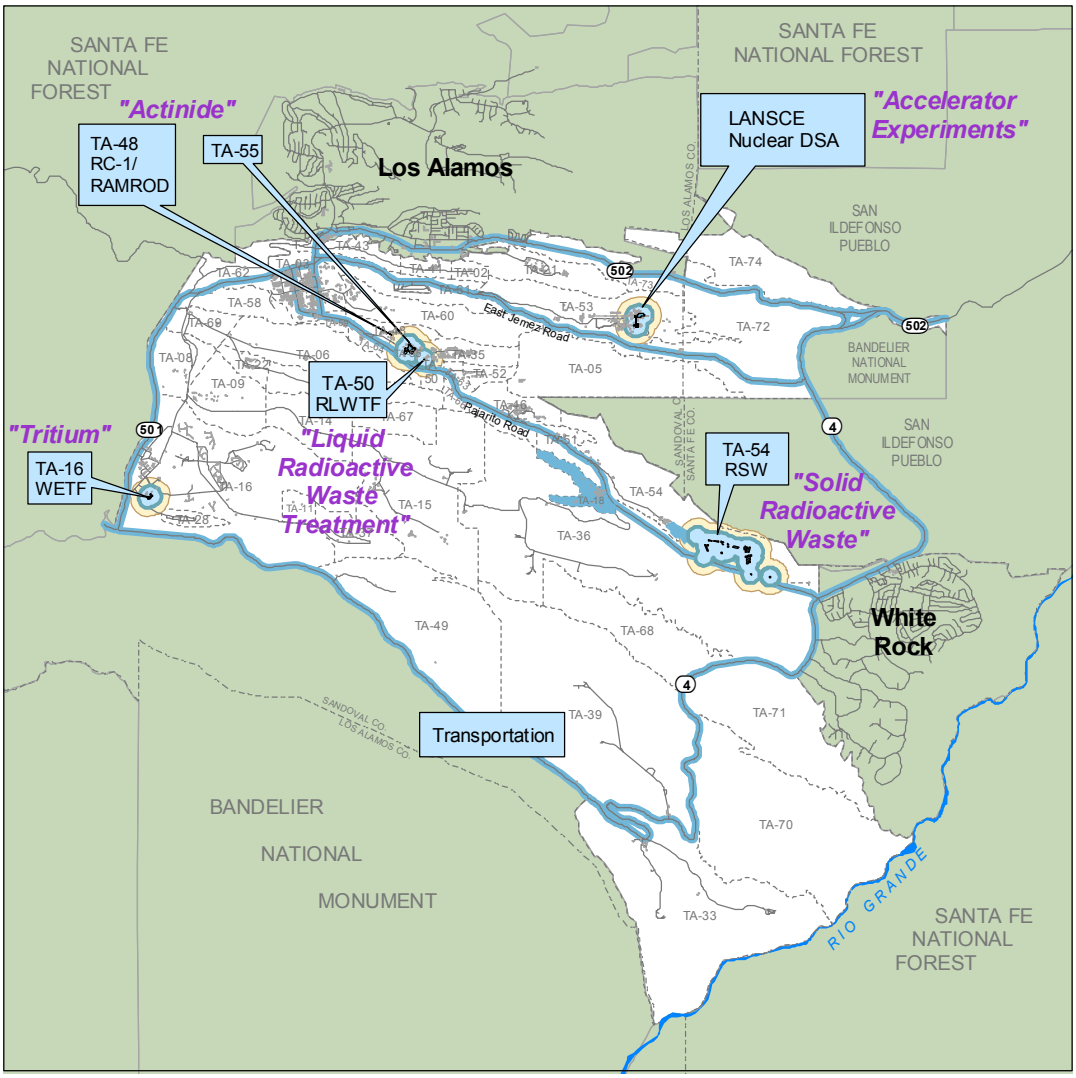

Nuclear Facility Consolidation

End of Phase VI - 2011 (TYCSP Horizon)

LEGEND January 2011 total sq. ft. = 706,055

- Compliant Facility 10CFR830
- Compliant Nuclear Facility (500-ft. buffer for visibility)
- Non-Compliant Facility
- Non-Compliant Nuclear Facilites Land Mass
- Nuclear Facility (1000-ft.buffer for visibility)

9000 0 9000 Feet

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4.7.10 Nuclear Materials Storage

The safe, secure storage of SNM is essential to accomplish the Laboratory's missions. There are numerous programmatic initiatives and associated funding sources that utilize SNM, including:

- Pit Manufacturing – NA-11 sponsorship,
- ARIES – NA-26,
- Special Recovery Line (SRL) – NA-12,
- DNFSB Recommendations 94-1/00-1, 97-1 – NA-12,
- Certification – NA-11,
- DYNEX – NA-11,
- Surveillance – NA-11,
- Tritium Activities – NA-12,
- Pu238 Activities – NA-12/NE,
- Criticality Experiments – NNSA/others,
- Emergency Response – multiple, and
- 94-1 R&D – EM.

This wide variety of programs and funding sources requires a strategic plan for nuclear materials management and storage. A classified report, "Strategic Nuclear Materials Storage Plan for Los Alamos National Laboratory" (LA-CP-02-218), provides a detailed look at planned programmatic activities at the Laboratory and the impacts on SNM storage.

There are currently two Security Category I nuclear storage sites at Los Alamos, TA-55 and TA-18, and numerous Security Category III/IV storage locations across the Laboratory. For planning purposes, Category I sites are of the most interest. In the present configuration, the TA-55 vault is designed for plutonium storage with a much smaller inventory of enriched uranium. The inventory in the vaults at TA-18 is primarily enriched uranium with a small amount of plutonium.

The major programs that will contribute to the continuing growth of the nuclear materials inventory at the Laboratory are: ARIES, SRL, surveillance, and, possibly, Pu238. The current configuration and capacity of the TA-55 vault is inadequate to meet the projected storage requirements. Specific needs are for increased capacity for both large item storage, including pits, and 3013-type containers. The projected growth in inventory is primarily in 3013-type containers, but there is a steady increase in the requirement for large storage locations.

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Several potential options could alleviate the storage capacity shortage. These include:

- Modify one or more rooms within the existing Plutonium Facility (PF)-4 vault,
- Expand the vault within the PF-4 footprint,
- Upgrade the spurs on the tunnel connecting PF-4 and PF-41,
- Install an "in-ground storage vault" similar to the one at Sandia,
- Resurrect the Category I storage capability in the CMR building,
- Accelerate the shipment of excess materials offsite, and
- Incorporate storage needs as part of CMRR.

Storage needs at TA-18 depend on the decisions of what portions of the mission will be relocated and to what site(s) these missions will be moved. The most current DOE guidance is to move the critical assemblies and associated materials to the Design Assembly Facility (DAF) at the Nevada Test Site (NTS). This would still leave a Category I quantity of SNM at the Laboratory. Most of this material is in the "Scarce and Unique" category and will require continuing storage, either at the Laboratory or elsewhere. The remaining material is associated with the Category III/IV activities such as the SHEBA assembly.

The Category III/IV quantities of material do not pose a storage concern, although siting the operations using these materials will require storage appropriate to the amount and form of the material. The remainder of the material will still constitute a Category I quantity. As such, it must be stored in facilities that meet certain safety and security requirements. Clearly, one such facility is TA-55, although this option is unattractive due to the storage issues with the existing and planned inventory. Other Los Alamos options include continuing storage at the TA-18 site or the construction of new storage capability. A final option is to ship this material, a majority of which is enriched uranium, to other DOE contractors such as the Y-12 site.

4.7.11 Radiography

Several programs utilize high-energy (greater than 2 MVp) x-rays to examine nuclear assemblies and components. The Pit Manufacturing Program (PMP) and the Pit Surveillance Program (PSP) perform radiography, ultrasonic, and dye-penetrant inspections on assembled pits to examine structural and material properties. The components are transported from TA-55 to TA-8, examined, and returned to TA-55 the same day. The items are under continuous guard during this operation.

The response to recent attacks and threats to security have significantly increased demands on the Laboratory's protective force resources. If adequate protective force resources are not available to safeguard assemblies during radiographic examinations,

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then PMP and PSP milestones will be adversely affected. The attacks and threats to security have also prompted the revision of threat scenarios for nuclear materials, which will require additional physical barriers, equipment, and personnel resources to defend. Protection of nuclear assemblies during transportation and examination at TA-8 may no longer be practical after the response plans for the revised threat scenarios are implemented. Establishing the capability for x-ray radiography of nuclear assemblies at TA-55 will require several years and will minimize the programmatic and schedule risk for the manufacturing and surveillance programs. Until revised threat response plans are formulated and implemented, a limited number of assemblies can be x-rayed at TA-8, while facilities within the PIDAS at TA-55 are modified to perform x-ray radiography and other nondestructive examinations.

This project will (1) reduce the programmatic and schedule risk associated with anticipated changes in the safeguards and security requirements for protecting nuclear assemblies during transportation and examination outside the PIDAS at TA-55; (2) provide improved protection for workers and the environment in the event of accidental releases; and (3) be commensurate with the Laboratory goal of consolidating nuclear operations.

The proposed Nondestructive Examination Facility (NDEF) for Sealed Nuclear Components at TA-55 would be located in PF-41. PF-41 is an existing, but unused building within the TA-55 PIDAS. The NDEF would be located in the southern end of the basement and would require approximately 65% of the basement for the facility and associated support functions.

The facility would house several high-energy x-ray systems suitable for high-energy radiography applications. This facility would be primarily used for the radiography of sealed nuclear components and would serve the Pit Production Programs and the Pit Surveillance Programs.

The facility will require construction efforts to meet appropriate nuclear facility requirements suitable to the proposed mission. Safety and security infrastructure and general building upgrades will be required as directed by mission, building codes, formal hazard and security analysis. The programs will require radiography capability of 15 MV (or higher), a 2 MV, a 450 kV, and 225 kV. X-ray equipments capable of achieving these requirements will be procured from appropriate vendors.

The completed facility will be a long-term solution for TA-55 sealed nuclear component radiography that will also have the flexibility to expand with changing mission needs.

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4.7.12 Los Alamos County Sanitary Landfill Site Screening Activities

The Los Alamos County sanitary landfill is currently under interim regulatory status with the New Mexico Environment Department. In lieu of bringing the landfill up to modern permit standards, the County filed a Closure Plan with the state with a closure date of June 30, 2004.

In response to a County request, LANL and DOE agreed to consider a new County-operated municipal landfill on DOE property. A site screening study was published that describes the screening process and the ten sites considered by a County, LANL, and DOE team (LA-UR-03-1349). An environmental assessment of two potential sites plus other options is currently being written. The two sites in the EA are the TA-61 "Borrow Pit" on East Jemez Road across from the entrance to LANSCE and the TA-60 East Sigma Mesa Shelf site located just off the east end of Sigma Mesa on Eniwetok Road.

New managers of the County's Public Works Department and Solid Waste Division have requested a delay in the publication of the EA to allow a careful review of the EA, solid waste options, and the two sites. **The County has requested of NNSA that the EA be placed on hold for six to nine months so that both sites analyzed in the EA can be further studied.**

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FACILITIES AND INFRASTRUCTURE PROJECTS

5.1 OVERVIEW OF SITE PROJECT PRIORITIZATION AND COST PROFILE

This TYCSP includes the following three facility and infrastructure spreadsheets required by the guidance:

- Line items supporting DP (reported under RTBF, DSW, and Campaigns),
- RTBF/Operations of Facilities (excluding line items), and
- Facilities and Infrastructure Recapitalization Program (FIRP) (including line items).

In addition, a spreadsheet to report projects not included above has been added. These are projects that are Campaign/DSW (non-line item); non-DP; and Institutional IGPPs.

Table 5-1 provides an overview of all project funding sources and associated purposes.

Table 5-1: Construction project funding sources.

F&I Cost Projection Spreadsheets			Non-RTBF/FIRP Additional Spreadsheet			Third Party Financing
DP Line Items	RTBF (no line items)	FIRP	Campaign/DSW Funded (no line items)	Non-DP	IGPP	
Consistent with ICPP direction from NNSA	Projects for RTBF facilities achieving warm standby benefits but excluding any project needed to increase program capability or capacity	Projects that improve long-term physical conditions and mission availability as well as address the landlord infrastructure responsibilities of NNSA's nuclear weapons complex	Projects supporting DP facilities not funded by RTBF and as needed to increase program capacity and capabilities in any DP facilities	Non-DP projects supported by specific programs	Institutionally funded for institutional benefits	Being pursued, no projects currently funded. See section 4.7.6 for proposed projects

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The **DP line items** are consistent with the May 5, 2003 direction provided in the Integrated Construction Program Plan (ICPP).

For **FIRP** funded recapitalization projects, the Facilities and Infrastructure Recapitalization Rating Matrix determines project prioritization. Each project was rated in each category of Health & Safety, Environmental & Waste Management, Safeguards & Security, and Mission & Investment. Per the guidance, the higher score of the individual categories was used. In the case of projects with the same score, ranking was based on the category with Safety being the highest and Mission and Investment being the lowest. In the case of projects with the same score in the same category, ranking was based on secondary category scores.

Regarding **RTBF**, the Office of Infrastructure, Facilities, and Construction (IFC) relies on the Stockpile Complex Modeling and Analysis Group (D-2) for prioritization. D-2 has developed a methodology for creating quantitative measures of costs, benefits, and risks for prioritizing projects in a systematic and auditable manner.

The D-2 prioritization methodology is based on multiattribute preference theory. Multiattribute preference theory provides a logical, consistent basis for solving prioritization problems and is a generalization of cost-benefit analysis. The practical application of multiattribute preference theory relies on three basic steps. First, the specific objectives of the decision maker are identified and grouped into a set of evaluation categories. Second, the contribution of each of the competing projects to each of the evaluation categories is measured. Finally, the results for each project are aggregated to give a single score. These aggregate scores then are used to prioritize the projects.

Note that the prioritization process is highly interactive. The concerned parties (decision makers, project managers, etc.) are involved at every step. Although a prioritized list of projects is the final result of the process, other useful results include the identification of the main determinants of project differentials and analyses of the sensitivity of the results to model inputs.

The IFC Office issues a call for proposals annually in order to continue to validate the list of projects included in the spreadsheets. The proposals have recently been limited to the top three proposals of each division. Proposals are aligned with potential funding sources identified in Table 5-1 for prioritization. Typically, the number of projects far exceeds available funding. Projects not funded in a given fiscal year are shifted to subsequent years. They are then revalidated against new proposals received after subsequent calls for proposals.

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Challenges associated with all funding sources include execution as planned, recognizing projects cannot begin until funding is received. In years when funding is delayed due to continuing resolutions or other issues, projects are at risk of higher than planned uncosted and/or uncommitted balances. This is especially critical for projects implementing best-value, design-build procurement approaches. Projects using design-bid-build acquisition strategies often plan design in one year followed by construction in the next to reduce the risk of uncosted balances.

As noted above, proposals are aligned with potential funding sources. It is critical that the clarity of the purpose of each funding source is maintained in order to best serve the missions of the funding sponsors.

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5.2 LINE ITEM HIGHLIGHTED PROJECTS

This section presents a review of 15 selected line item projects. Together these projects represent a substantial investment by NNSA and are absolutely vital to maintain and provide the capabilities to meet present and future NNSA missions. These projects are currently in the planning stages, and the bulk is sponsored by DP and NNSA Facilities and Operations.

A summary is provided in Table 5-2 while Figure 5-2 provides an integrated cost and schedule summary.

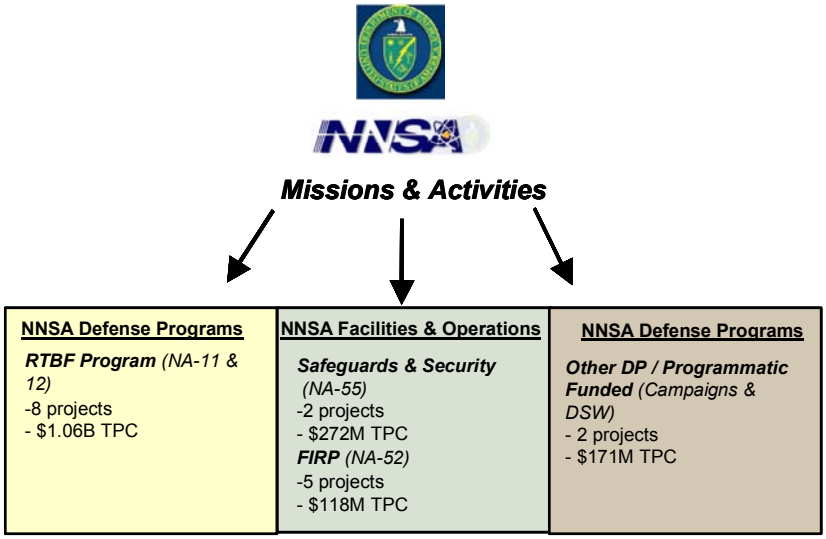

Figure 5-1: These 17 projects, worth over $1.5B, are aligned with NNSA/DOE priorities and programs to maintain and improve the Laboratory's capability.

These projects provide the following fundamental benefits that will be realized over the next 10 to 15 years:

- Improving security to protect vital assets against increased threats,
- Providing better worker and public safety and protection of the environment,
- Revitalizing and replacing old, unreliable infrastructure, thus reducing operational and programmatic costs through facility consolidation,
- Reducing and eliminating the deferred maintenance backlog, and
- Improving technical capabilities to satisfy new programs and perform work more efficiently and safely.

NNSA and the Laboratory are working closely to develop each project to ensure that the scope, estimated costs, and schedules are integrated with NNSA programmatic drivers and deliverables. This is accomplished through the INP process and the ICPP. Each project is also closely coordinated with NNSA organizational elements, through their corresponding overarching programs, including RTBF, Safeguards and Security (S&S), and FIRP.

Although safety, security, and capability improvements are always an emphasis and goal of the line item program, more efficient use of operating and programmatic

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funds is an important objective. Due to aging (and in many instances unreliable) infrastructure and facility systems, an inordinate proportion of resources and management attention to maintain and operate them is necessary. This situation diverts funds and attention from programmatic activities, the core Laboratory mission. These facility and infrastructure investments, when complete, will result in a more balanced resource allocation and management focus.

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Table 5-2: Features and benefits of selected line item projects.

Project	Feature / Description	Benefits: Improved Security	Better Worker & Public Safety	Revitalize Infrastructure & Reduce Ops Cost	Reduce Deferred Maintenance	Improve Technical Capability
RTBF						
CMR Replacement	New state-of-the-art actinide chemistry and research facility sited at TA-55 to replace existing and aging CMR. TA-55 location will make nuclear operations more efficient and consolidated.	X	X	X	X	X
National Security Sciences Building	Provides new, modern facility to replace aging SM-43. Will house weapons design, theoretical/computation and management.	X	X	X	X	X
TA-55 Reinvestment Project	Will replace aging mechanical, electrical, and other systems to extend facility lifetime by at least 30-40 years and enable cost effective operations.		X	X	X	
DX High Explosives Characterization	Replacement facility to consolidates HE chemistry operations from 25 different facilities (~50 yrs old and failing) into a new flexible, reliable facility.		X	X	X	X
Radioactive Liquid Waste Treatment Facility Upgrade	Upgrades process capabilities to improve capacity, compliance, and waste minimization.		X	X	X	X
ESA Fabrication Facility Replacement	Relocate and replace machining capabilities at TA-3 with new, modern, consolidated facilities at S-Site, in close proximity to other ESA operations.		X	X	X	X
Support Services Consolidation	Consolidate site maintenance and construction staff and shops to one location, freeing up space in Laboratory core for mission related activities.	X		X	X	
S&S						
NMSSUP Phase II	Replaces and improves physical security features at TA-55 to respond to new threat scenarios. Fully integrated with Phase I (controls and data backbone).	X	X	X	X	
Security Perimeter	Establishes physical separation and access controls between public areas and Laboratory core area through vehicle entry/exit control and road realignment.	X	X	X		
FIRP						
Power Grid Infrastructure Project	Construct a third power line to serve the site. Provides a redundant source of power, eliminates single point failures. Reduces lost time and costs due to outages; improve reliability and maintenance.		X	X	X	
LANSCE Replacement of High Voltage Distribution	Replace aging and unreliable electrical infrastructure at LANSCE that poses risk to accelerator programs. Will improve safety and operations efficiency.		X	X	X	
Fire Alarm Replacement	Provides code-compliant fire alarm systems for numerous facilities. Improves worker safety and reduces administrative fire watch surveillance costs.		X	X	X	
Pajarito Road Corridor Utilities	Upgrades or replaces various utility systems serving "nuclear corridor;" reduces maintenance backlog.		X	X	X	
ESA Fabrication Facility Demolition	D&D existing TA-3-39 and TA-3-102 enabled by new construction referenced above.			X	X	
Other DP / Programmatic						
Radiography Facility	Install radiography capabilities in existing facility (PF-41) at TA-55. Will result in more secure and cost effective NDE of Pu and other nuclear assemblies.	X	X	X	X	X
Center for Stockpile Stewardship Research (CSSR)	Provides new, modern facility to replace aging and temporary structures. Completes theoretical/computational core in TA-3.	X	X	X	X	X

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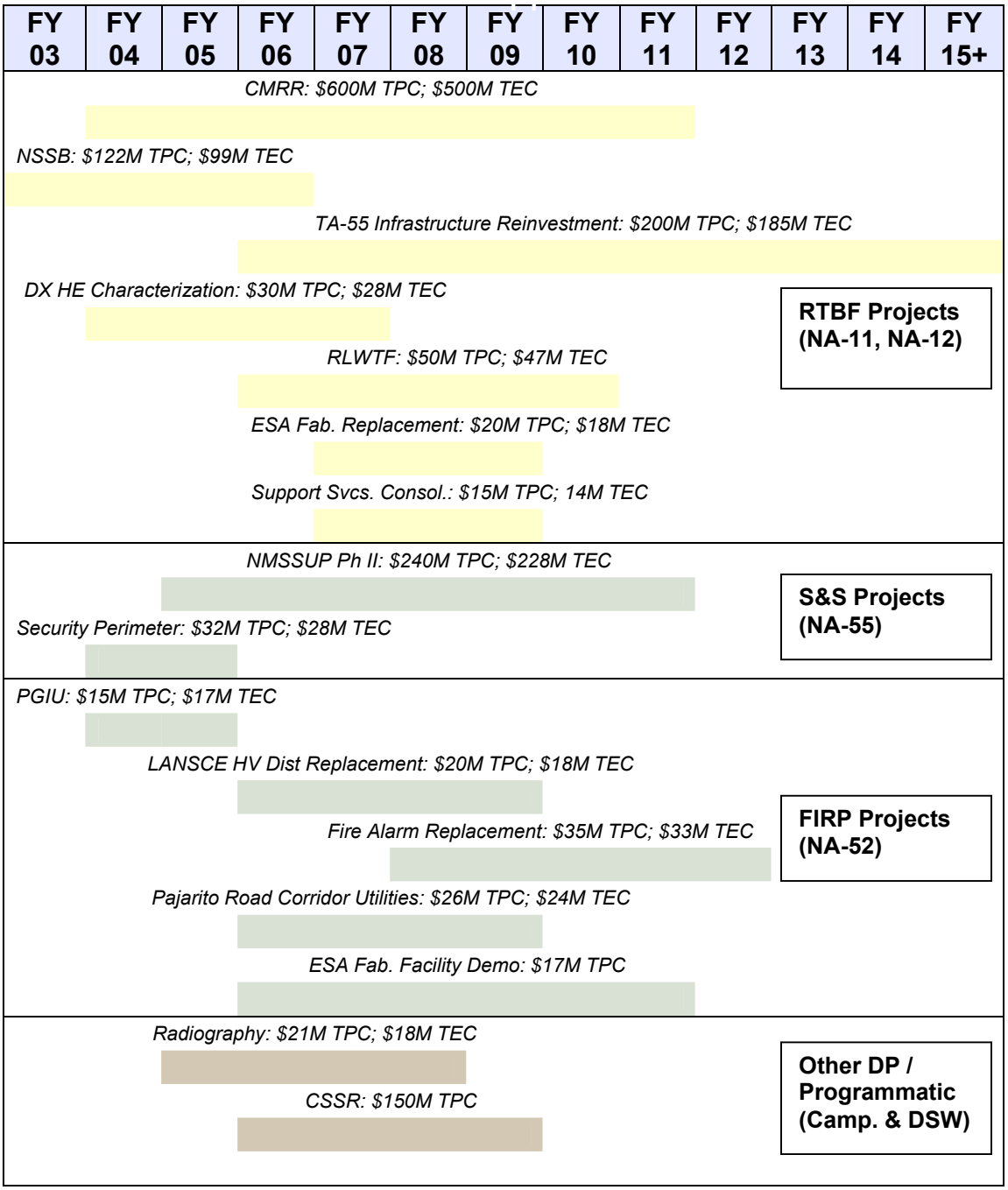
Figure 5-2: Integrated cost and schedule summary. (Note: Amounts are rounded to the nearest $1M; high cost ranges shown.)



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5.2.1 Readiness in Technical Base and Facilities (RTBF) Projects

RTBF projects are sponsored through the Deputy Administrator for Defense Programs, NA-10, and specifically through NA-11 and NA-12. The RTBF mission is to ensure that the prescribed facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile, and each of these projects supports that requirement.

Chemistry, Metallurgy, and Research Replacement Project

The capabilities needed to execute the NNSA mission activities require facilities to handle actinide and other radioactive materials in a safe and secure manner. Of primary importance are the capabilities located within the CMR Building and the Plutonium Facility (located at TA-3 and -55, respectively). These facilities process, characterize, and store SNM. Most of the Laboratory's mission support functions require analytical chemistry, material characterization, and actinide research and development support capabilities and capacities that currently exist within the CMR Building and are not available elsewhere. Other unique capabilities are located at the Plutonium Facility. Work is sometimes moved between the CMR Building and the Plutonium Facility in order to use the full suite of capabilities these two facilities provide.

Mission critical CMR capabilities support NNSA's stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities conducted at the Laboratory. The 50-year old CMR Building has many systems and structural components in need of upgrades, refurbishment, or replacement. Recent studies identified a seismic fault trace located beneath the CMR Building, which greatly enhances the level of structural upgrades needed at the CMR Building to meet current structural seismic code requirements for a Hazard Category 2 nuclear facility. Performing the needed repairs, upgrades, and systems retrofitting for long-term use of the CMR Building would be extremely difficult and cost prohibitive. Over the long-term, NNSA cannot continue to maintain the critical support capabilities in the CMR Building at an acceptable level of risk to public and worker health and safety without severe operational restrictions.

NNSA needs the physical means for accommodating the continuation of the CMR Building's functional, mission-critical CMR capabilities beyond 2010 in a safe, secure, and environmentally sound manner. At the same time, NNSA should also take advantage of consolidating like activities for the purpose of operational efficiency. It

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is also prudent to provide extra space for future anticipated capabilities or activities requirements.

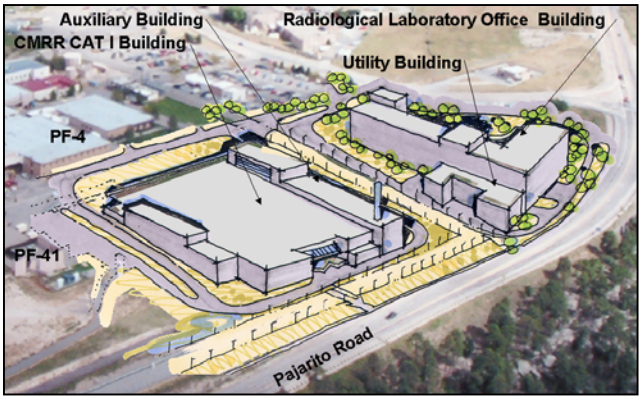

Figure 5-3: Proposed CMRR.

The CMR Replacement Project will construct a new facility at TA-55 (preferred option) comprised of two or three buildings to house the existing CMR Building capabilities. One new building will provide space for administrative offices and support activities; the other building(s) will provide secure laboratory spaces for research and analytical support activities. Construction of the laboratory building(s) above ground-level will be considered, and tunnels may be constructed to connect the buildings. At a minimum, the buildings would be designed to operate for the next 50 years. Reasonable alternatives include construction of a new CMR facility at a location near TA-55 and within an undeveloped "greenfield" area. Another alternative is continued use of portions of the CMR Building but with minimal necessary structural and systems upgrades and repairs for office and light laboratory purposes together with the construction of new nuclear laboratory facilities at the two previously identified locations.

CMRR replaces an obsolete facility and provides:
- State-of-the-art actinide chemistry Pu R&D capabilities
- Flexible configuration
- Greatly improved safety and environmental protections through engineered features
- Operational reliability
- Support to pit programs

Quick Facts and Status:
- Cat I & Cat II SNM Facilities
- Cold Lab & Offices
- TEC = $500M
- TPC = $600M
- Start Design: 2Q FY04
- Start Construction: 2Q FY07
- Move-in: 4Q FY12
- Conceptual Design in progress; CD-1 March '04

National Security Sciences Building (NSSB)

The highest priority of the SSP is to ensure the operational readiness of the nuclear weapons stockpile. The NSSB Project will support this by replacing the 45-year-old SM-43 Administration Building with a new facility fully compliant with current safety requirements. The NSSB Project will provide modern, safe, productive facilities for theoretical and applied physics, computational science, program management and general management, all of which contribute to ensuring stockpile readiness. Functional, safety, and security obsolescence of the existing SM-43

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building is the impetus for the NSSB, and the project scope also includes a new facility for DOE-LASO.

The NSSB Project will continue the development of the theoretical-computational core in TA-3 that was started in FY99 with the Metropolis Center and NISC projects. The project includes construction of approximately 275,000 square feet of office space to house approximately 700, including Central Records Management operations. A parking structure for 400 vehicles is included, as is a 600-seat auditorium. The SM-43 building (315,000 square feet) will be decommissioned and demolished as part of the project.

The NSSB Project solves the following problems:

Figure 5-4: NSSB will be located in the TA-3 core.

- **Improves Occupant Safety:** SM-43 has the highest level of occupancy of any Laboratory facility and does not meet current DOE, Uniform Building Code seismic, or NFPA requirements. In an earthquake, it is anticipated that SM-43 would experience extensive failures and could collapse. The NSSB will be structurally safe and code compliant.
- **Increases System Reliability:** SM-43 systems are near failure, unreliable due to age, and can no longer satisfy occupancy demands. System failures are disrupting programmatic work. NSSB will provide consistent reliability and availability.
- **Reduces Cost of Operations:** SM-43 cannot be operated indefinitely without significant upgrade investments. Further investment to SM-43 is impractical and estimated to exceed $100M. NSSB is the most cost effective solution.
- **Tightens Security:** Security concerns and requirements have changed dramatically in the last 45 years and changes cannot be economically implemented in SM-43. NSSB will be designed to satisfy today's (and future) physical and cyber security needs.

NSSB will provide a modern facility that:
- Improves safety
- Increases reliability
- Reduces operations costs
- Tightens security
- Improves productivity

Quick Facts and Status:
- 275,000-sf
- Houses 700 (~9% of total staff)
- TEC = $99M
- TPC = $123M
- Start Design: 3Q FY03
- Start Construction: 1Q FY04
- Move-in: 2Q FY06
- Status: Design/Build contract awarded 6/03

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- **Enhances the Work Environment:** NSSB will dramatically improve the "human factor." Current working conditions have negative impacts on current staff and the Laboratory's ability to retain existing personnel and recruit new staff. NSSB will provide an attractive, appealing, and functional work environment.

TA-55 Infrastructure Reinvestment Project

The TA-55 Reinvestment Project will revitalize aging and obsolete facility and safety systems to ensure continuing support of NNSA's Stockpile Stewardship Mission, including the following critical activities conducted at TA-55:

- Manufacturing plutonium components,
- Surveillance and disassembly weapons components,
- Actinide materials science and processing research and development,
- Plutonium recovery from pit production and surveillance,
- War reserve plutonium metal recovery and production,
- Vault storage of nuclear materials, and
- Waste processing.

TA-55 is the premiere nuclear and plutonium facility in the nation and was constructed in the mid-1970s. It consists of a high security Category I SNM laboratory and processing facility as well as various support structures and systems. It is the most modern and well-equipped nuclear facility at the Laboratory; however, it is aging and critical systems are beginning to require excessive maintenance. As a result, the facility is experiencing increased operating costs and reduced system availability. An investment over

Figure 5-5: TA-55 infrastructure will be revitalized to increase reliability and cost effective operations.

TA-55 Reinvestment enables:
- Safer, more cost effective TA-55 operations
- Reliable and available systems for pit and Pu programs
- Reduced deferred maintenance backlog
- Asset lifetime extension of 30 to 40 years+

Quick Facts and Status:
- Focus on facility infrastructure systems
- Accomplish project without prolonged disruptions to programs and activities
- TEC = $185M (high range)
- TPC = $200M (high range)
- Start Design: FY06
- Start Construction: FY07
- Complete: FY15
- Status: CD-0 package in development, submit June '04

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the near term to upgrade electrical, mechanical, safety, facility controls, and other selected systems will enable continued operation to satisfy mission objectives and programmatic milestones cost effectively for the next 30 to 40 years.

The goal of this project is to enable TA-55 to meet present and future nuclear component manufacturing, research and development, and related requirements for the stockpile while simultaneously meeting all safety and security requirements. This project will ensure that the right TA-55 facility infrastructure systems are in place to manufacture and certify the nuclear weapons stockpile safely and effectively and perform nuclear R&D. The scope of this project will be coordinated through the INP process and close coordination with NA-12.

DX HE Characterization Project

The DX HE Characterization Consolidation Project will replace materials characterization and analytical chemistry capabilities in support of the SSP. This project is necessary to maintain and improve the HE characterization, analytical, and experimental capabilities at Los Alamos. Existing facilities are obsolete, unreliable, and are increasingly expensive to operate, causing disruptions to programmatic work. This project will make operations more efficient and reliable through provision of a modern facility. Objectives are to reduce operating costs; improve working conditions for personnel; enhance safety and environmental compliance efficiency by replacing many administrative controls with engineered features. Further, functions currently occupying 25 facilities will be consolidated to a single facility, thus making management and maintenance more efficient and reducing operating costs.

DX HE Characterization Benefits:
- Reduced operating costs
- Consolidate footprint
- Improved safety, environmental protection, regulatory compliance
- Improved working conditions
- Eliminate programmatic disruptions due to facility failures

Quick Facts and Status:
- Economic analysis indicates 3 to 4-year payback
- About 45,000 gsf
- TEC = $28M
- TPC = $30M
- Start Design: FY04
- Start Construction: FY05
- Complete: FY08
- Status: CD-0 package in development, submit Fall '03

HE characterization, analysis, and testing are a pivotal functions the Laboratory provides to the SSP. Weapons systems undergo changes as a function of age, handling, or maintenance, which in turn may affect the performance or safety of the weapons. To assure safety and reliability, a great deal of the experimental effort is focused on HE components. To satisfy the mission requirement, the Laboratory must have reliable and functional capabilities to conduct HE analysis.

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Radioactive Liquid Waste Treatment Facility (RLWTF) Upgrade

This project will improve the RLWTF at TA-50 by improving process capability to meet projected regulatory requirements for discharge. The RLWTF is over 35 years old and many process and facility systems (e.g., electrical, mechanical, HVAC) are at the end of their design life and require upgrades and/or replacement. Design alternatives include eliminating clarification processes and increasing utilization of filtration and reverse osmosis. Another improvement will include on site evaporation capability. These features will make treatment processes more efficient. Effluent discharge standards are becoming more restrictive and the upgrades need to take this into account to the extent feasible. Further, the project will allow for future flexibility and adaptability to future changes in regulatory requirements through the use of modular process treatment equipment and piping configuration.

RLWTF Project Benefits:
- Enhanced treatment capabilities to meet increased demands and compliance requirements
- Future flexibility
- Improved safety, environmental protection, regulatory compliance

Quick Facts and Status:
- Integrate new processes in coordination with existing facility and operations
- TEC = $47M (high range)
- TPC = $50M (high range)
- Start Design: FY06
- Start Construction: FY07
- Complete: FY09
- Status: CD-0 package in development, submit Fall '03

ESA Fabrication Facility (Shops) Replacement

This project will consolidate metals fabrication, radiological and salt component machining and inspections capabilities, and advanced manufacturing technology development and related support personnel into a single 50,000 square foot facility. The new facility will replace the current weapons functions provided by two facilities, TA-3-39 and TA-3-102.

ESA Shops Replacement Quick Facts and Status:
- Replace existing, oversized shop facilities at TA-3 with more efficient capability
- TEC = $18M
- TPC = $20M
- Start Design: FY06
- Start Construction: FY07
- Complete: FY08
- Status: CD-0 package in development, submit Winter 2004

While extremely busy during the Cold War, these facilities have much more capacity than is needed. Built in the mid 1950s, these oversized, inefficient, antiquated facilities do not provide the necessary support to the Laboratory and have become a financial burden to ESA. They lack auxiliary systems necessary to support anticipated program needs and their current locations create logistical problems for the effective interaction of ESA projects. The functions to be reconfigured by the new facility include the following:

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- **Cold Machining Operations:** This includes machining and fabrication, test and inspection, and advanced manufacturing capabilities required for weapons. Some of these capabilities require a temperature-controlled environment.
- **Hot Machining Operations:** This part of the facility will retain the existing hazardous radiological machining. The levels of machining operations will be the same as those currently conducted in TA-3-102. Equipment used is similar to that found in the cold machining portion of the facility, but will be designed with the necessary environmental controls to facilitate handling of radiological materials.
- **Support Offices:** This portion of the facility will house personnel involved in the machining operations and advanced manufacturing and inspection.

Demolition of the existing facilities TA-3-39 and TA-3-102 will be accomplished under a complementary FIRP project with a projected TPC of $17M. Demolition will commence after the new shops are commissioned and will be complete in FY10.

Support Services Consolidation

This project will consolidate various technical and support facilities utilized by the site support services contractor. Currently, these facilities are spread throughout the Laboratory, making coordination and interaction with contractor staff inefficient, difficult and costly.

Support Services Consolidation Quick Facts and Status:

- Replace existing, oversized shop facilities at TA-3 with more efficient capability
- TEC = $14M
- TPC = $15M
- Start Design: FY07
- Start Construction: FY08
- Complete: FY09
- Status: CD-0 package to be started in FY04.

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5.2.2 Safeguards and Security Projects

These projects are sponsored by NA-52, the Office of Safeguards and Security, within NA-50, Associate Administrator, Facilities and Operations.

Nuclear Materials Safeguards and Security Project (NMSSUP), Phase II

The overall objective of the NMSSUP is to upgrade and replace the existing physical security system to address the new protection strategy requirements and deteriorating physical security infrastructure. Planning for NMSSUP was initiated with a DOE security assessment in 1996. The assessment found that extensive upgrades were necessary to meet new threats. Phase I installed the data and communications backbone for the security system to the central and secondary alarm stations. Phase II will address the security system at TA-55, the Laboratory's key nuclear facility that houses and processes Category I quantities of SNM. TA-55 is particularly important as it is the proposed site for consolidation of nuclear missions for the laboratory, including the CMRR Project.

Figure 5-6: Physical security systems, including the deteriorated PIDAS above, require upgrades/replacement, to counteract age and defend against new threats.

Phase II includes the upgrade or replacement of the existing exterior intrusion detection and assessment system and installation of interior intrusion detection, assessment, delay, access control and security communications equipment for TA-55. Access control facilities for the Protected Area and Material Access Area will be replaced or upgraded. These systems will be integrated with the Argus security control system that has been installed under NMSSUP Phase I.

NMSSUP Phase II provides:
- Improved security for TA-55 in the wake of September 11th
- State-of-the-art, reliable, integrated security system that can be upgraded as technology changes
- Replaces worn and aged systems
- Increases operations efficiencies and reduces operations costs

Quick Facts and Status:
- PIDAS and physical security modifications
- Interior and exterior systems
- TEC = $228M (high range)
- TPC = $240M (high range)
- Start Design: 2Q FY05
- Start Construction: 2Q FY07
- Complete: FY11
- Status: CD-1 decision pending

The vulnerabilities and corresponding design concept for Phase II has been and will continue to be thoroughly evaluated in the

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context of stricter security requirements since the September 11th events. When complete, Phase II will significantly improve the security posture at TA-55 while making operations more cost effective. The maintenance backlog on aging systems will be reduced and/or eliminated through replacement with new systems.

Security Perimeter Project

As a result of the events of September 11th, the nature of terrorist threats has changed significantly in terms of the potential magnitude of the attack as well as terrorist motivations, targets, and methods. The most recent attacks appeared to be intent on maximizing disruption, destruction and casualties, and include the willingness to conduct suicide attacks. In recognition of this increased threat, the Laboratory and NNSA security and management have determined that there is a critical need to upgrade the physical protection around critical assets at the core of the site.

The Security Perimeter Project :
- Protects LANL core area
- Projected to be complete in 3-yrs
- All vehicles entering LANL TA-3 screened
- Staffed access control stations
- Graded closure and access based on SECON levels

Quick Facts and Status:
- Selected road realignments and modifications
- TEC = $28M
- TPC = $32M
- Start Design: 1Q FY05
- Start Construction: 2Q FY05
- Complete: 2Q FY06
- Status: CD-0 package submitted Spring '03, CD-1 pending

This project provides the Laboratory the ability to isolate the core area of the site from unscreened vehicle access in order to protect vital national security assets, government property, and human life from possible terrorist activity. This project will provide the capability to enact a graded closure of the core area of the site depending on the NNSA Security Condition (SECON) levels in effect at the time. During elevated threat conditions, all but emergency and designated government vehicles may be prevented from entering the core area of the site. Staffed access control stations with vehicle queuing approaches, necessary utilities, and security equipment will be required to screen vehicles and provide the capability of closing off vehicle access if required.

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This project includes a new main road section on the north end of the TA-3 area of the Laboratory, the installation of three access control stations at key locations, selected road closures, and selected road modifications within the Laboratory site. Consultation with Los Alamos Commerce and Development Corporation is underway to assure adequate access to the Research Park and to utilize some of the land in the Research Park for the north road extension.

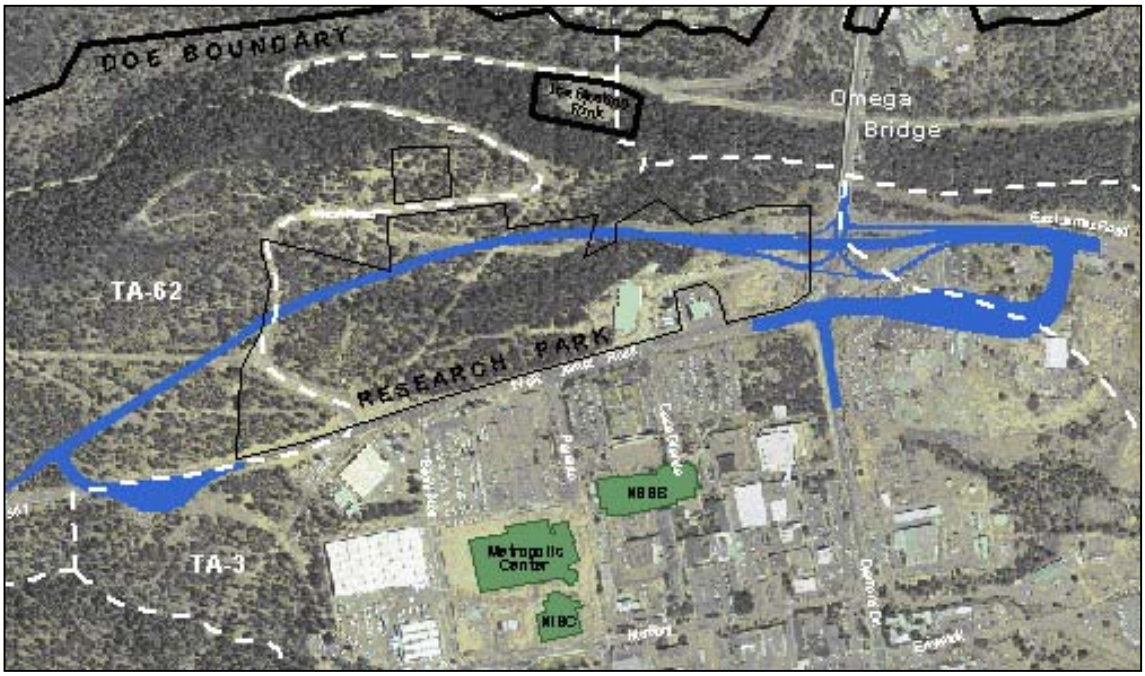

Figure 5-7: The Security Perimeter Project separates TA-3 from unrestricted public access.

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5.2.3 Facilities and Infrastructure Recapitalization Program (FIRP) Projects

FIRP applies new, increased, direct appropriations to address maintenance and infrastructure activities that will significantly improve the long-term physical and infrastructure conditions and mission availability. FIRP projects are vital to mission accomplishment, yet they are not tied to a specific Campaign or weapons program. Because of their crosscutting nature, they have not previously achieved priority within strictly programmatic budget reviews. The following FIRP projects highlight long-term needs and priorities.

Power Grid Infrastructure Upgrades (PGIU) Project

The PGIU Project will provide improvements to the electrical infrastructure, which is currently prone to single point failures due to a lack of redundancy. This project has been part of the NNSA planning strategy for several years. It will construct a new 115 kV transmission line approximately 10 miles long across DOE administered property. It will originate at a new Southern Technical Area (STA) Substation and proceed northwesterly through the central portion of the site to the West Technical Area (WTA) Substation. The project will reduce deferred maintenance items associated with the Eastern Technical Area (ETA) Substation. The ETA equipment has not received critical maintenance and repairs due to the inability to de-energize the ETA. With this project, the existing Norton and Reeves lines, as well as the new line, can be individually de-energized to perform critical maintenance, without impact to the Laboratory.

Figure 5-7: The PGIU Project will eliminate single point failure modes, as shown above.

PGIU Project provides reliable power to the site:

- Eliminates single point failures that isolate LANL from the grid
- Improves and eases routine maintenance; reduces deferred maintenance backlog
- Reduces programmatic costs associated with power outages

Quick Facts and Status:

- TEC = $15M
- TPC = $16.5M
- Design & Const: 1Q FY05
- Complete: 1Q FY06
- Status: CD-0 package submitted June '03, CD-1 pending

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Completion of this project will eliminate single point failures that isolate the Laboratory from electrical power entirely. NNSA's DP guidance explicitly states that reliable facilities capable of supporting mission demands, while meeting security, health, safety, environmental, and operating requirements, are essential to mission success. The existing electrical transmission facilities are considered marginal because they are susceptible to a total loss of service (through single point failures) under certain conditions and do not meet industry standards. The current transmission line configuration and insufficient reliability pose continued increased operational risk to NNSA and the Laboratory. This situation developed partly out of funding constraints and prioritization issues over the past 30 years.

LANSCE Replacement of High Voltage Distribution

LANSCE is a large (800 MeV) linear accelerator and one of the premiere research facilities at the Laboratory. This project will replace various high voltage distribution equipment and infrastructure at LANSCE. The existing high voltage electrical infrastructure at LANSCE is aging and becoming unreliable, thus posing risk to accelerator programs. It will also improve safety and operations efficiency, and reduce maintenance costs.

LANSCE High Voltage Distribution:
- Replace aged components now, before they failures disrupt experiments
- Improve electrical safety
- Maintain LANSCE reliability
- TEC = $18M; TPC = $20M
- Start Design: FY06
- Start Construction: FY07
- Complete: FY09
- Status: CD-0 package in development, submit Fall '03

The electrical power distribution system was installed with the original facility during the 1960s and has been unmodified since its original installation. Because the system operates with a high availability and high power density, there is significant demand and heavy-duty cycle. The life expectancy of electrical distribution equipment is between 25 and 30 years, under normal usage, and this system is well beyond its economical lifetime. It must be upgraded to a modern, safe and efficient condition to remain reliable and safe. Key scope items include the following:

- Replacing the existing 13.2 kVA transformer with a transformer filter unit to reduce line harmonics.
- Replacing inductive voltage regulators and transformer rectifiers (subject to frequent failures) with state-of-the-art high voltage converter modulators.
- Eliminating high voltage capacitor banks (subject to several failures annually) due to advances in other components. These failures have often caused fires in the capacitor room and necessitate response by fire protection personnel.
- Removing the modulating switch tube in the Klystron modulator tank, thus saving maintenance effort in the future.

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Fire Alarm Replacement Project

The Fire Alarm Replacement Project, with a TEC of $30M and TPC of $35M, will provide code-compliant fire alarm systems for numerous facilities. Currently, many facilities are on the BRASS (Basic Rapid Alarm Surveillance System), which is a unique system and is not UL listed or supported by commercial fire alarm system vendors. Many facility fire alarm systems are aged and the facilities have been modified over the years such that the alarm systems are no longer fully capable. This has necessitated the need to institute administrative controls and fire watches to supplement the alarm systems, an expensive and complicated short-term solution. Although it is compliant, it is not viable or efficient for the long-term. This project will significantly improve worker safety and reduce administrative surveillance costs by replacing the existing systems with modern, commercially supportable components. The system will be readily adaptable to future technology upgrades and the new systems will be more reliable.

Pajarito Road Corridor Utilities Project

This $24M TEC and $26M TPC project will upgrade the power distribution system and other vital utilities to the nuclear core sites, including TA-55. The existing electrical and utilities infrastructure to the nuclear core and TA-55 is over 25 years old. As activities at the site have increased substantially, and with the addition of CMRR, the nuclear sites will require substantially more power. This upgrade will provide the necessary utility capacity.

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5.2.4 Other DP / Programmatic Funded Projects

Two projects not included in the current ICPP but under consideration by Laboratory management include a Radiography Facility at TA-55 and the final cornerstone of the TA-3 revitalization, the Center for Stockpile Stewardship Research (CSSR).

Radiography Facility

The proposed Radiography Facility for sealed nuclear components will be located in PF-41 at TA-55. PF-41 is an existing, but unused building within the TA-55 PIDAS. The NDEF will be located in the southern end of the basement and will require approximately 65% of the basement for the facility and associated support functions. The facility will house several high-energy x-ray systems suitable for high-energy radiography applications. This facility will be used primarily for the radiography of sealed nuclear components and will serve Pit Production Programs and Pit Surveillance Programs. The project will construct modifications to PF-41 to meet appropriate nuclear facility requirements.

The completed facility will be a long-term, flexible solution for TA-55 sealed nuclear component radiography. Currently, radiography is conducted at TA-8 where extensive temporary safety and security measures must be established each time an examination is made. These temporary measures are very expensive and time consuming and are not suitable for the long term efficiency, safety, and security of the plutonium and pit programs.

Radiography Benefits:
- Safer, more secure method and facility to perform NDE on Pu assemblies
- Reduced transportation from TA-55; eliminate temporary protective measures at TA-8
- Reduced security costs
- Payback within 4-yrs of project completion

Quick Facts and Status:
- Renovate basement of PF-41 at TA-55
- 4 X-ray machines
- TEC = $18M
- TPC = $21M
- Start Design: 1Q FY05
- Start Construction: 3Q FY06
- Complete: FY07
- Status: CD-0 package in development, submit Fall '03

Center for Stockpile Stewardship Research (CSSR)

This line item project will provide approximately 300,000 square feet of office and light laboratory space and, along with the Metropolis Center and NSSB, complete the theoretical and computational research core in TA-3. The CSSR will consolidate staff currently located throughout TA-3 in temporary structures or aging permanent buildings in poor and failing condition. Approximately 700 staff whose work directly supports the Stockpile Stewardship Program will be housed in the facility.

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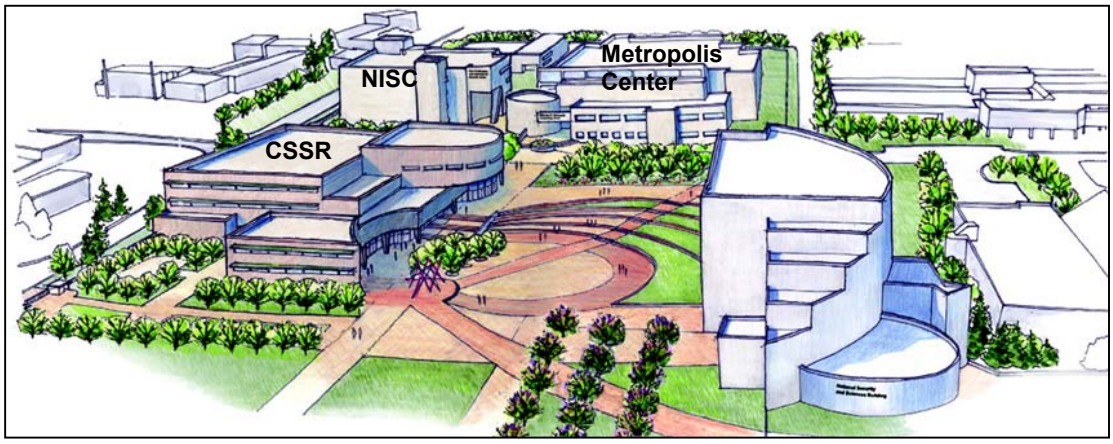
Like the NSSB, the CSSR will solve existing operational problems and provide many long-term benefits. Safety, security and employee morale will be improved by providing modern, well-designed laboratories and workspaces. Productivity will be greatly enhanced by co-locating like functions and organizations. As a cornerstone of the TA-3 revitalization, the CSSR will positively impact the Laboratory's ability to recruit new personnel and retain existing staff.

The project scope will also include funding for D&D of vacated structures, which will save operating and maintenance costs, allow the Laboratory to meet the Congressional "one for one" space requirement, and improve the overall form of TA-3. The CSSR is anticipated to be a design build project with an FY06 construction start.

Figure 5-8: The CSSR will complete the computational / theoretical core of TA-3.



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5.3 FACILITIES AND INFRASTRUCTURE COST PROJECTION SPREADSHEETS

The Laboratory accomplishes critical infrastructure development, renovations, and upgrades through line item (LIP), general plant (GPP), capital equipment, and expense-funded projects. The following tables were developed in accordance with DOE guidance and format requirements and line organization and program office input. These spreadsheets reflect the prioritized project list and capture all facility and infrastructure-related projects in order of funding type, then by general priority within the funding types. Funding profiles are shown for FY02 through FY13. Footnotes provide clarification where necessary at the end of the list.

The Laboratory is also including a spreadsheet for non-RTBF/FIRP projects. While not required, this spreadsheet allows for a complete view of infrastructure investment. Because it includes multi-program funding sources, the projects are not prioritized.

Primary categories of projects and costs provided are as follows:

- Existing and proposed line item construction,
- Other Project Costs (OPC) for existing and proposed line item construction,
- Preliminary Engineering and Design (PE&D) for proposed line item construction,
- Capital equipment,
- Expense,
- GPP,
- Institutional,
- Maintenance,
- Standby,
- D&D, and
- Facility management and site planning costs.

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ATTACHMENT A

NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (17)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																			
F	CMR Upgrades **(32)**	LANL-92-001	NA12	EA-FONSI	OPC	**20,247**	20,247	1,158											
					PE&D	**-**	-												
					LI	**106,020**	106,020	7,286											
					Total (TPC)	**126,267**	**126,267**	**8,444**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
F	Nicholas C. Metropolis Center (formerly Strategic Computing Facility) **(33)**	00-D-105	NA11	EA-FONSI	OPC	**6,782**	6,782	767											
					PE&D	**-**	-												
					LI	**84,740**	84,740												
					Total (TPC)	**91,522**	**91,522**	**767**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
F	CMR Replacement Project **(37)**	04-D-125	NA12	EIS-PREP	OPC	**93,800**	13,586	4,028	5,496	5,299	5,000	6,419	7,000	7,000	16,000	18,000	10,000		
					PE&D	**14,500**			6,325	4,500	3,675								
					LI	**485,500**				20,500	75,000	110,000	100,000	100,000	80,000				
					Total (TPC)	**593,800**	**13,586**	**4,028**	**11,821**	**30,299**	**83,675**	**116,419**	**107,000**	**107,000**	**96,000**	**18,000**	**10,000**	**-**	**-**
1	National Security Sciences Building (formerly SM-43 Replacement)	03-D-102	NA11	EA-FONSI	OPC	**24,180**	2,285	661	800	221	845	12,251	7,778						
					PE&D	**-**	-		-	-	-								
					LI	**99,000**			11,650	50,000	37,350								
					Total (TPC)	**123,180**	**2,285**	**661**	**12,450**	**50,221**	**38,195**	**12,251**	**7,778**	**-**	**-**	**-**	**-**	**-**	**-**
2	DX High Explosives Characterization Consolidation **(40)**	LANL-05-016	NA11	EA-PREP	OPC	**1,000**				250	750								
					PE&D	**2,000**					2,000								
					LI	**26,000**						13,000	13,000						
					Total (TPC)	**29,000**	**-**	**-**	**-**	**250**	**2,750**	**13,000**	**13,000**	**-**	**-**	**-**	**-**	**-**	**-**
3	ESA Fabrication Facility Replacement (replaces LANSCE High Voltage Distribution Replacement which moved to FIRP)	LANL-06-005	NA11	EA-TBD	OPC	**1,800**				250	750	200	200	200	200				
					PE&D	**3,000**						3,000							
					LI	**15,000**							8,000	7,000					
					Total (TPC)	**19,800**	**-**	**-**	**-**	**250**	**750**	**3,200**	**8,200**	**7,200**	**200**	**-**	**-**	**-**	**-**
4	TA-55 Infrastructure Reinvestment **(39)**	LANL-06-015	NA12	CX-TBD	OPC	**9,100**			300	1,000	1,000	500	500	300	300	300	300	300	300
					PE&D	**10,000**					-	5,000	5,000						
					LI	**95,000**							-	12,000	12,000	12,000	12,000	12,000	12,000
					Total (TPC)	**114,100**	**-**	**-**	**300**	**1,000**	**1,000**	**5,500**	**5,500**	**12,300**	**12,300**	**12,300**	**12,300**	**12,300**	**12,300**
5	Radioactive Liquid Waste Treatment Facility Upgrade **(41)**	LANL-06-021	NA11	EA-TBD	OPC	**3,250**			250	1,000	500	200	200	200	500	400			
					PE&D	**3,000**						3,000							
					LI	**44,000**							17,000	15,000	12,000				
					Total (TPC)	**50,250**	**-**	**-**	**250**	**1,000**	**500**	**3,200**	**17,200**	**15,200**	**12,500**	**400**	**-**	**-**	**-**
6	Support Services Consolidation **(43)**	LANL-07-019	NA11	EA-TBD	OPC	**1,200**				-	-	600	200	200	100	100			
					PE&D	**-**													
					LI	**14,000**							-	5,000	9,000				
					Total (TPC)	**15,200**	**-**	**-**	**-**	**-**	**-**	**600**	**200**	**5,200**	**9,100**	**100**	**-**	**-**	**-**
7	Pajarito Road Corridor Utilities (replaces part of Infrastructure Revitalization)	LANL-07-023	FIRP	EA-TBD	OPC	**1,200**					-	400	400	100	100	100	100		
					PE&D	**1,000**							1,000						
					LI	**24,000**								9,000	15,000	-	-	-	
					Total (TPC)	**26,200**	**-**	**-**	**-**	**-**	**-**	**400**	**1,400**	**9,100**	**15,100**	**100**	**100**	**-**	**-**
-	TA-18 Mission Relocation Project **(18)**	01-D-103	NA11	EIS-ROD	OPC	**-**			-	-	-	-	-	-	-	-			
					PE&D	**-**			-		-								
					LI	**-**				-	-	-	-						
					Total (TPC)	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

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NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (17)
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																			
1	Power Grid Infrastructure Upgrade **(36)**	LANL-06-020	FIRP	EA-FONSI	OPC	**1,500**			1,000	250	125	125							
					PE&D	-													
					LI	**15,000**					10,000	5,000							
					Total (TPC)	**16,500**	-	-	**1,000**	**250**	**10,125**	**5,125**	-	-	-	-	-	-	-
2	LANSCE High Voltage Distribution Replacement (replaces part of Infrastructure Revitalization) **(42)**	LANL-06-022	FIRP	CX-TBD	OPC	**1,950**				950	200	100	300	100	100	200			
					PE&D	**3,000**						3,000							
					LI	**15,000**						-	7,000	8,000	-	-			
					Total (TPC)	**19,950**	-	-	-	**950**	**200**	**3,100**	**7,300**	**8,100**	**100**	**200**	-	-	-
C. Safeguards & Security (S&S) Line Items																			
F	NMSSUP Phase 1 **(44)**	99-D-132	FS	CX	OPC	**12,808**	9,491	897	2,226	807	284	-							
					PE&D	-													
					LI	**60,884**	48,543	24,333	8,641	3,700									
					Total (TPC)	**73,692**	**58,034**	**25,230**	**10,867**	**4,507**	**284**	-	-	-	-	-	-	-	-
1	NMSSUP Phase 2 **(46)**	05-D-014	FS	CX	OPC	**12,000**			1,900	5,900	1,700	300	200	200	200	200	1,400		
					PE&D	**45,000**					10,000	35,000							
					LI	**183,000**						-	45,000	50,000	44,000	44,000			
					Total (TPC)	**240,000**	-	-	**1,900**	**5,900**	**11,700**	**35,300**	**45,200**	**50,200**	**44,200**	**44,200**	**1,400**	-	-
2	Security Perimeter Project (formerly Bypass Roads) **(46)**	LANL-05-017	FS	EA-FONSI	OPC	**4,024**		2,500	200	300	517	507							
					PE&D	-													
					LI	**28,000**				-	13,000	15,000							
					Total (TPC)	**32,024**	-	**2,500**	**200**	**300**	**13,517**	**15,507**	-	-	-	-	-	-	-
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																			
F	APT / Triple A Project	LANL-98-002	NA	EIS-TBD	OPC	**345,824**	345,824												
					PE&D	-	-												
					LI	**159,079**	159,079	65											
					Total (TPC)	**504,903**	**504,903**	**65**	-	-	-	-	-	-	-	-	-	-	-
F	DARHT (Phase 1 & 2)	LANL-98-003	NA11	EIS-ROD	OPC	**10,107**	9,849	740	258										
					PE&D	-	-												
					LI	**259,481**	259,481	16,017											
					Total (TPC)	**269,588**	**269,330**	**16,757**	**258**	-	-	-	-	-	-	-	-	-	-
E. Nuclear Nonproliferation (NN) Line Items																			
F	Nonproliferation and International Security Center	LANL-00-008	NN	EA-FONSI	OPC	**4,343**	3,322	206	1,013	8									
					PE&D	-													
					LI	**58,769**	58,769	30,556											
					Total (TPC)	**63,112**	**62,091**	**30,762**	**1,013**	**8**	-	-	-	-	-	-	-	-	-
TOTAL (All NNSA Costs For Site Line Items)		[redacted]				**2,409,088**	**1,128,018**	**89,214**	**40,059**	**94,935**	**162,696**	**213,602**	**212,778**	**214,300**	**189,500**	**75,300**	**23,800**	**12,300**	**12,300**

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NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Proposed Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2002 Actual (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (17)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																			
	No RTBF Line Item Projects proposed				OPC														
					PE&D														
					LI														
					Total (TPC)														
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																			
1	Fire Alarm Replacement (replaces Vulnerable Facility Replacement Program)	LANL-09-024	FIRP	CX-TBD	OPC	**1,650**							300	300	300	300	150	150	150
					PE&D	**3,000**								-	3,000				
					LI	**30,000**									-	-	15,000	15,000	
					Total (TPC)	**34,650**	-	-	-	-	-	-	**300**	**300**	**3,300**	**300**	**15,150**	**15,150**	**150**
2	ESA Shops Demolition (replaces Infrastructure Roof Upgrades)	LANL-09-025	FIRP	EA-TBD	OPC	-								-	-	-	-	-	-
					PE&D	-								-					
					LI	**17,000**										3,000	14,000		
					Total (TPC)	**17,000**	-	-	-	-	-	-	-	-	-	**3,000**	**14,000**	-	-
C. Safeguards & Security (S&S) Line Items																			
	No "Safeguards & Security Line Items" proposed				OPC														
					PE&D														
					LI														
					Total (TPC)														
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																			
1	Radiography Facility, TA-55 **(45)**	LANL-05-241	TBD	EA-PREP	OPC	**3,300**			600	1,700		-	1,000	-	-	-			
					PE&D	-								-					
					LI	**17,500**					9,200	8,300			-	-			
					Total (TPC)	**20,800**	-	-	**600**	**1,700**	**9,200**	**8,300**	**1,000**	-	-	-	-	-	-
2	Center for Stockpile Stewardship Research, TA-3 **(35)**	LANL-06-094	TBD	EA-TBD	OPC	**50,000**				750	750	750	750	23,500	23,500				
					PE&D	-													
					LI	**100,000**						12,000	50,000	38,000					
					Total (TPC)	**150,000**	-	-	-	**750**	**750**	**12,750**	**50,750**	**61,500**	**23,500**	-	-	-	-
3	Advanced Hydrotest Facility **(47)**	LANL-12-018	TBD	EIS-TBD	OPC	**200,014**	-	-	-	-	-	-	-	-	16,894	26,157	36,047	42,071	39,347
					PE&D	-					-	-	-						
					LI	**246,378**						-	-	-	-	-		35,231	77,044
					Total (TPC)	**446,392**	-	-	-	-	-	-	-	-	**16,894**	**26,157**	**36,047**	**77,302**	**116,391**
E. Nuclear Nonproliferation (NN) Line Items																			
	No "Nuclear Nonproliferation Line Items" proposed				OPC														
					PE&D														
					LI														
					Total (TPC)														
TOTAL (All NNSA Costs For Proposed Site Line Items)						**668,842**	-	-	**600**	**2,450**	**9,950**	**21,050**	**52,050**	**61,800**	**43,694**	**29,457**	**65,197**	**92,452**	**116,541**

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NNSA Facilities and Infrastructure Cost Projection Spreadsheet
RTBF/Operations of Facilities for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Funding Type (4)	Total	Prior Years	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (18)
F	Fire Suppression Yard Main Replacement (TA-55)	LANL-97-047	NA12	CX	E	24,665	19,915	10495	4,750										
F	Monitoring Well Project (NA)	LANL-98-048	NA11	CX	E	53,100	20,100	8979	6,900	10,000	12,900	3,200	-						
F	TA-15 Electrical Infrastructure Upgrades	LANL-00-050	NA11	CX	GPP	2,141	2,141	272		-									
F	TA-53-62 Cooling Tower Replacement	LANL-00-051	NA11	CX	GPP	4,200	4,200	360											
F	TA-53-64 Cooling Tower	LANL-00-052	NA11	CX	GPP	2,500	2,500	1971											
F	Electrical Infrastructure Safety Upgrade (TA-48-01)	LANL-00-054	NA11	CX	GPP	375	375	375		-	-								
F	WETF Public Address/Intercom System	LANL-01-059	NA12	CX	GPP	624	624	603											
F	Cooling Tower Water Conservation	LANL-01-060	NA11	CX	GPP	4,500	4,500	132											
F	Electrical Infrastructure Safety Upgrade (TA-16-200)	LANL-01-064	NA11	CX	GPP	1,252	1,252	1252											
F	Electrical Infrastructure Safety Upgrade (TA-3-40)	LANL-02-071	NA11	CX	GPP	1,856	356	356	1,500	-									
F	ESA-TA-16-200 HVAC & Electrical Upgrades	LANL-02-072	NA11	CX-TBD	GPP	350	350	-											
F	TA-8 to TA-22 Connector Road	LANL-02-089	NA11	EA-PREP	GPP	4,400	4,400	321											
F	TA-21 HIC Move to TA-16-202	LANL-02-090	NA11	CX-TBD	GPP	1,521	861	-	660										
F	Weapons Plant Support Building	LANL-02-093	NA11	EA-FONSI	GPP	5,000	-	-	5,000										
F	WETF 1.6 MVA Generator Installation	LANL-02-092	NA12	CX-TBD	GPP	1,284	284	12	1,000										
F	TA-16 Intersection	LANL-02-107	NA11	CX	GPP	2,837	237	124	1,300	1,300									
F	FY02 RTBF Funded D&D	LANL-02-DD-05	NA11	CX-TBD	E	2,120	2,120	2120	FY02 RTBF funding includes S&M of excess facilities; D&D of facilities in TA-03 and TA-16 with a total of 6,700 SF.										
F	TSR Implementation	LANL-03-110	NA12	CX-TBD	GPP/E	14,500	2,500		3,500	2,500	-	1,800	4,200						
F	Pajarito Road Access Control Stations	LANL-03-068	NA11	EA-FONSI	GPP	5,000	-	0	5,000										
TOTAL RTBF/Operations of Facilities (facilities & infrastructure reported under this category)						**132,225**	**66,715**	**27,372**	**29,610**	**13,800**	**12,900**	**5,000**	**4,200**	**0**	**0**	**0**	**0**	**0**	**0**
Unfunded Projects																			
U	Lujan Center Neutron Production Target System	LANL-04-120	NA11	SWEIS	GPP	1,300				1,300									
U	TA-55 Parking Structure		NA12	CX-TBD	GPP	5,000				5,000									
U	Renovate MPF-3 Sector R and MPF-1 Basement		NA11	CX-TBD	GPP	4,080				580	3,500								
U	LANSCE Lab/Office Building		NA11	CX-TBD	GPP	4,800				4,800									
U	Calibration Laboratory	LANL-05-145	NA12	EA-FONSI	GPP	5,000					5,000								
U	TA-8 Radiography Upgrades		NA11	CX-TBD	GPP	3,500					1,000	2,500							
U	BTF upgrades to FMS and VAV systems		NA12	CX-TBD	GPP	1,660					1,660								
U	TA-16-202 Renovation/Tritium Consolidation		NA12	CX-TBD	GPP	2,703					1,654	1,049							
U	Vessel Facility 1of 4	LANL-06-128	NA12	CX	GPP	5,000						5,000							
U	Vessel Facility 2 of 4	LANL-07-143	NA12	CX	GPP	5,000							5,000						
U	Classified Detonator Storage Facility		NA11	CX-TBD	GPP	3,224							3,224						
U	Vessel Facility 3 of 4	LANL-08-152	NA12	CX	GPP	2,500								2,500					
U	Medium/Heavy Lab At TA-22	LANL-08-153	NA12	EA-PREP	GPP	3,200								3,200					
U	TA-37 Classified HE Storage Facility		NA11	CX-TBD	GPP	3,000								3,000					
U	Vessel Facility 4 of 4	LANL-09-160	NA12	CX-TBD	GPP	2,500									2,500				
U	Replace Machine Shop At TA-22	LANL-09-166	NA12	EA-PREP	GPP	4,000									4,000				
U	Move Existing Vessel To TA-22	LANL-09-167	NA12	EA-PREP	GPP	1,500									1,500				
U	TA-16-200 Upgrades		NA11	CX-TBD	GPP	5,000									5,000				
U	Bomb Proof At TA-22	LANL-10-175	NA12	CX-TBD	GPP	4,000										4,000			
U	Gas Gun Relocation TA-40 To TA-22	LANL-10-176	NA12	CX-TBD	GPP	3,000										3,000			
U	Classified HE Storage	LANL-11-180	NA12	CX-TBD	GPP	1,000											1,000		
U	Joint DX/ESA Conference Facility	LANL-11-181	NA12	CX-TBD	GPP	2,000											2,000		
Total Unfunded RTBF Projects						**72,967**	**-**	**-**	**-**	**11,680**	**12,814**	**8,549**	**8,224**	**8,700**	**13,000**	**7,000**	**3,000**	**0**	**0**

FY 2004 is the last year of NA11 RTBF Funding of GPP Construction/ Planned Urgent Maintenance at LANL.

NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	Project Number (4)	Program Sponsor	NEPA Status (20)	Funding Type (3)	Total	Prior Years	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (18)
F	Vulnerable Office Building Replacement - HSR Clinic	LANL-02-075	FIRP	CX	GPP	5,000	5,000	123											
F	Vulnerable Office Building Replacement - MST Office Bldg	LANL-02-076	FIRP	CX	GPP	5,000	5,000	0											
F	Vulnerable Office Building Replacement - S3 Office Bldg	LANL-02-077	FIRP	CX	GPP	5,000	5,000	773											
F	Vulnerable Office Building Replacement - D Office Bldg	LANL-02-078	FIRP	CX	GPP	5,000	5,000	479											
F	NMT Maintenance	LANL-02-215	FIRP	CX	M	5,800	5,800	2,350											
F	FY02 FIRP Funded D&D	LANL-02-DD-06	FIRP	CX	E	6,650	6,650	1,000											
F	FY03 Planning	LANL-02-216	FIRP	CX	E	585	585	230											
F	LANSCE Chiller Replacement	LANL-03-080	FIRP	CX	GPP	4,579	275	137	4,304										
F	Beryllium Tech Facility - Cartridge Filter House Install	LANL-03-063	FIRP	CX-TBD	GPP	2,200			2,200										
F	Electrical Infrastructure Safety Upgrade (TA-3-261)	LANL-03-070	FIRP	CX	GPP	3,880	380	23	1,000	2,500									
F	Electrical Infrastructure Safety Upgrade (TA-8-21)	LANL-03-082	FIRP	CX-TBD	GPP	1,404			328	1,076									
F	Electrical Infrastructure Safety Upgrade (TA-43-1)	LANL-03-034	FIRP	CX-TBD	GPP	2,740	310	11	2,430										
F	TA-16-260 Reconfiguration	LANL-03-081	FIRP	CX-TBD	GPP	5,044			1,052	3,992									
F	Hydrotest Design Facility	LANL-03-104	FIRP	CX-TBD	GPP	5,000			5,000										
F	Shock & Vibration Laboratory	LANL-03-111	FIRP	EA-FONSI	GPP	5,000			5,000										
F	FWO Office Building	LANL-03-079	FIRP	CX-TBD	GPP	5,000			5,000										
F	CCF Electrical Upgrades	LANL-03-057	FIRP	CX-TBD	GPP	500			100	400									
F	HRL-1 HVAC	LANL-03-058	FIRP	CX-TBD	GPP	850			400	450									
F	TA-46-24 Roof Replacement	LANL-03-061	FIRP	CX-TBD	GPP	600			600										
F	Roofing Assessment	LANL-03-053	FIRP	CX-TBD	GPP	1,000			1,000										
F	FY03 FIRP Funded D&D	LANL-03-DD-08	FIRP	CX-TBD	E	9,066			9,066		FY03 F&I funding is planned for the D&D of facilities at TA-16 & TA-3 with a total of 119,500 SF.								
F	FY04 Planning	LANL-03-063	FIRP	N/A	E	1,600			1,600										
1	WETF Systems Refurbishment	LANL-04-302	FIRP	CX-TBD	GPP	4,509				4,509									
2	Deferred Maintenance Small Projects	LANL-04-319	FIRP	CX-TBD	GPP	4,500				4,500									
3	Electrical Infrastructure Safety Upgrade (TA-46-1)	LANL-04-083	FIRP	CX-TBD	GPP	2,848				414	2,434								
4	Electrical Infrastructure Safety Upgrade (TA-53-2)	LANL-04-084	FIRP	CX-TBD	GPP	3,403				515	2,888								
5	TA-16 WE Campus Grading, Drainage & Utilities	LANL-03-300	FIRP	CX	GPP	5,180			500	4,680									
6	Replace High Voltage Electrical Panels TA-48-1	LANL-04-304	FIRP	CX	GPP	4,600				920	3,680								
7	TA-16-193 Reconfiguration	LANL-04-130	FIRP	EA-FONSI	GPP	5,000				936	4,064								
8	Vulnerable Building Replacement - DX Shock & Detonation	LANL-04-105	FIRP	CX-TBD	GPP	5,000				5,000									
9	Electrical Infrastructure Safety Upgrade (TA-45-31)	LANL-04-055	FIRP	CX-TBD	GPP	3,260				3,260									
10	Lujan Center Ventilation and Cooling Upgrade	LANL-04-305	FIRP	CX-TBD	GPP	3,763				613	3,150								
11	FY04 FIRP Funded D&D	LANL-04-DD-10	FIRP	CX-TBD	E	9,100				9,100		FY04 F&I funding is planned for the D&D of facilities at TA-3, TA-6, TA-16, TA-21 & TA-69 with a total of 81,100 SF.							
12	FY05 Planning	LANL-04-218	FIRP	N/A	E	1,403				1,403									
13	Deferred Maintenance Small Projects	LANL-05-073	FIRP	CX-TBD	GPP	5,000					5,000								
14	Electrical Infrastructure Safety Upgrade (TA-59-1)	LANL-05-085	FIRP	CX-TBD	GPP	2,525					380	2,145							
15	Electrical Infrastructure Safety Upgrade (TA-15-40)	LANL-05-086	FIRP	CX-TBD	GPP	4,130					380	3,750							
16	Vulnerable Office Building Replacement #05-1	LANL-05-140	FIRP	CX-TBD	GPP	5,000					5,000								
17	TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion	LANL-05-088	FIRP	CX-TBD	GPP	2,400					2,400								
18	Reconfigure TA-39-98, Close 39-2,39-103, 39-07	LANL-05-113	FIRP	CX-TBD	GPP	1,300					1,300								
19	TA-35 TSL-189 Trident Laser HVAC Upgrade	LANL-05-119	FIRP	CX	GPP	913					913								
20	Convert Htng System & Upgrade Ctrls at TA-48-RC1	LANL-05-124	FIRP	CX-TBD	GPP	750					750								
21	HVAC/Electrical Upgrade, MPF-6	LANL-05-125	FIRP	CX-TBD	GPP	600						600							
22	Electronics/Data Systems Building	LANL-05-127	FIRP	CX-TBD	GPP	2,700						2,700							
23	Firing Site Consolidation	LANL-05-129	FIRP	CX-TBD	GPP	3,400						3,400							
24	FY05 FIRP Funded D&D	LANL-05-DD-12	FIRP	CX-TBD	E	11,300					11,300		FY05 F&I funding is planned for the D&D of structures to be prioritized in FY04.						
25	FY06 Planning	LANL-05-220	FIRP	CX-TBD	E	3,740					3,740								

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NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	Project Number (4)	Program Sponsor	NEPA Status (20)	Funding Type (3)	Total	Prior Years	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (18)
26	Electrical Infrastructure Safety Upgrade (TA-15-183)	LANL-06-087	FIRP	CX-TBD	GPP	1,874						250	1,624						
27	Electrical Infrastructure Safety Upgrade (TA-3-32)	LANL-06-100	FIRP	CX-TBD	GPP	1,704						250	1,454						
28	Electrical Infrastructure Safety Upgrade (TA-35-2)	LANL-06-101	FIRP	CX-TBD	GPP	3,520						380	3,140						
29	Vulnerable Office Building Replacement #06-1	LANL-06-149	FIRP	CX-TBD	GPP	5,000						5,000							
30	Vulnerable Office Building Replacement #06-2	LANL-06-150	FIRP	CX-TBD	GPP	5,000						5,000							
31	Vulnerable Office Building Replacement #06-3	LANL-06-151	FIRP	CX-TBD	GPP	5,000						5,000							
32	TA-33 Sanitary Sewer System Replacement	LANL-06-307	FIRP	CX-TBD	GPP	3,500						3,500							
33	TA-16-450 Gas Transfer System	LANL-06-112	FIRP	CX-TBD	GPP	5,000						500	4,500						
34	GTS SLEP Support Building	LANL-06-132	FIRP	CX	GPP	5,000						500	4,500						
35	TA-3-32 & TA-3-34 Revitalization (MST)	LANL-06-310	FIRP	CX-TBD	GPP	3,000						3,000							
36	Central Auditorium, TA-16-200	LANL-06-108	FIRP	CX-TBD	GPP	500						500							
37	Communication Shop Building	LANL-06-121	FIRP	CX-TBD	GPP	1,900						1,900							
38	Deferred Maintenance Bundle 06-01	LANL-06-221	FIRP	CX-TBD	E	4,430						4,430							
39	FY06 FIRP Funded D&D	LANL-06-DD-15	FIRP	CX-TBD	E	13,300						13,300	FY06 F&I funding is planned for the D&D of structures to be prioritized in FY05.						
40	FY07 Planning	LANL-06-222	FIRP	CX-TBD	E	2,000						2,000							
41	Electrical Infrastructure Safety Upgrade (TA-35-27)	LANL-07-102	FIRP	CX-TBD	GPP	2,480							380	2,100					
42	Electrical Infrastructure Safety Upgrade (TA-9-45)	LANL-07-095	FIRP	CX-TBD	GPP	1,700							250	1,450					
43	Electrical Infrastructure Safety Upgrade (TA-33-114)	LANL-07-103	FIRP	CX-TBD	GPP	2,930							380	2,550					
44	Electrical Infrastructure Safety Upgrade (TA-46-30)	LANL-07-136	FIRP	CX-TBD	GPP	1,350							250	1,100					
45	Vulnerable Office Building Replacement #07-1	LANL-07-157	FIRP	CX-TBD	GPP	5,000							5,000						
46	Vulnerable Office Building Replacement #07-2	LANL-07-158	FIRP	CX-TBD	GPP	5,000							5,000						
47	Vulnerable Office Building Replacement #07-3	LANL-07-159	FIRP	CX-TBD	GPP	5,000							5,000						
48	Deferred Maintenance Bundle 07-01	LANL-07-223	FIRP	CX-TBD	GPP/E	4,300							4,300						
49	Deferred Maintenance Bundle 07-02	LANL-07-308	FIRP	CX-TBD	GPP/E	4,200							4,200						
50	Deferred Maintenance Bundle 07-03	LANL-07-309	FIRP	CX-TBD	GPP/E	4,200							4,200						
51	Deferred Maintenance Bundle 07-04	LANL-07-311	FIRP	CX-TBD	GPP/E	4,200							4,200						
52	FY07 FIRP Funded D&D	LANL-07-224	FIRP	CX-TBD	E	16,800							16,800						
53	FY08 Planning	LANL-07-225	FIRP	CX-TBD	E	8,400							8,400						
54	Electrical Infrastructure Safety Upgrade (TA-9-35)	LANL-08-137	FIRP	CX-TBD	GPP	1,350								250	1,100				
55	Electrical Infrastructure Safety Upgrade (TA-3-39)	LANL-08-138	FIRP	CX-TBD	GPP	4,630								380	4,250				
56	Electrical Infrastructure Safety Upgrade (TA-35-46)	LANL-08-312	FIRP	CX-TBD	GPP	1,200								250	950				
57	Vulnerable Office Building Replacement #08-1	LANL-08-163	FIRP	CX-TBD	GPP	5,000								5,000					
58	Vulnerable Office Building Replacement #08-2	LANL-08-164	FIRP	CX-TBD	GPP	5,000								5,000					
59	Vulnerable Office Building Replacement #08-3	LANL-08-165	FIRP	CX-TBD	GPP	5,000								5,000					
60	Safety/Infrastructure/Deferred Maintenance Projects	LANL-08-226	FIRP	CX-TBD	GPP/E	25,000								25,000					
61	FY08 FIRP Funded D&D	LANL-08-227	FIRP	CX-TBD	E	17,400								17,400					
62	FY09 Planning	LANL-08-228	FIRP	CX-TBD	E	3,700								3,700					
63	Electrical Infrastructure Safety Upgrade (TA-3-102)	LANL-09-139	FIRP	CX-TBD	GPP	1,850									250	1,600			
64	Electrical Infrastructure Safety Upgrade (TA-39-2)	LANL-09-135	FIRP	CX-TBD	GPP	3,100									400	2,700			
65	Electrical Infrastructure Safety Upgrade (TA-9-21)	LANL-09-148	FIRP	CX-TBD	GPP	1,900									250	1,650			
66	Electrical Infrastructure Safety Upgrade (TA-9-43)	LANL-09-313	FIRP	CX-TBD	GPP	1,200									250	950			
67	Vulnerable Office Building Replacement #09-1	LANL-09-172	FIRP	CX-TBD	GPP	5,000									5,000				
68	Vulnerable Office Building Replacement #09-2	LANL-09-173	FIRP	CX-TBD	GPP	5,000									5,000				
69	Vulnerable Office Building Replacement #09-3	LANL-09-174	FIRP	CX-TBD	GPP	5,000									5,000				
70	Safety/Infrastructure/Deferred Maintenance Projects	LANL-09-229	FIRP	CX-TBD	GPP/E	25,000									25,000				
71	FY09 FIRP Funded D&D	LANL-09-230	FIRP	CX-TBD	E	15,400									15,400				
72	FY10 Planning	LANL-09-231	FIRP	CX-TBD	E	7,550									7,550				
73	Vulnerable Office Building Replacement #10-1	LANL-10-178	FIRP	CX-TBD	GPP	5,000										5,000			
74	Vulnerable Office Building Replacement #10-2	LANL-10-179	FIRP	CX-TBD	GPP	5,000										5,000			
75	Safety/Infrastructure/Deferred Maintenance Projects	LANL-10-232	FIRP	CX-TBD	GPP/E	36,700										36,700			
76	FY10 FIRP Funded D&D	LANL-10-233	FIRP	CX-TBD	E	19,500										19,500			
77	FY11 Planning	LANL-10-234	FIRP	CX-TBD	E	9,700										9,700			

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Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	Project Number (4)	Program Sponsor	NEPA Status (20)	Funding Type (3)	Total	Prior Years	FY 2002 Actual Cost (7)	FY 2003 [1] (8)	FY 2004 [2] (9)	FY 2005 [3] (10)	FY 2006 FYNSP (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 (14)	FY 2010 (15)	FY 2011 (16)	FY 2012 (17)	FY 2013 (18)
78	Safety/Infrastructure/Deferred Maintenance Projects	LANL-11-235	FIRP	CX-TBD	GPP/E	57,050											57,050		
79	FY11 FIRP Funded D&D	LANL-11-236	FIRP	CX-TBD	E	20,600											20,600		
80	FY12 Planning	LANL-11-237	FIRP	CX-TBD	E	10,300											10,300		
81	Safety/Infrastructure/Deferred Maintenance Projects	LANL-12-238	FIRP	CX-TBD	GPP/E	61,450												61,450	
82	FY12 FIRP Funded D&D	LANL-12-239	FIRP	CX-TBD	E	21,900												21,900	
83	FY13 Planning	LANL-12-240	FIRP	CX-TBD	E	10,900												10,900	
84	Safety/Infrastructure/Deferred Maintenance Projects	LANL-13-106	FIRP	CX-TBD	GPP/E	81,050													81,050
85	FY13 FIRP Funded D&D	LANL-13-142	FIRP	CX-TBD	E	23,200													23,200
86	FY14 Planning	LANL-13-306	FIRP	CX-TBD	E	11,600													11,600
TOTAL (FIRP)						**817,340**	**34,000**	**5,126.00**	**39,580.00**	**44,268.00**	**47,379.00**	**58,105.00**	**73,578.00**	**69,180.00**	**70,400.00**	**82,800.00**	**87,950.00**	**94,250.00**	**115,850.00**

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LANL Non- RTBF Non- FIRP F&I Cost Projections

Prioritized Infrastructure Project List

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Fund (4)	Site	Priority (1)	Description (2)	Project Identification No. (3)	Program Sponsor	Linkage (19)	NEPA Status (31)	Total (5)	Prior Years Funding (6)	FY 2002 Funded (7)	FY 2003 Target (8)	FY 2004 (9)	FY05 (10)	FY06 (11)	FY07 (12)	FY08 (13)	FY09 (14)	FY10 (15)	FY11 (16)	FY12 (17)	FY13 (17)
			TEC for Existing Line Items (11)																		
LI	LANL	F	Spallation Neutron Source Line Accelerator **(21)**	LANL-99-004	Of. Of Sc.	N/A	EA-TBD	-													
LI	LANL	F	TA-53 Isotope Production Facility	LANL-99-006	Of. Of Sc.	N/A	CX	19,999	15,784	2,494	1,721										
			TOTAL TEC for Existing Line Items					**19,999**	**15,784**	**2,494**	**1,721**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			OPC for Existing Line Items																		
OI	LANL	F	Spallation Neutron Source Line Accelerator **(21)**	LANL-99-004	Of. Of Sc.	N/A	EA-TBD	-													
OI	LANL	F	TA-53 Isotope Production Facility	LANL-99-006	Of. Of Sc.	N/A	CX	3,495	3,331	78	86										
			TOTAL OPC for Existing Line Items					**3,495**	**3,331**	**78**	**86**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			PE&D for Proposed Capital Projects																		
PED	LANL	1	Los Alamos CINT Gateway	LANL-02-010	Of. Of Sc.	N/A	CX	600		125	475										
PED	LANL	2	Fuel Cell Facility	LANL-03-013	Of. Of Trans.	N/A	EA-TBD	-													
			TOTAL PE&D for PROPOSED CAPITAL PROJECTS					**600**		**125**	**475**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Proposed Capital Projects - TEC																		
C	LANL	1	Los Alamos CINT Gateway	LANL-02-010	Of. Of Sc.	N/A	CX	18,100		125	2,275	8,700	5,550	1,450							
C	LANL	2	Fuel Cell Facility	LANL-03-013	Of. Of Trans.	N/A	EA-TBD	50,000			30,000	20,000									
			TOTAL TEC for PROPOSED CAPITAL PROJECTS					**68,100**		**125**	**32,275**	**28,700**	**5,550**	**1,450**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			OPC for Proposed Capital Projects																		
OP	LANL	1	Los Alamos CINT Gateway	LANL-02-010	Of. Of Sc.	N/A	CX	230		30	-		100	100							
OP	LANL	2	Fuel Cell Facility	LANL-03-013	Of. Of Trans.	N/A	EA-TBD	2,000		2,000											
			TOTAL OPC for PROPOSED CAPITAL PROJECTS					**2,230**		**2,030**	**-**	**-**	**100**	**100**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Cerro Grande Rehabilitation Line Items - TEC																		
LICG	LANL	F	DARHT (BCP)	LANL-01-028	CGRP **(22)**	D, R, 1, 2, 3, 6, 7, 9, 12, 14	EIS-ROD	6,087													
LICG	LANL	F	Emergency Operations Center	LANL-01-029	CGRP	D, R, All	EA-FONSI	19,956													
LICG	LANL	F	Office Bldg Replcmnt Proj for Vuln Facilities (TA46 / TA16)	LANL-01-030	CGRP	D, R, All	CX	9,978													
LICG	LANL	F	Site-wide Fire Alarm Replacement	LANL-01-031	CGRP	D, R, All	CX	24,945													
LICG	LANL	F	Multi-Channel Communication System	LANL-01-032	CGRP	D, R, All	EA-FONSI	7,982													
LICG	LANL	F	TA-50/54 Waste Mgt. Risk Mitigation	LANL-01-033	CGRP	D, R, All	CX	2,150		1,150											
			TOTAL TEC for CERRO GRANDE REHAB LINE ITEMS					**71,098**		**1,150**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Cerro Grande Rehabilitation Line Items - OPC																		
OCG	LANL	F	DARHT (BCP)	LANL-01-028	CGRP	D, R, 1, 2, 3, 6, 7, 9, 12, 14	EIS-ROD	-													
OCG	LANL	F	Emergency Operations Center	LANL-01-029	CGRP	D, R, All	EA-FONSI	1,686													
OCG	LANL	F	Office Bldg Replcmnt Proj for Vuln Facilities (TA46 / TA16)	LANL-01-030	CGRP	D, R, All	CX	240													
OCG	LANL	F	Site-wide Fire Alarm Replacement	LANL-01-031	CGRP	D, R, All	CX	2,939													
OCG	LANL	F	Multi-Channel Communication System	LANL-01-032	CGRP	D, R, All	EA-FONSI	533													
OCG	LANL	F	TA-50/54 Waste Mgt. Risk Mitigation	LANL-01-033	CGRP	D, R, All	CX	4,650		3,650											
			TOTAL OPC for CERRO GRANDE REHAB LINE ITEMS					**10,048**		**3,650**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Cerro Grande Rehabilitation GPPs																		
G CG	LANL	F	TA-41 GTS Relocation To S Site	LANL-01-035	CGRP	D, R	CX	3,000													
G CG	LANL	F	Water SCADA	LANL-01-036	CGRP	D, R	CX	700		300											
G CG	LANL	F	Emergency Generator & MCC	LANL-01-037	CGRP	D, R	EA-FONSI	3,300		2,300											
G CG	LANL	F	Pajarito Road Gas Line	LANL-01-038	CGRP	D, R	CX	4,000			3,500										
G CG	LANL	F	WTA Substation	LANL-01-039	CGRP	D, R	EA-FONSI	5,000													
G CG	LANL	F	Building 202 Upgrade	LANL-01-040	CGRP	D, R	EA-FONSI	4,820													
G CG	LANL	F	Well-Head Protection	LANL-01-041	CGRP	D, R	CX	1,120													
G CG	LANL	F	Internal Connectivity	LANL-01-042	CGRP	D, R	EA-FONSI	3,470													
G CG	LANL	F	Rplcmnt of Destroyed/Damaged Prog Equipment	LANL-01-043	CGRP	D, R	CX	800													
G CG	LANL	F	High Activity Waste Storage Facility	LANL-01-044	CGRP	D, R	CX	3,950													
			TOTAL for CERRO GRANDE REHAB GPPs					**30,160**		**2,600**	**3,500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Expense Projects																		
E	LANL	F	Monitoring Well Project (ER)	LANL-98-049	ER	D, R, All	CX	35,500		7,000	6,000	6,000									
			TOTAL EXPENSE PROJECTS					**35,500**		**7,000**	**6,000**	**6,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			General Plant Projects																		
G	LANL	F	PTLA Live Fire House	LANL-01-062	FS	D, R, All	CX	1,115		1,115											
G	LANL	F	High Power Detonator Facility	LANL-01-056	NA12	D, R	SWEIS	3,000		3,000											
G	LANL	F	Bioscience Level 3 Laboratory	LANL-02-065	NN20	N/A	EA-FONSI	3,580		3,580											
G	LANL	F	Manufacturing Technical Support Facility, TA-55	LANL-02-066	NA11	D, R	CX	5,000		5,000											
G	LANL		OLASO Office Building **(34)**	LANL-02-067	LAAO	D, R, All	CX	-													
G	LANL	F	Firing Point Beryllium Mitigation, TA-15-312	LANL-03-096	INST	D, R	CX-TBD	5,000			5,000										
G	LANL	1	R-306 JOPIN Modification	LANL-03-114	NA??	D, R	CX-TBD	5,000			5,000										
G	LANL	2	Stockpile Support Building	LANL-03-114	NA??	D, R	CX-TBD	5,000			5,000										
G	LANL	3	Homeland Security Building	LANL-03-131	TR	N/A	CX-TBD	5,000			5,000										
G	LANL	4	DX Transition Office Building	LANL-03-242	NA11	D, R	CX-TBD	700			700										
G	LANL	5	TA-50-37 RAMROD Upgrade For Act. Chem.	LANL-04-115	TBD	D, R	CX-TBD	5,000				5,000									
G	LANL	6	TA-03-1698 Offices Above Microscope Labs	LANL-04-117	NA11	D, R	CX	675				675									
G	LANL	7	DYNEX Assembly Facility	LANL-04-318	NA11	D, 12	CX-TBD	5,000				5,000									
G	LANL	8	East Jemez Upgrade (Landfill to Royal Crest)	LANL-04-133	INST	D, R, All	CX	1,000				1,000									
G	LANL	9	Parking Structure	LANL-04-134	INST	D, R, All	CX-TBD	5,000				5,000									
G	LANL	10	Replace Traffic Signals	LANL-04-210	INST	D, R, All	CX-TBD	1,000				1,000									
G	LANL	11	Upgrade R Site Road	LANL-04-326	INST	D, R, All	CX-TBD	2,800				2,800									

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Fund (4)	Site	Priority (1)	Description (2)	Project Identification No. (3)	Program Sponsor	Linkage (19)	NEPA Status (31)	Total (5)	Prior Years Funding (6)	FY 2002 Funded (7)	FY 2003 Target (8)	FY 2004 (9)	FY05 (10)	FY06 (11)	FY07 (12)	FY08 (13)	FY09 (14)	FY10 (15)	FY11 (16)	FY12 (17)	FY13 (17)
G	LANL	12	New TA-51/54 Intersection	LANL-05-146	INST	D, R, All	CX	4,100					4,100								
G	LANL	13	Anchor Ranch Road South	LANL-05-147	INST	D, R, All	EA-PREP	1,400					1,400								
G	LANL	14	Trip Hazard Mitigation	LANL-05-327	INST	D, R, All	CX-TBD	650					650								
G	LANL	15	ADA Compliance	LANL-05-328	INST	D, R, All	CX-TBD	850					850								
G	LANL	16	Anchor Ranch Road North	LANL-06-154	INST	D, R, All	EA-PREP	1,500						1,500							
G	LANL	17	W. Jemez From Casa Grande to West Road	LANL-06-155	INST	D, R, All	CX-TBD	2,000						2,000							
G	LANL	18	Roadside Safety - Obstacles & Guardrails	LANL-06-156	INST	D, R, All	CX-TBD	2,000						2,000							
G	LANL	19	East Jemez Road Widening	LANL-06-329	INST	D, R, All	CX-TBD	5,000						5,000							
G	LANL	20	Pistol Range Intersection	LANL-07-161	INST	D, R, All	CX-TBD	600							600						
G	LANL	21	Pajarito Rd. TA-59 To TA-64 Access & Parking	LANL-07-162	INST	D, R, All	CX-TBD	800							800						
G	LANL	22	Sign Upgrades	LANL-07-330	INST	D, R, All	CX-TBD	550							550						
G	LANL	23	Upgrade Eniwetok To Sigma Mesa	LANL-08-168	INST	D, R, All	CX-TBD	2,000								2,000					
G	LANL	24	TA-53 Sidewalks	LANL-08-170	INST	D, R, All	CX-TBD	500								500					
G	LANL	25	West Jemez Road Shoulders	LANL-08-171	INST	D, R, All	CX-TBD	650								650					
G	LANL	26	Open Graded Friction Course East Jemez Road	LANL-09-177	INST	D, R, All	CX-TBD	650									650				
G	LANL	27	West Jemez Overpass At TA-3	LANL-10-182	INST	D, R, All	CX-TBD	2,000										2,000			
G	LANL	28	Mill & Overlay - Secondary Roads & Parking Lots	LANL-10-331	INST	D, R, All	CX-TBD	1,000										1,000			
G	LANL	29	Intersection Upgrades - East Jemez & SR 4	LANL-11-332	INST	D, R, All	CX-TBD	750											750		
G	LANL	30	Intersection Upgrades - East Jemez At TA-72	LANL-11-333	INST	D, R, All	CX-TBD	750											750		
G	LANL	31	Intersection Upgrades - West Jemez & Ski Hill Road	LANL-11-334	INST	D, R, All	CX-TBD	850											850		
G	LANL	32	Intersection Upgrades - West Jemez & TA-51	LANL-12-335	INST	D, R, All	CX-TBD	3,400												3,400	
G	LANL	33	Mill & Overlay Pajarito Road	LANL-13-336	INST	D, R, All	CX-TBD	1,300													1,300
G	LANL	TBD	Badge Office	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	BUS-4 Office Building	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	RRES Division Waste Disposal	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Theoretical Division Office Building	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Computer Science Laboratory	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Performance Surety Office Building	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Electronic Mobile Compact Shelving	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Co-Location of IM Technical Groups	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	CCF/LDCC Cooling and Power Improvements	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	TA-3-261 Retrofit HVAC VAV Boxes	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Upgrade of HVAC and Installation of Chem Fume Hoods	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Replacement of Fire Station #1	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Facility Inside Communication Infrastructure	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Replacement of Fire Station #5	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Center for Homeland Security Support Facility	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	TA-48 RC-45 Clan Chemistry Laboratory Addition	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	Bioinformatics and Computational Biology Office Bldg	TBD	INST	D, R	CX-TBD	-													
G	LANL	TBD	New Fire Department Apparatus Garage	TBD	INST	D, R	CX-TBD	-													
			TOTAL GPP (13)					**87,170**		**12,695**	**20,700**	**20,475**	**7,000**	**10,500**	**1,950**	**3,150**	**650**	**3,000**	**2,350**	**3,400**	**1,300**
			Institutional GPPs (IGPP) **(23)**																		
IGPP	LANL	F	Parking Structure	LANL-03-243	INST	D, R	CX-TBD	5,000			3,850	1,150									
IGPP	LANL	F	Badge Office Relocation	LANL-03-144	INST	D, R	CX-TBD	1,200			500	700									
IGPP	LANL	F	Surface Parking Lots	LANL-04-314	INST	D, R	CX-TBD	800			800										
IGPP	LANL	1	FY04 IGPP #1	LANL-04-301	INST	D, R	CX-TBD	5,000				3,800	1,200								
IGPP	LANL	2	FY04 IGPP #2	LANL-04-315	INST	D, R	CX-TBD	5,000				3,800	1,200								
IGPP	LANL	3	FY05 IGPP #1	LANL-05-316	INST	D, R	CX-TBD	5,000					3,800	1,200							
IGPP	LANL	4	FY05 IGPP #2	LANL-05-317	INST	D, R	CX-TBD	5,000					3,800	1,200							
			TOTAL IGPP					**27,000**		**-**	**5,150**	**9,450**	**10,000**	**2,400**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Institutional Projects																		
E	LANL	INST	TA-3 Steam Condensate Lines	LANL-00-183	INST	D, R, All	CX	3,350		350	350	350	350	350	350	250	250	250	250	250	
E	LANL	INST	Replace 115kv oil circuit breaker	LANL-02-189	INST	D, R, All	CX-TBD	2,700		300	300	300	300	300	300	300	300	300			
E	LANL	INST	Replace Old 13.8kV Switchgears	LANL-04-188	INST	D, R, All	CX-TBD	2,500				2,500	-	-	-	-	-				
E	LANL	INST	White Rock 115kv Ring Bus	LANL-04-192	INST	D, R, All	CX-TBD	1,000			-	1,000									
E	LANL	INST	Reconductor Norton Line	LANL-04-200	INST	D, R, All	CX-TBD	4,100				150	150	150	150				3,500		
E	LANL	INST	Water Leak Survey, Condition Assessment, Upgrades	LANL-04-184	INST	D, R, All	CX-TBD	1,400			280	280	280	280	280						
E	LANL	INST	Refurbish Power Plant Turbine #2	LANL-04-185	INST	D, R, All	CX-TBD	5,000				2,500	2,500								
E	LANL	INST	PP - Feed Water Piping	LANL-05-191	INST	D, R, All	CX-TBD	500					500								
E	LANL	INST	Add 3rd 115kV transformer TA-53	LANL-05-194	INST	D, R, All	CX-TBD	2,500					2,500								
E	LANL	INST	Replace 13.8 kv cable	LANL-05-195	INST	D, R, All	CX-TBD	2,500					500	500	500	500	500				
E	LANL	INST	Safety Upgrades To 13.2kV Circuits	LANL-05-186	INST	D, R, All	CX-TBD	8,000					1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
E	LANL	INST	Replace Elevated 4" Gas Line, TA-53	LANL-05-187	INST	D, R, All	CX-TBD	600					600								
E	LANL	INST	TA-53 Substation 115kV Ring Bus Upgrade	LANL-06-196	INST	D, R, All	CX-TBD	2,000						2,000							
E	LANL	INST	Reconductor 13.2kV Circuits	LANL-06-190	INST	D, R, All	CX-TBD	4,500						1,500		1,500		1,500			
E	LANL	INST	115kV Transmission System Protection	LANL-06-193	INST	D, R, All	CX-TBD	1,000						1,000							
E	LANL	INST	Replace 10" & 12" Steel Line TA-16 to TA-03	LANL-07-202	INST	D, R, All	CX-TBD	4,400							700	700	700	700	800	800	
E	LANL	INST	Uncross NL & RL 115kV Lines	LANL-07-198	INST	D, R, All	EA-FONSI	1,000							1,000						
E	LANL	INST	Replace TA-03-2261 115/13.2kV Substation	LANL-07-203	INST	D, R, All	CX-TBD	10,000							5,000	5,000					
E	LANL	INST	Replace TA-53 (2) 115kV Transformers	LANL-08-197	INST	D, R, All	CX-TBD	4,300						-	-	300	2,000	2,000			
E	LANL	INST	Replace TA-53-0937 115/13.2kV Substation	LANL-08-320	INST	D, R, All	CX-TBD	7,000								3,500	3,500				
E	LANL	INST	Replace TA-05-0040 115/13.2kV Substation	LANL-09-321	INST	D, R, All	CX-TBD	5,000									2,500	2,500			
E	LANL	INST	PP - Cooling Tower Piping Replacement	LANL-10-199	INST	D, R, All	CX-TBD	500					-					500			
E	LANL	INST	Replace TA-06-0129 115/13.2kV Substation	LANL-10-322	INST	D, R, All	CX-TBD	5,000										2,500	2,500		
E	LANL	INST	TA-03 Underground Ducts & Manholes	LANL-10-323	INST	D, R, All	CX-TBD	5,000										2,500	2,500		
E	LANL	INST	Replace TA-53-0070 13.2kV Switchgear	LANL-11-324	INST	D, R, All	CX-TBD	5,000											2,500	2,500	

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E	LANL	INST	Replace TA-35 13.2kV Switchgear	LANL-12-325	INST	D, R, All	CX-TBD	1,000												1,000	
G	LANL	INST	90 MVAR SVC Capacitor	LANL-03-204	INST	D, R, All	CX-TBD	2,000			500	1,500									
G	LANL	INST	Kirby Building TA-03-23	LANL-04-205	INST	D, R, All	CX-TBD	594				594									
G	LANL	INST	TA-3/58 Gravity Line	LANL-05-207	INST	D, R, All	CX-TBD	535					535								
G	LANL	INST	Add 3rd 115kV Transformer TA-03	LANL-05-337	INST	D, R, All	CX-TBD	2,500					2,500								
G	LANL	INST	TA-3 CMR Sewer Relief Project	LANL-06-201	INST	D, R, All	CX-TBD	630						630							
G	LANL	INST	TA-43-01 Distributed Boiler Plant	LANL-06-208	INST	D, R, All	CX-TBD	1,800						1,800							
G	LANL	INST	Express Feeder	LANL-06-338	INST	D, R, All	CX-TBD	5,000						5,000							
G	LANL	INST	100psi Natural Gas Lines, TA-03	LANL-07-209	INST	D, R, All	CX-TBD	2,300							300	2,000					
G	LANL	INST	TA-70 115/13.8kV Substation	LANL-08-211	INST	D, R, All	CX-TBD	5,000								5,000					
G	LANL	INST	Water Treatment TA-03	LANL-08-339	INST	D, R, All	CX-TBD	5,000								5,000					
G	LANL	INST	TA-03-0058 Cooling Tower	LANL-09-206	INST	D, R, All	CX-TBD	5,000									5,000				
G	LANL	INST	TA-70 345/115kV Substation	LANL-09-212	INST	D, R, All	CX-TBD	5,000									5,000				
G	LANL	INST	TA-3 Power Plant Backpressure Turbine	LANL-09-213	INST	D, R, All	CX-TBD	2,000									2,000				
G	LANL	INST	100psi Natural Gas Lines, TA-16	LANL-11-214	INST	D, R, All	CX-TBD	4,300											300	2,000	2,000
			TOTAL INSTITUTIONAL PROJECTS					**131,509**		**650**	**1,430**	**9,174**	**11,715**	**14,510**	**9,580**	**25,050**	**22,750**	**13,750**	**13,350**	**7,550**	**2,000**
			Maintenance																		
M	LANL		F&I Initiatives Maintenance		NA	D, R, All Campaigns	CX-TBD	56,300		26,800	14,500	15,000									
M	LANL		Preventive Maintenance - included in General Maintenance		NA	D, R, All Campaigns															
M	LANL		Predictive Maintenance - included in General Maintenance		NA	D, R, All Campaigns															
M	LANL		Corrective Maintenance - included in General Maintenance		NA	D, R, All Campaigns															
M	LANL		Maintenance Management - included in General Maintenance		NA	D, R, All Campaigns															
M	LANL		General Maintenance		NA	D, R, All Campaigns	CX-TBD	1,364,019		94,409	98,186	102,113	106,198	110,446	114,864	119,458	124,237	129,206	134,374	139,749	145,339
			TOTAL MAINTENANCE					**1,420,319**		**121,209**	**112,686**	**117,113**	**106,198**	**110,446**	**114,864**	**119,458**	**124,237**	**129,206**	**134,374**	**139,749**	**145,339**
			Standby Facility Charges																		
S			*Not applicable for Los Alamos National Laboratory*																		
			TOTAL STANDBY FACILITY CHARGE					**-**		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
			Decommissioning and Demolition Charges												*Demolition Notes*						
D	LANL	F	NISC Funded D&D	LANL-00-DD-04	NN	D, R, 5, 8	EA-FONSI	-							The NISC Line Item Project includes funding to remove 21 trailers/transportables with a total of 18,585 SF.						
D	LANL		SM-43 D&D	LANL-06-DD-13	NA	D, R, 5, 8	CX-TBD	-		1,374	292	85	1,558	11,271	5,266	D&D of the existing 315,00 S.F> SM-43 structure is being funded as an OPC cost of the National Security Sciences Building Line Item Project.					
			Potential D&D Transfer of Responsibility To EM																		
D	LANL		TSTA	LANL-TBD-DD-16	EM	D, R, All	CX-TBD	-							Transfer of the 16,350 SF TSTA Facility from the Office of Science to EM is currently being negotiated. The negotiated costs and schedules for D&D is unknown at this time.						
D	LANL		DP-West & Ion Beam Facility	LANL-TBD-DD-17	EM	D, R, All	CX-TBD	-							Transfer of the Ion Beam Facility (TA-3-16) and DP-West at TA-21 from DP to EM is currently being negotiated. Negotiated costs and schedules for D&D is unknown at this time. Total SF is 143,602.						
D	LANL		TSFF	LANL-TBD-DD-18	EM	D, R, All	CX-TBD	-							Transfer of the 48,452 SF TSFF facility at TA-21 from DP to EM is anticipated to be proposed for FY04. Negotiated costs and schedules for D&D is unknown at this time.						
			TOTAL DECOMMISSIONING & DEMOLITION CHARGE					**-**		**1,374**	**292**	**85**	**1,558**	**11,271**	**5,266**	**-**	**-**	**-**	**-**	**-**	**-**
			Facilities Management & Site Planning **(24)**																		
F	LANL		Engineering **(25)**		All	D, R, All Campaigns	CX-TBD	150,868		12,398	12,646	12,899	13,157	13,420	13,688	13,962	14,241	14,526	14,817	15,113	15,415
F	LANL		Rental of Buildings & Land **(26)**		NA	D, R, All Campaigns	CX-TBD	70,457		5,790	5,906	6,024	6,144	6,267	6,393	6,520	6,651	6,784	6,920	7,058	7,199
F	LANL		Facility Startup and Project Support **(27)**		NA	D, R, All Campaigns	CX-TBD	-													
F	LANL		Other **(28)**		NA	D, R, All Campaigns	CX-TBD	540,006		45,471	48,544	45,721	46,635	47,568	48,519	49,490	50,480	51,489	52,519	53,569	54,640
F	LANL		Utilities **(29)**		NA	D, R, All Campaigns	CX-TBD	854,368		60,138	63,145	66,302	69,617	73,098	76,753	80,591	84,620	88,851	93,294	97,958	99,917
F	LANL		Ten Year Site Plans (All of Site Planning) **(30)**		NA	D, R, All Campaigns	NA	33,987		2,793	2,849	2,906	2,964	3,023	3,084	3,145	3,208	3,272	3,338	3,405	3,473
			TOTAL FACILITIES MANAGEMENT & SITE PLANNING					**1,649,686**		**126,590**	**133,090**	**133,852**	**138,518**	**143,377**	**148,437**	**153,709**	**159,200**	**164,923**	**170,887**	**177,104**	**180,644**
			TOTAL OF ALL SITE COSTS (Facility Related)					**3,556,914**		**281,770**	**317,405**	**324,849**	**280,639**	**294,054**	**280,097**	**301,367**	**306,837**	**310,879**	**320,961**	**327,803**	**329,283**

NNSA Facilities and Infrastructure Cost Projection Spreadsheets
Notes

Column (1) Priority. Each of the funding types (Line Item, RTBF/Operations of Facilities, and FIRP) is prioritized in sequential order (from 1 to xyz) for site facilities and infrastructure projects/activities. For funded projects – an "F" is shown in the priority column.
Column (2) Official Project Name.
Column (3) Project Number/Project Identification Number.
Column (4) Funding Type. The type of funding associated with each activity/project, as applicable using the following abbreviations:

LI = Existing Capital Funded Line Item Project
OPC = Other Project Costs
PE&D = Project Engineering & Design
E = Expense
GPP = General Plant Project
GPE = General Purpose Equipment
IGPP = Institutional General Plant Projects
M = Direct Maintenance

Column (5) Total. On the Line Item Spreadsheets, the total (cumulative) cost associated with each existing and proposed line item project for each funding type listed. Under "Total", is the Total Project Cost (TPC) associated with each "Proposed Line Item" and "Existing Line Item" project. TPC is the sum of the LI and PE&D plus the OPC.
Column (6) Prior Years Funding. On the Line Item Spreadsheet, the actual prior years funding associated with the project (sum of the prior years funded through FY 2001 actual) for each funding type listed.
Column (7) FY 2002 Actual and Appropriation. The FY 2002 cost and appropriation associated with the project.
Column (8) FY 2003. Data for FY 2003 is consistent with the Guidance Site Funding Profile for LANL.
Column (9) FY 2004. Data for FY 2004 is consistent with the Guidance Site Funding Profile for LANL.
Columns (10) – (13) FY 2005 – FY 2008 FYNSP. The site's Future Years Nuclear Security Program (FYNSP) constrained case for Fiscal Years 2005 – 2008.
Columns (14) – (18) FY 2008 – FY 2013. Provides a requirements based case that is constrained by a 2% annual inflation- based assumption or, in the case of Line Items, the Integrated Construction Program Plan's out-year projections.

Footnotes
(18) Latest ICPP listed this project with the associated budget in the NV grouping.
(19) In the Linkage column, a D is shown if the project/activity links to DSW (Direct Stockpile Work), an R if it links to RTBF (Readiness in Tech Base and Facilities) or 1 through 16 if it links to one of the 16 Campaigns. (1. Primary Certification, 2. Dynamic Materials Properties, 3. Advanced Radiography, 4. Secondary Certification and Nuclear Systems Margins, 5. Enhanced Surety, 6. Weapons Systems Engineering Certification, 7. Nuclear Survivability (Certification in Hostile Environments), 8. Enhanced Surveillance, 9. Advanced Design & Production Technologies, 10. Inertial Confinement Fusion Ignition & High Yield O&M, 11. Advanced Simulation & Computing O&M, 12. Pit Manufacturing & Certification (Readiness), 13. Secondary Readiness, 14. HE/Manufacturing and Weapon Assembly/Disassembly Readiness, 15. Nonnuclear Readiness, 16. Materials Readiness, 17. Tritium Readiness.)
(20) Levels of NEPA Status are EIS-ROD - an EIS was drafted and Record of Decision issued; EIS Draft - an EIS was drafted and issued for public comment; EIS PREP - an EIS has been determined to be needed and is currently being prepared; EIS-TBD - a determination for need of EIS is not yet complete but an EIS is anticipated; SWEIS - the project is in the Site Wide Environmental Impact Statementl; EA-FONSI - an environmental assessment was completed with a Finding Of No Significant Impact; EA-PREP - an environmental assessment is in progress; EA-TBD - an environmental assessment has not been conducted but is anticipated; CX - the proposed activity has been determined to be categorically excluded from requiring further NEPA analysis; CX-TBD - the planned activity is anticipated to be within categorical exclusion.
(21) LANL's $211M support of $1.412B project located at Oak Ridge National Laboratory.
(22) CGRP is emergency funding as a result of the Cerro Grande Fire.
(23) Institutional GPPs are projects LANL is currently considering for proposal.
(24) The input for this grouping is for discrete functions as identified in related footnotes.
(25) Budgets for the Integrated Information Management and the Systems Engineering and Maintenance groups within the Facility and Waste Operations Division. FY03 Budget is escalated at 2% per year through FY13.
(26) FY03 lease costs are escalated at 2% per year through FY13.
(27) "Facility Startup And Project Support" is not captured in a discrete fashion across each Facility Management Unit. Applicable Line Item and GPP project costs are included within each of those projects.
(28) Other includes Waste Management Operations, The Office of Authorization Basis, Fire Protection, and Support Services Contract Management. The functions are within the Facility and Waste Operations Division. FY03 budget is escalated at 2% per year through FY13. In addition, $4 million for FY01 through FY03 is included for DNFSB related actions.
(29) Budget for the Utilities Group within the Facility and Waste Operations Division. FY03 budget for commodities and operations are escalated at 5% per year through FY13.
(30) Budget for the Site and Project Planning Group within the Project Management Division. FY03 budget is escalated at 2% per year through FY13.
(31) Not Used.
(32) Project completed $15M under the budget.
(33) Project completed $13M under the budget.
(34) Project cancelled as a GPP and added to scope of NNSB project, LANL-04-011, at NNSA direction.
(35) Not Used
(36) The funding profile shown reflects current project scope and estimate of CD-0 request.
(37) FY03 PED funding reflects RTBF reprogramming actions to be recast to project in FY05. Reduced FY05 construction funding by PED.
(38) Original FY03 appropriation was $12,000K which was reduced by $350K rescission. FY06-FY07 OPCs include institutional funding for SM-43 demolition.
(39) Moved to FY06 new start due to project complexity and added $1M OPC for FY05 CDR development.
(40) Increased estimated cost over ICPP reflects further preconceptual development and added scope needed to meet programmatic requirements and DX Division consolidation needs, particularly in light of reduced GPP funding availibility.
(41) Increase over $20M ICPP budget profile reflects high range of current preconceptual cost estimate. Scope of this alternative includes TRU waste treatment and zero liquid discharge capabilities in response to anticipated regulatory requirements. The final scope will be determined through the project development process.
(42) Moved from RTBF to FIRP to replace parto of Infrastructure Revitalization. Funding profile changed slightly to reflect current project requirements.
(43) Project start and funding profile adjusted to reflect current planning and to balance ICPP funding levels.
(44) Revised only to match ICPP and current financal data.
(45) Revised FY05 start and funding profile reflects current discussions with NNSA.
(46) Revised to reflect current discussions with NNSA on FY05 security projects funding.
(47) AHF funding profile revised to reflect current preconceptual planning. Project OPC budget includes LLNL portion.

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ATTACHMENT B

Attachment B
References

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ATTACHMENT C

Attachment C
Summary of Current Condition and Future Condition

This table is based on FYNSP/fiscal constraints and reflects the best business judgment of the Laboratory based on life-cycle analyses. In general, the expectation is that mission essential facilities and infrastructure are moving toward the good/ excellent categories and deferred maintenance is addressed with a goal of near term stabilization.
"Future" is defined as the condition as of FY13.

Condition Categories

- **Excellent –** Deferred maintenance is < 2% of replacement plant value.
- **Good –** Deferred maintenance is 2 < 5% of replacement plant value.
- **Adequate –** Deferred maintenance is required at a cost 5 < 10% of replacement plant value.
- **Fair –** Deferred maintenance is required at a cost 10 < 25% of replacement plant value.
- **Poor –** Major deferred maintenance required at a cost 25 < 60% of replacement plant value.
- **Fail –** Replacement is required because deferred maintenance cost is ≥60% of replacement plant value.
- **None –** Additional category to capture those facilities for which there is no condition currently listed in FIMS.

Use Categories

The facility use categories of Administrative (Office), Storage, Industrial/Production/Process, Research & Development, and Service Buildings (does not include service structures) are consistent with FIMS.

"Other" includes the following: Post Office, Hospital, Prison, School, Other Institutional Uses, Housing, Trust Buildings, Transportation Systems, Catchall for General Services Administration (GSA) and Other Known Assets, Service Structures, Communication Type Systems, or Distribution Systems.

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Use Category	Summary of Current Facility Condition Total Square Footage = 8,675,489					
	Excellent	Good	Adequate	Fair	Poor	Fail
Administrative	4.2%	1.8%	3.3%	10.3%	8.6%	3.5%
Industrial / Production / Process	9.2%	3.8%	3.2%	1.5%	2.8%	3.7%
Research & Development	0.5%	0.8%	0.7%	1.5%	1.4%	0.6%
Service Buildings	3.8%	3.1%	3.4%	3.8%	1.4%	0.5%
Storage	9.0%	1.5%	1.8%	3.1%	2.8%	3.8%
Other	0.2%	0%	0.1%	0.2%	0.2%	0.0%
TOTAL	26.9%	11%	12.6%	20.3%	17.1%	12.2%

Use Category	Summary of Future Facility Condition Total Square Footage = 9,489,439					
	Excellent	Good	Adequate	Fair	Poor	Fail
Administrative	6.9%	1.8%	3.0%	10.2%	8.0%	3.4%
Storage	9.1%	2.7%	3.5%	1.5%	2.6%	3.5%
Industrial / Production / Process	1.2%	0.8%	0.8%	1.3%	0.8%	0.5%
Research & Development	4.2%	3.0%	3.6%	3.6%	1.4%	0.4%
Service	8.5%	1.5%	1.9%	3.0%	2.6%	3.8%
Other	0.5%	0.0%	0.1%	0.2%	0.2%	0.0%
TOTAL	30.4%	9.8%	12.9%	19.7%	15.7%	11.6%

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ATTACHMENT D

Attachment D
Summary Facility Utilization

The table below summarizes facility utilization by total square footage. Data were obtained from the Laboratory's FIMS database and through interviews with Laboratory division management. Also included are those excess facilities that are currently tracked in FIMS. The Laboratory, in concurrence with DOE-Albuquerque, does not track a certain subset of buildings, e.g. sheds, transportainers, fabric structures, etc. in FIMS. However, these buildings go through the Laboratory's excess space process, but their gross square footage is not included here.

- **Active Facilities –** Operating (facility required for current and ongoing needs)
- **Spare Facilities –** Operational Standby (future programmatic use other than cleanup expected)
- **Excess Facilities –** Includes Shutdown Pending Deactivation and Decontamination (D&D), Shutdown Pending Transfer, D&D in progress, and Deactivation. Excludes facilities that are Operating Pending D&D.
- **Other –** Operating under an Outgrant, Transfer to Another Federal Facility, Operating Pending D&D. Excludes Sale and Demolished facilities.

Use Category	**Facility Utilization Based on Percentage of Total Square Footage Total Square Footage = 8,675,489**			
	Active	Spare	Excess	Other
Administrative	25%	0%	0%	0%
Storage	9%	0%	0%	0%
Industrial / Production / Process	7%	0%	1%	0%
Research & Development	38%	0%	2%	0%
Service Buildings	10%	0%	0%	0%
Other	8%	0%	0%	0%
TOTAL	97%	0%	3%	0%

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ATTACHMENT E

Attachment E-1
Excess Facilities Disposition Plan Spreadsheet

The Excess Facilities Disposition Plan spreadsheet is intended to capture all current excess facilities and those that will become excess in the current TYCSP reporting period. For ease of use, the spreadsheet has been divided into sections to segregate the excess facilities by funding source. Only those facilities proposed for funding by FIRP in FY 2003 are prioritized and ranked on this spreadsheet. If the required information for each facility is available, it has been provided on the spreadsheet. For a number of facilities, the "Year Ready to Start Deactivation and Decontamination," the "Yearly S&M Costs," and "Expected NEPA Category and ES&H" have yet to be determined. These facilities are still being evaluated and more complete information will be provided in future TYCSPs as it is developed.

An additional column, "Historical Significance," has been added to the spreadsheet. For those facilities with a "Yes" in this column, there are two possible conditions. Either the facility is eligible for the National Register of Historic Places under one of the four eligibility criteria, or it has not yet been evaluated and is therefore considered eligible (and protected under the National Historic Preservation Act) until an eligibility assessment can be completed. In this way all buildings that are either eligible or possibly eligible are flagged. A "No" means the structure has been assessed and is not historically significant, and a "To be demolished" means all compliance work is done and the building can be demolished.

The second part of the attachment contains facilities that are *proposed* to be excessed, grouped by mission. Facility managers and division management have identified these facilities as possibly being excess to mission needs within either the next five years or five to 10 years. As these facilities are only *proposed* for excess, much of the information required for the Excess Facilities Disposition spreadsheet are not yet available. As these facilities move through the excessing process and more information becomes available, it will be provided in future TYCSPs.

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Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2004 and FY2005 FIRP Only)	Priority Rank (FY 2004 and FY 2005 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2004 and FY 2005 FIRP Only)	Deferred Maintenance Reduction (FIRP Only)	Yearly S&M Costs	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
FIRP	16-0230	PASSAGEWAY, FORMERLY 16-0230	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0231	PASSAGEWAY, FORMERLY 16-0231	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0232	PASSAGEWAY, FORMERLY 16-0232	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0234	PASSAGEWAY, FORMERLY 16-0234	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0235	PASSAGEWAY, FORMERLY 16-0235	IN PROGRESS	IN PROGRESS	31,500	2002	2003		N/A					Demolished
FIRP	16-0236	PASSAGEWAY, FORMERLY 16-0236	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0237	PASSAGEWAY, FORMERLY 16-0237	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0238	PASSAGEWAY, FORMERLY 16-0238	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0239	PASSAGEWAY, FORMERLY 16-0239	IN PROGRESS	IN PROGRESS		2002	2003		N/A					Demolished
FIRP	16-0362	TRANSPORTAINER	IN PROGRESS	IN PROGRESS		2002	2003		N/A					No
FIRP	03-0100	OFFICE BLDG	IN PROGRESS	IN PROGRESS	8,700	2002	2003		$85,895					No
FIRP	03-0287	LAB/OFFICE BLDG	IN PROGRESS	IN PROGRESS	48,000	2002	2003		$3,013,917					Yes
FIRP	03-0447	Z NTS TOWER C114366	IN PROGRESS	IN PROGRESS	2,300	2002	2003		$186,301					No
FIRP	03-1483	Z TEST TOWER	IN PROGRESS	IN PROGRESS	4,000	2002	2003		$143,894					No
FIRP	16-0339	STORAGE BLDG	IN PROGRESS	IN PROGRESS	400	2002	2003		$12,675	$8,000				No
FIRP	16-0340	EXPLOSIVES SYNTHESIS	IN PROGRESS	IN PROGRESS	37,200	2002	2003		$4,235,267	$12,000				Yes
FIRP	16-0341	REST HOUSE	IN PROGRESS	IN PROGRESS	1,200	2002	2003		$742,829	$12,000				Yes
FIRP	16-0342	BLENDING BLDG	IN PROGRESS	IN PROGRESS	8,700	2002	2003		$1,342,131	$12,000				Yes
FIRP	16-0343	REST HOUSE	IN PROGRESS	IN PROGRESS	1,200	2002	2003		$760,408	$12,000				Yes
FIRP	16-0344	DRUM STORAGE	IN PROGRESS	IN PROGRESS	800	2002	2003		$31,494	$9,000				Yes
FIRP	16-0345	REST HOUSE	IN PROGRESS	IN PROGRESS	1,500	2002	2003		$828,043	$12,000				Yes
FIRP	16-0350	PASSAGEWAY	IN PROGRESS	IN PROGRESS	3,000	2002	2003		N/A					No
FIRP	16-0351	PASSAGEWAY	IN PROGRESS	IN PROGRESS	1,000	2002	2003		N/A					No
FIRP	16-0352	PASSAGEWAY	IN PROGRESS	IN PROGRESS	3,200	2002	2003		N/A					No
FIRP	16-0353	PASSAGEWAY	IN PROGRESS	IN PROGRESS	200	2002	2003		N/A					No
FIRP	16-0354	PASSAGEWAY	IN PROGRESS	IN PROGRESS	3,200	2002	2003		N/A					No
			FY03 FIRP TOTAL		**156,100**									
FIRP	03-0587	S-3 TRAILERS				2004	2004		N/A					No
FIRP	03-1913	S-3 TRAILERS				2004	2004		N/A					No
FIRP	03-1769	S-3 TRAILERS				2004	2004		N/A					No
FIRP	03-1770	S-3 TRAILERS				2004	2004		N/A					No
FIRP	03-1527	S-3 TRAILERS	60	2	21,200	2004	2004	$1,732,000	$23,393					No
FIRP	03-2265	S-3 TRAILERS				2004	2004		N/A					No
FIRP	03-1526	OFFICE TRAILER				2004	2005		$19,576				Site is Proposed for DOE-LASO Building	No
FIRP	03-0409	HSR CLINIC				2004	2004		$980,406					No
FIRP	03-1635	HSR CLINIC				2004	2004		$392,909					No
FIRP	03-1636	HSR CLINIC				2004	2004		$385,894					No
FIRP	03-1732	MST TRAILER				2002	2003		$79,324					No
FIRP	03-1553	MST TRAILER COMPLEX				2004	2004		$6,167					No
FIRP	03-1565	MST TRAILER COMPLEX				2004	2004		$23,112					No
FIRP	03-1575	MST TRAILER COMPLEX	60	2	8,800	2004	2004	$820,000	$39,528					No
FIRP	03-1739	MST TRAILER COMPLEX				2004	2004		$9,862					No
FIRP	03-1741	MST TRAILER COMPLEX				2004	2004		$18,912					No
FIRP	03-1750	MST TRAILER COMPLEX				2004	2004		$13,757					No
FIRP	03-1760	MST TRAILER COMPLEX				2004	2004		$4,200					No
FIRP	06-0001	STORAGE BLDG				2002	2004		N/A	$7,000				Yes
FIRP	06-0002	COMPRESSOR BLDG				2002	2004		N/A	$7,000				Yes
FIRP	06-0003	FABRICATION BLDG				2002	2004		N/A	$7,000				Yes
FIRP	06-0005	STORAGE BLDG	52	4	5,900	2002	2004	$1,000,000	N/A	$7,000				Yes
FIRP	06-0006	STORAGE BLDG				2002	2004		N/A	$7,000				Yes

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FIRP	06-0007	STORAGE BLDG				2002	2004		N/A	$7,000				Yes
FIRP	06-0008	LAB BLDG				2002	2004		N/A	$7,000				Yes
FIRP	06-0009	FIRING CHAMBER				2002	2004		N/A	$7,000				Yes
FIRP	16-0007	OFFICE	76	1	4,700	2004	2004	$500,000	N/A					No
FIRP	16-0540	STEAM PLANT	56	3	12,800	2002	2004	$1,200,000	N/A					Yes
FIRP	16-0370	METAL FORMING BLDG	52	4	19,600	2002	2004	$1,989,000	$7,204,760					Yes
FIRP	21-0001	OFFICE/VAULT				2002	2004		N/A	$2,500				No
FIRP	21-0021	VAULT (SNM)	52	4	11,200	2002	2004	$1,200,000	$139,057	$10,000				Yes
FIRP	21-0228	REPLACEMENT WAREHOUSE				2002	2004		N/A	$8,000				No
FIRP	21-0402	STORAGE BUILDING				2002	2004		N/A					No
FIRP	69-0003	Z INCINERATOR C110694	56	3	600	2002	2004	$60,000	$135,567	$6,000				Yes
				FY04 FIRP TOTAL	**84,800**									
FIRP	00-1323	TRAILER			300	2004	2005	$30,000	N/A					No
FIRP	03-0031	Chemical Warehouse			30,000	2005	2005	$3,004,900	$1,219,770					Yes
FIRP	03-0208	Ion Beam EQUIPMENT BLDG			1,500	1999	2005	$144,000	$2,183,592	$7,000				Yes
FIRP	03-0379	Z LEAD POUR & PAINT C116402			1,600	2004	2005	$160,000	$122,219					No
FIRP	03-0246	Z CABLE CONTROL BLDG C116500			100	2002	2003		N/A					No
FIRP	03-0247	Z CABLE STRESSER BLDG C116501			300	2002	2003		$1,002					No
FIRP	03-0481	OFFICE BLDG			3,100	2005	2005	$314,900	$79,397				FWO GPP SF EXCHANGE	No
FIRP	03-0482	OFFICE BLDG			3,200	2005	2005	$315,000	$182,105				FWO GPP SF EXCHANGE	No
FIRP	03-1381	OFFICE TRAILER			600	2004	2005	$60,000	$29,004					No
FIRP	03-1544	OFFICE BLDG			700	2005	2005	$70,200	$56,466				FWO GPP SF EXCHANGE	No
FIRP	03-1545	OFFICE BLDG			700	2005	2005	$70,200	$56,466				FWO GPP SF EXCHANGE	No
FIRP	03-1552	OFFICE BLDG			2,000	2005	2005	$199,400	$45,758				FWO GPP SF EXCHANGE	No
FIRP	03-1586	OFFICE BLDG			2,000	2005	2005	$199,700	$68,084				FWO GPP SF EXCHANGE	No
FIRP	03-1949	Ion Beam TRANSPORTAINER			50	1999	2005	$4,800	N/A	$2,000				No
FIRP	03-1985	SHED			100	2004	2005	$10,000	N/A					No
FIRP	03-2294	ROVER SEMI-TRAILER			300	1999	2005	$30,000	N/A	$2,000				No
FIRP	15-0040	OFFICE AND LAB			13,500	2005	2005	$1,348,700	$2,834,326					Yes
FIRP	15-0046	EXERCISE FACILITY			200	2005	2005	$17,900	$68,200					Yes
FIRP	15-0140	STORAGE BUILDING			1,200	2005	2005	$121,000	$63,782					Yes
FIRP	15-0203	REX LABORATORY			4,100	2002	2005	$410,000	N/A					To Be Demolished
FIRP	15-0213	PLATFORM			600	2002	2005	$60,000	N/A	$10,000				To Be Demolished
FIRP	15-0245	REX CONTROL ROOM			1,700	2002	2005	$170,000	N/A					To Be Demolished
FIRP	15-0305	TRANSPORTABLE			3,500	2005	2005	$352,200	$84,926					No
FIRP	15-0476	TRAILER			700	2005	2005	$67,200	$2,989					No
FIRP	16-0233	PASSAGEWAY, FORMERLY 16-0233			3,500	2003	2005	$350,000	N/A					Demolished
FIRP	16-0294	SHED			50	2003	2005	$5,000	N/A					No
FIRP	16-0414	STORAGE BUILDING			8,500	2005	2005	$848,800	$82,840				ESA CONSOL. - READY IN FY04	Yes
FIRP	16-0415	REST HOUSE			4,500	2005	2005	$450,900	$36,208				ESA CONSOL. - READY IN FY04	Yes
FIRP	16-0435	REST HOUSE			4,100	2005	2005	$411,900	$281,477				ESA CONSOL. - READY IN FY04	No
FIRP	16-0437	REST HOUSE			4,000	2005	2005	$404,900	$281,477				ESA CONSOL. - READY IN FY04	No
FIRP	16-1486	STEAM PLANT BOILER			900	2005	2005	$90,000	N/A				ESA CONSOL. - READY IN FY04	No
FIRP	21-0359	OFFICE TRAILER			500	2005	2005	$54,000	N/A				FWO GPP SF EXCHANGE	No
FIRP	21-0361	OFFICE TRAILER			1,700	2005	2005	$168,000	N/A				FWO GPP SF EXCHANGE	No
FIRP	21-0365	OFFICE TRAILER			1,700	2005	2005	$168,000	$13,325				FWO GPP SF EXCHANGE	No
				FY05 FIRP TOTAL	**101,500**									
FIRP	03-1745	MST TRAILER COMPLEX			1,000	2006	2006		$9,051					No
FIRP	03-2130	STORAGE CONTAINER			500	2006	2006		N/A	$1,000			Former CGRP Project	No
FIRP	03-3072	ROVER SEMI-TRAILER			200	1999	2006		N/A	$2,000				No

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FIRP	08-0020	STORAGE BLDG			200	2006	2006		$11,031				ESA CONSOL. - READY IN FY04	Yes
FIRP	08-0024	STORAGE BLDG			2,200	2006	2006		$107,624				ESA CONSOL. - READY IN FY04	Yes
FIRP	08-0025	UTILITY BLDG			100	2006	2006		$5,238				ESA CONSOL. - READY IN FY04	Yes
FIRP	08-0026	STORAGE BLDG			600	2006	2006		$35,980				ESA CONSOL. - READY IN FY04	Yes
FIRP	08-0028	GUARD STATION			100	2006	2006		$3,248				ESA CONSOL. - READY IN FY04	Yes
FIRP	11-0001	STORAGE BLDG			600	2006	2006		$23,737				ESA CONSOL. - READY IN FY05	Yes
FIRP	11-0002	CONTROL BUILDING			800	2002	2006		$9,635	$6,000			ESA CONSOL. - READY IN FY05	Yes
FIRP	11-0024	OFFICE/SHOP BLDG			3,700	2006	2006		$44,379				ESA CONSOL. - READY IN FY05	No
FIRP	11-0033	EQUIPMENT SHELTER			100	2006	2006		N/A				ESA CONSOL. - READY IN FY05	No
FIRP	14-0005	STORAGE BUILDING			400	2001	2006		N/A	$15,000				Yes
FIRP	14-0030	EXPLOSIVE PREP BLDG			200	2006	2006		$2,852	$6,000				Yes
FIRP	14-0038	STORAGE SHACK			50	1999	2006		$557	$6,000				No
FIRP	15-0020	BRANCH SHOP & LAB BLDG			5,000	2002	2006		N/A					To Be Demolished
FIRP	15-0022	STORAGE BLDG			300	2002	2006		$37,561	$10,000				To Be Demolished
FIRP	15-0023	LAB/STORAGE BLDG			800	2002	2006		$40,652	$6,000				To Be Demolished
FIRP	15-0030	GUARD STATION			200	2002	2006		N/A					To Be Demolished
FIRP	15-0138	BUNKER			100	1999	2006		N/A	$12,000				Yes
FIRP	15-0194	PULSE POWER LAB			2,000	2002	2006		N/A					To Be Demolished
FIRP	16-0203	LUMBER STORAGE			1,000	2006	2006		$45,618				ESA CONSOL. - READY IN FY04	No
FIRP	16-0209	LABORER SHOP			200	2006	2006		$11,299				ESA CONSOL. - READY IN FY04	No
FIRP	16-0242	TRANSPORTABLE			1,500	2006	2006		$49,585				ESA CONSOL. - READY IN FY05	No
FIRP	16-0243	TRANSPORTABLE			3,200	2006	2006		$132,586				ESA CONSOL. - READY IN FY05	No
FIRP	16-0244	TRANSPORTABLE			3,400	2006	2006		$156,674				ESA CONSOL. - READY IN FY05	No
FIRP	16-0245	TRANSPORTABLE			1,700	2006	2006		$84,604				ESA CONSOL. - READY IN FY05	No
FIRP	16-0246	TRANSPORTABLE			1,700	2006	2006		$73,869				ESA CONSOL. - READY IN FY05	No
FIRP	16-0303	REST HOUSE			5,300	2006	2006		$187,046				ESA CONSOL. - READY IN FY04	No
FIRP	16-0476	CONTROL ROOM			200	1999	2006		$54,004	$9,000				Yes
FIRP	16-0477	REST HOUSE			400	1999	2006		$63,004	$9,000				Yes
FIRP	16-0478	HIGH SPEED MACHINING			1,200	1999	2006		$436,554	$9,000				Yes
FIRP	16-0897	TRANSPORTABLE			1,500	2006	2006		$60,165				ESA CONSOL. - READY IN FY05	No
FIRP	18-0002	GENERAL STORAGE			100	1999	2006		N/A					Yes
FIRP	18-0005	GENERAL STORAGE			100	1999	2006		N/A					Yes
FIRP	18-0186	OTHER SERVICE BUILDINGS			50	1999	2006		$2,522					No
FIRP	18-0187	GUARD TOWER			50	1999	2006		N/A					No
FIRP	18-0188	GUARD TOWER			50	1999	2006		$2,522					No
FIRP	21-0003	LABORATORY BLDG.			4,700	1996	2006		$31,744					Yes
FIRP	21-0004	LABORATORY BLDG.			1,600	1996	2006		$38,093					Yes
FIRP	21-0418	ROVER SEMI-TRAILER			300	2006	2006		N/A					No
FIRP	21-0451	STORAGE TRAILER			100	2006	2006		N/A	$1,000				No
FIRP	28-0001	MAGAZINE			300	2002	2006		$8,667	$2,000				Yes
FIRP	28-0002	MAGAZINE			300	2000	2006		$8,687	$2,000				Yes
FIRP	28-0003	MAGAZINE			300	2000	2006		$8,667	$2,000				Yes
FIRP	28-0004	MAGAZINE			300	2000	2006		$8,687	$2,000				Yes
FIRP	28-0005	MAGAZINE			300	2000	2006		$8,687	$2,000				Yes
FIRP	33-0024	STORAGE BLDG			1,000	2006	2006		$90,618	$5,000				Yes
FIRP	33-0088	STORAGE BLDG			200	2006	2006		$2,923	$2,000				Yes
FIRP	33-0089	X UNIT VAULT			200	2006	2006		$3,559	$2,000				Yes
FIRP	33-0129	TEST CELL			200	1999	2006		$10,788	$7,000				Yes
FIRP	36-0044	SHED			100	2006	2006		N/A					No
FIRP	36-0045	SHED			100	2006	2006		N/A					No

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FIRP	39-0002	LABORATORY & OFFICE BLDG			13,200	2006	2006		$524,426					Yes
FIRP	39-0007	FIRING CHAMBER #2			500	1999	2006		$3,122	$9,000				Yes
FIRP	39-0008	FIRING CHAMBER #3			600	1999	2006		$3,708	$9,000				Yes
FIRP	40-0001	LABORATORY & OFFICE BLDG			6,100	2006	2006		$80,116					Yes
FIRP	40-0019	OFFICE AND LAB			200	1999	2006		$55,700	$6,000				Yes
FIRP	40-0023	MACHINE SHOP			8,200	2006	2006		$116,383					Yes
FIRP	40-0045	SOLVENT SHED			100	2006	2006		N/A					No
FIRP	41-0002	GUARD HOUSE			800	2006	2006		$23,041				ESA CONSOL. - READY IN FY03	Yes
FIRP	41-0003	BLOWER HOUSE			50	2006	2006		$56				ESA CONSOL. - READY IN FY03	Yes
FIRP	41-0006	COVERED PASSAGEWAY			900	2006	2006		N/A				ESA CONSOL. - READY IN FY03	Yes
FIRP	41-0044	STORAGE BLDG			300	2006	2006		$306				ESA CONSOL. - READY IN FY03	No
FIRP	41-0054	STORAGE BLDG			300	2006	2006		$306				ESA CONSOL. - READY IN FY03	No
FIRP	46-0262	SHED			50	2006	2006		N/A					No
FIRP	55-0048	GUARD TOWER STA #407			50	1999	2006		N/A	$2,000				No
FIRP	55-0125	GUARD TOWER STA #406			50	1999	2006		N/A	$2,000				No
FIRP	55-0162	GUARD TOWER STA #420			50	1999	2006		N/A	$2,000				No
FIRP	58-0031	ROOVER TRAILER			100	2000	2006		N/A					No
FIRP		VARIOUS STRUCTURES			35,000	2006	2006						VARIOUS STRUCTURES - TBD	
			FY06 FIRP TOTAL		**117,350**									
FIRP	03-0542	GUARD STATION			50	2007	2007		N/A				ESA CONSOL. - READY IN FY06	No
FIRP	03-1814	GUARD STATION			50	2007	2007		$8,832				ESA CONSOL. - READY IN FY06	Yes
FIRP	08-0029	UTILITY BLDG			100	2007	2007		$3,055				ESA CONSOL. - READY IN FY06	Yes
FIRP	08-0030	LAB			600	2007	2007		$19,769				ESA CONSOL. - READY IN FY06	Yes
FIRP	15-0184	PHERMEX CHAMBER / AMP			10,200	2007	2007		$51,600				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0185	POWER CONTROL BUILDING			12,700	2007	2007		$319,443				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0186	DETECTION CHAMBER			2,300	2007	2007		$6,238				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0198	TUNNEL			900	2007	2007		N/A				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0199	TUNNEL			2,000	2007	2007		N/A				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0200	TUNNEL			700	2007	2007		$53,115				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0201	TUNNEL			900	2007	2007		$65,826				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	15-0310	MULTI DIAG OPERATIONS BLDG			3,200	2007	2007		$54,263				Associated with vacation of Phermex, Possible Contamination	Yes
FIRP	16-0304	PLASTICS BLDG			19,500	2007	2007		$1,040,669				ESA CONSOL. - READY IN FY06	No
FIRP	16-0305	PLASTICS BLDG			5,300	2007	2007		$341,991				ESA CONSOL. - READY IN FY06	No
FIRP	16-0306	PLASTICS BLDG			19,600	2007	2007		$1,040,669				ESA CONSOL. - READY IN FY06	Yes
FIRP	16-0307	PLASTICS BLDG			7,600	2007	2007		$480,205				ESA CONSOL. - READY IN FY06	No
FIRP	16-0319	OFFICE			300	2007	2007		$14,110				ESA CONSOL. - READY IN FY06	No
FIRP	16-0360	SHOP/STORAGE BLDG			3,900	2007	2007		$116,076				ESA CONSOL. - READY IN FY06	Yes
FIRP	16-0453	STORAGE BLDG			300	2007	2007		N/A				ESA CONSOL. - READY IN FY06	No
FIRP		VARIOUS STRUCTURES			47,500	2007	2007						VARIOUS STRUCTURES - TBD	
			FY07 FIRP TOTAL		**137,700**									
FIRP		VARIOUS STRUCTURES			150,000	2008	2008						VARIOUS STRUCTURES - TBD	
			FY08 FIRP TOTAL		**150,000**									
FIRP	09-0020	OFFICE			200	2009	2009		$8,272	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0021	LAB / OFFICE			25,400	2009	2009		$227,543	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0022	MAGAZETTE			10	2009	2009		$689	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0023	MAGAZETTE			10	2009	2009		$230	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0024	MAGAZETTE			10	2009	2009		$230	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0025	MAGAZETTE			10	2009	2009		$255	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0026	MAGAZETTE			10	2009	2009		$230	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0027	MAGAZETTE			10	2009	2009		$230	NE			Vacated due to DX High Explosives LI Constr.	Yes

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FIRP	09-0029	ACID STORAGE			4,700	2009	2009		$119,364	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0030	STORAGE			200	2009	2009		$2,806	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0031	SOLVENT STORAGE			300	2009	2009		$3,826	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0032	PRESSING LAB			2,600	2009	2009		$45,262	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0033	CHEM LAB			800	2009	2009		$7,055	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0034	CHEM LAB			1,800	2009	2009		$107,504	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0035	PRESSING LAB			1,900	2009	2009		$423,422	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0037	PROCESS BUILDING			1,600	2009	2009		$45,638	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0043	PROCESS BUILDING			1,800	2009	2009		$366,879	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0050	HE RECEIVING			600	2009	2009		$32,916	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0204	STORAGE			50	2009	2009		N/A	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0208	MAGAZETTE			50	2009	2009		$1,277	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	09-0272	OFFICE			1,700	2009	2009		$21,457	NE			Vacated due to DX High Explosives LI Constr.	No
FIRP	09-0273	CLASSIFIED OFFICE			1,700	2009	2009		$78,135	NE			Vacated due to DX High Explosives LI Constr.	No
FIRP	14-0069	LAB / TRAILER			300	2009	2009		N/A	NE			Vacated due to DX High Explosives LI Constr.	No
FIRP	40-0012	LAB			1,300	2009	2009		$67,711	NE			Vacated due to DX High Explosives LI Constr.	Yes
FIRP	40-0090	HERCULES OFFICE			1,600	2009	2009		$12,612	NE			Vacated due to DX High Explosives LI Constr.	No
FIRP		VARIOUS STRUCTURES			80,000	2009	2009						VARIOUS STRUCTURES - TBD	
			FY09 FIRP TOTAL		**128,660**									
FIRP	03-0039	ESA SHOPS			152,600	2010	2010		$1,170,541				Line Item Project - ESA Shops	Yes
FIRP		VARIOUS STRUCTURES			17,400	2010	2010						VARIOUS STRUCTURES - TBD	
			FY10 FIRP TOTAL		**170,000**									
FIRP		VARIOUS STRUCTURES			180,000	2011	2011						VARIOUS STRUCTURES - TBD	
			FY11 FIRP TOTAL		**180,000**									
FIRP		VARIOUS STRUCTURES			190,000	2012	2012						VARIOUS STRUCTURES - TBD	
			FY12 FIRP TOTAL		**190,000**									
FIRP		VARIOUS STRUCTURES			200,000	2013	2013						VARIOUS STRUCTURES - TBD	
			FY13 FIRP TOTAL		**200,000**									
CGRP	02-0027	DROP INLET			0	2003	2003						CGRP in 2002	No
CGRP	02-0030	BEAM TRAP			0	2003	2003						CGRP in 2002	No
CGRP	02-0036	DROP INLET			0	2003	2003						CGRP in 2002	No
CGRP	02-0037	ROCK CATCHER			0	2003	2003						CGRP in 2002	No
CGRP	02-0041	RETAINING WALL			0	2003	2003						CGRP in 2002	No
CGRP	02-0047	CIRCULATING WATER MANHOLES			0	2003	2003						CGRP in 2002	No
CGRP	02-0051	SUBSTATION			0	2003	2003			$3,000			CGRP in 2002	No
CGRP	02-0063	BOILER HOUSE			500	2002	2003			$3,000			CGRP in 2002	No
CGRP	02-0089	STORAGE BLDG			200	2002	2003			$1,000			CGRP in 2002	No
CGRP	02-0090	STORAGE BLDG			100	2002	2003			$1,000			CGRP in 2002	No
CGRP	15-0050	TRANSFORMER			500	2003	2003						CGRP in 2003	No
CGRP	15-0239	PASSAGEWAY FORMERLY 15-0239			500	2003	2003			$0			CGRP in 2003	To Be Demolished
CGRP	15-0314	METAL SHED			400	2003	2003						CGRP in 2003	No
CGRP	15-0329	TRANSPORTAINER			200	2003	2003			$9,000			CGRP in 2003	No
CGRP	15-0339	SHED			300	2003	2003			$9,000			CGRP in 2003	No
CGRP	15-0371	PASSAGEWAY FORMERLY 15-0371			0	2003	2003						CGRP in 2003	No
CGRP	15-0372	TRANSPORTAINER			200	2003	2003						CGRP in 2003	No
CGRP	15-0373	TRANSPORTAINER			200	2003	2003						CGRP in 2003	No
CGRP	15-0374	SHED			100	2003	2003						CGRP in 2003	No
CGRP	15-0375	TRANSPORTAINER			200	2003	2003			$6,000			CGRP in 2003	No
CGRP	15-0458	MAGAZINE			300	2003	2003						CGRP in 2003	No
CGRP	15-0480	UK			200	2003	2003			$8,000			CGRP in 2003	No

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Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2004 and FY2005 FIRP Only)	Priority Rank (FY 2004 and FY 2005 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2004 and FY 2005 FIRP Only)	Deferred Maintenance Reduction (FIRP Only)	Yearly S&M Costs	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
CGRP	33-0199	TRANSPORTAINER			300	2003	2003			$2,000			CGRP in 2002, Completed	No
CGRP	41-0004	LABORATORY BUILDING			40,600	2003	2003						CGRP in 2002	Yes
			FY03 CGRP TOTAL		**44,800**									
OTHER	03-0460	NIS STRUCTURE			1,400	2004	2004						Project Funded, FY04	No
OTHER	03-0472	NIS STRUCTURE			3,400	2004	2004						Project Funded, FY04	No
OTHER	03-0545	NIS STRUCTURE			600	2004	2004						Project Funded, FY04	No
OTHER	03-1530	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1540	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1541	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1572	NIS STRUCTURE			1,900	2004	2004						Project Funded, FY04	No
OTHER	03-1578	NIS STRUCTURE			800	2004	2004						Project Funded, FY04	No
OTHER	03-1596	FIRING BUNKER			700	2004	2004						Project Funded, FY04	No
OTHER	03-1701	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1736	NIS STRUCTURE			600	2004	2004						Project Funded, FY04	No
OTHER	03-1737	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1738	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	03-1789	NIS STRUCTURE			300	2004	2004						Project Funded, FY04	No
OTHER	03-1903	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	35-0110	NIS STRUCTURE			1,100	2004	2004						Project Funded, FY04	No
OTHER	35-0114	NIS STRUCTURE			1,400	2004	2004						Project Funded, FY04	No
OTHER	35-0253	NIS STRUCTURE			1,100	2004	2004						Project Funded, FY04	No
OTHER	35-0261	NIS STRUCTURE			1,100	2004	2004						Project Funded, FY04	No
OTHER	35-0262	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
OTHER	35-0623	NIS STRUCTURE			700	2004	2004						Project Funded, FY04	No
			FY04 OTHER TOTAL		**20,700**									
OTHER	03-0043	ADMINISTRATION BUILDING			315,000	2006	2006							Yes
			FY06 OTHER TOTAL		**315,000**									
			SUBTOTAL ALL FUNDING SOURCES		**1,996,610**									
EM XFER?	03-0016	ION BEAM FACILITY			56,300	1999	TBD				EM	Yes	Candidate for DP to EM transfer in 2003	Yes
Unknown	08-0001	LABORATORY & SHOP BLDG			3,300	1999	TBD			$6,000			Historical - Not to be demolished	Yes
Unknown	08-0002	SHOP & STORAGE BLDG			400	1999	TBD			$6,000			Historical - Not to be demolished	Yes
Unknown	08-0003	LABORATORY BLDG			600	1999	TBD			$6,000			Historical - Not to be demolished	Yes
EM XFER?	15-0008	STORAGE BLDG			300	1999	TBD			$9,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	15-0009	FIRING BUNKER			300	1999	TBD			$6,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	15-0027	CONTROL BLDG			600	1999	TBD			$12,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	15-0044	CONTROL BUILDING			500	2001	TBD			$12,000	EM	Yes	Candidate for DP to EM transfer	Yes
Unknown	16-0058	MAGAZINE			300	2000	TBD			$8,000			Historical - Not to be demolished	Yes
Unknown	16-0088	CASTING REST HOUSE			2,000		TBD					Yes	Originally FIRP FY04, But Beryllium Contaminated	Yes
EM XFER?	16-0516	PROCESS BLDG			700	2001	TBD			$8,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	16-0517	EQUIP BLDG			300	1999	TBD			$8,000	EM	Yes	Candidate for DP to EM transfer	Yes
Unknown	16-1451	GUARD STATION			200	1999	TBD			$3,000			Historical - Not to be demolished	Yes
EM XFER?	21-0002N	LABORATORY BLDG			6,800	1999	TBD			$10,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0002S	LABORATORY BLDG			6,600	1999	TBD			$10,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0005N	LABORATORY BLDG.			8,200	1998	TBD			$10,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0005S	LABORATROY BLDG			8,200	1998	TBD			$10,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0042	Z PUMP HOUSE C108692			100	2003	TBD			$2,500	EM	Yes	Candidate for DP to EM transfer	No
Unknown	21-0080	PRV STATION (WATER)			50	TBD	TBD			$2,500		Yes	Potential Contamination Issues	No
Unknown	21-0089	PRV STATION (WATER)			50	TBD	TBD			$2,500		Yes	Potential Contamination Issues	No
Unknown	21-0110	ACID TANK			500	TBD	TBD			$2,000		Yes	Potential Contamination Issues	No
Unknown	21-0111	ACID TANK			500	TBD	TBD			$2,000		Yes	Potential Contamination Issues	No

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Unknown	21-0112	ACID TANK			500	TBD	TBD			$2,000		Yes	Potential Contamination Issues	No
Unknown	21-0113	ACID TANK			500	TBD	TBD			$2,000		Yes	Potential Contamination Issues	No
EM XFER?	21-0116	WAREHOUSE			1,900	1999	TBD			$8,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0149	CORRIDOR STRUCTURE			3,600	1999	TBD			$7,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0150	MOLECULAR CHEMISTRY			14,800	1999	TBD			$8,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0212	CALCIUM BLDG			500	TBD	TBD			$2,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0286	WAREHOUSE			3,600	1999	TBD			$8,000	EM	Yes	Candidate for DP to EM transfer in 2003	Yes
EM XFER?	21-0312	CORRIDOR STRUCTURE			2,000	1999	TBD			$5,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0313	CORRIDOR STRUCTURE			4,200	1999	TBD			$5,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0314	CORRIDOR STRUCTURE			4,700	1999	TBD			$5,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0315	CORRIDOR STRUCTURE			4,700	1999	TBD			$5,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0334	SHED			100	1995	TBD			$2,300	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0335	CONTAINER VESSEL			100	TBD	TBD			$3,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0355	STORAGE TRAILER			500	TBD	TBD			$7,000	EM	Yes	Candidate for DP to EM transfer	No
EM XFER?	21-0402	STORAGE BUILDING			1,300	1989	TBD			$3,500	EM	Yes	Candidate for DP to EM transfer in 2003	No
EM XFER?	21-0458	SHED			100	1999	TBD			$4,000	EM	Yes	Candidate for DP to EM transfer in 2003	No
Unknown	22-0001	LOADING BLDG			7,600	1999	TBD			$20,000		Yes	2002 FIRP Prop., Hold Per Historical Rvw.	Yes
Unknown	22-0025	PROCESS BLDG			200	TBD	TBD			$8,000		Yes	2002 FIRP Prop., Hold Per Historical Rvw.	Yes
EM XFER?	33-0026	STORAGE BLDG			200	1999	TBD			$6,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	40-0043	STORAGE BUILDING			200	1999	TBD			$6,000	EM	Yes	Candidate for DP to EM transfer	No
EM XFER?	49-0023	BOTTLE HOUSE			300	1999	TBD			$9,000	EM	Yes	Candidate for DP to EM transfer	Yes
EM XFER?	49-0121	CABLE BLDG			400	1999	TBD			$9,000	EM	Yes	Candidate for DP to EM transfer	No
Unknown	60-0019	TEST FABRICATION FACILITY			17,300	1999	TBD			$10,000				Yes
				FUNDING TO BE DETERMINED	**166,100**									
				SUBTOTAL FUNDING TO BE DETERMINED	**166,100**									
				GRAND TOTAL	**2,162,710**									

Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
08-0024	FLASH X-RAY R&D	Engineering Facilities	1951	2,231	Fail	Building to be excessed 0-5 years	Research & Development
08-0025	UTILITY BLDG	Engineering Facilities	1951	99	Poor	Building to be excessed 0-5 years	Other
08-0026	STORAGE/SALVAGE BLDG	Engineering Facilities	1951	638	Fail	Building to be excessed 0-5 years	Storage
08-0028	GUARD SHACK	Engineering Facilities	1951	87	Poor	Building to be excessed 0-5 years	Service
08-0029	UTILITY BLDG	Engineering Facilities	1951	99	Poor	Building to be excessed 0-5 years	Other
08-0030	M.A.S.H. RESEARCH LAB	Engineering Facilities	1951	638	Fail	Building to be excessed 0-5 years	Research & Development
08-0032	MAGAZINE	Engineering Facilities	1951	224	Excellent	Building to be excessed 0-5 years	Storage
08-0070	LAB/OFFICE BLDG	Engineering Facilities	1960	8,807	Poor	Building to be excessed 0-5 years	Research & Development
11-0001	STORAGE BLDG	Engineering Facilities	1945	618	Poor	Building to be excessed 0-5 years	Storage
11-0004	CONTROL BUILDING	Engineering Facilities	1945	706	Fair	Building to be excessed 0-5 years	Other
11-0024	SHOP/OFFICE BLDG	Engineering Facilities	1957	3,685	Good	Building to be excessed 0-5 years	Service
11-0030	VIBRATION TEST BLDG	Engineering Facilities	1959	2,001	Adequate	Building to be excessed 0-5 years	Other
11-0033	EQUIPMENT SHELTER	Engineering Facilities	1962	66	Excellent	Building to be excessed 0-5 years	Other
16-0201	GUARD STA #560	Engineering Facilities	1953	77	Excellent	Building to be excessed 0-5 years	Service
16-0203	Z LUMBER STORAGE C117927	Engineering Facilities	1953	1,043	Poor	Building to be excessed 0-5 years	Storage
16-0209	SAFETY OFFICE	Engineering Facilities	1953	187	Poor	Building to be excessed 0-5 years	Administrative
16-0210	GUARD HOUSE STA #562	Engineering Facilities	1954	188	Fail	Building to be excessed 0-5 years	Service
16-0243	TRANSPORTABLE	Engineering Facilities	1981	3,241	Poor	Building to be excessed 0-5 years	Administrative
16-0245	TRANSPORTABLE	Engineering Facilities	1986	1,691	Poor	Building to be excessed 0-5 years	Administrative
16-0246	TRANSPORTABLE	Engineering Facilities	1986	1,688	Poor	Building to be excessed 0-5 years	Administrative
16-0303	REST HOUSE	Engineering Facilities	1954	5,405	Poor	Building to be excessed 0-5 years	Industrial/Production/Process
16-0304	PLASTICS BLDG	Engineering Facilities	1954	19,513	Fair	Building to be excessed 0-5 years	Industrial/Production/Process
16-0305	PLASTICS BLDG	Engineering Facilities	1954	5,402	Adequate	Building to be excessed 0-5 years	Industrial/Production/Process
16-0306	PLASTICS BLDG	Engineering Facilities	1954	19,639	Fair	Building to be excessed 0-5 years	Industrial/Production/Process
16-0307	PLASTICS BLDG	Engineering Facilities	1954	7,716	Adequate	Building to be excessed 0-5 years	Industrial/Production/Process
16-0319	OFFICE	Engineering Facilities	1954	334	Poor	Building to be excessed 0-5 years	Administrative
16-0360	STORAGE BLDG	Engineering Facilities	1952	3,911	Fair	Building to be excessed 0-5 years	Storage
16-0367	ROVER TRAILER	Engineering Facilities	1984	360	Fail	Building to be excessed 0-5 years	Administrative
16-0375	SECURE BUILDING	Engineering Facilities	1997	293	Excellent	Building to be excessed 0-5 years	Other
16-0376	SECURE BUILDING	Engineering Facilities	1997	294	Excellent	Building to be excessed 0-5 years	Other
16-0414	STORAGE BLDG	Engineering Facilities	1952	8,488	Fair	Building to be excessed 0-5 years	Storage
16-0415	REST HOUSE	Engineering Facilities	1952	4,559	Good	Building to be excessed 0-5 years	Industrial/Production/Process
16-0430	HE PRESSING	Engineering Facilities	1953	19,168	Good	Building to be excessed 0-5 years	Industrial/Production/Process
16-0435	REST HOUSE	Engineering Facilities	1953	4,439	Fair	Building to be excessed 0-5 years	Industrial/Production/Process
16-0437	REST HOUSE	Engineering Facilities	1953	4,323	Fair	Building to be excessed 0-5 years	Industrial/Production/Process
16-0453	LEAN TO STORAGE SHED	Engineering Facilities	1995	288	Excellent	Building to be excessed 0-5 years	Storage
16-0659	TRAILER PO 7459J	Engineering Facilities	1990	1,432	Good	Building to be excessed 0-5 years	Administrative
16-0660	TRAILER PO 5927F	Engineering Facilities	1986	669	Good	Building to be excessed 0-5 years	Administrative
16-0661	DOUBLEWIDE TRAILER PO 8519K	Engineering Facilities	1994	1,420	Excellent	Building to be excessed 0-5 years	Administrative

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Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
16-1486	STEAM PLANT BOILER #7	Engineering Facilities	1996	900	Adequate	Building to be excessed 0-5 years	Other
21-0370	MECHANICAL EQUIP BLDG	Engineering Facilities	1985	900	Excellent	Building to be excessed 0-5 years	Other
41-0002	GUARD HOUSE #318	Engineering Facilities	1950	781	Fair	Building to be excessed 0-5 years	Service
41-0003	BLOWER HOUSE	Engineering Facilities	1950	24	Excellent	Building to be excessed 0-5 years	Other
41-0044	STORAGE BLDG	Engineering Facilities	1978	297	Excellent	Building to be excessed 0-5 years	Storage
41-0054	STORAGE BLDG	Engineering Facilities	1986	256	Excellent	Building to be excessed 0-5 years	Storage
03-0039	TECH SHOP	Engineering Facilities	1954	152,567	Good	Building to be excessed 5-10 years	Service
03-0102	TECH SHOPS ADDITION	Engineering Facilities	1957	29,365	Adequate	Building to be excessed 5-10 years	Industrial/Production/Process
03-1814	GUARD TOWER STA #334	Engineering Facilities	1984	36	Fail	Building to be excessed 5-10 years	Other
08-0020	GUARD STATION	Engineering Facilities	1951	187	Fail	Building to be excessed 5-10 years	Storage
16-0088	CASTING REST HOUSE	Engineering Facilities	1950	2,043	Excellent	Building to be excessed 5-10 years	Industrial/Production/Process
16-0192	CAFETERIA	Engineering Facilities	1953	3,926	Poor	Building to be excessed 5-10 years	Other
Engineering Facilities GSF Proposed for Excess				**326,949**			
16-0248	TRAILER	Tritium Facilities	1981	208	Poor	Building to be excessed 0-5 years	Administrative
21-0152	LABORATORY BLDG	Tritium Facilities	1945	12,480	Poor	Building to be excessed 0-5 years	Research & Development
21-0155	TRIT SYS TEST ASSEM (TSTA)	Tritium Facilities	1950	16,349	Adequate	Building to be excessed 0-5 years	Research & Development
21-0166	EQUIPMENT BLDG	Tritium Facilities	1945	1,302	Fail	Building to be excessed 0-5 years	Other
21-0167	EQUIPMENT BLDG	Tritium Facilities	1945	1,302	Fail	Building to be excessed 0-5 years	Other
21-0209	TRITIUM SCI & TECH BLDG	Tritium Facilities	1966	34,272	Good	Building to be excessed 0-5 years	Research & Development
21-0213	LAB SUPPLY WAREHOUSE	Tritium Facilities	1965	1,728	Good	Building to be excessed 0-5 years	Storage
Tritium Facilities GSF Proposed for Excess				**67,641**			
53-0026	SUB-STOCKROOM/WHSE	LANSCE	1978	4,032	Poor	Building to be excessed 5-10 years	Storage
53-0027	Z PAN AM CRAFT SH C116860	LANSCE	1971	1,684	Adequate	Building to be excessed 5-10 years	Service
53-0037	GUARD STATION	LANSCE	1972	126	Adequate	Building to be excessed 5-10 years	Service
53-0553	STORAGE SHED	LANSCE	1985	381	Fair	Building to be excessed 5-10 years	Storage
53-0673	Z CORRIGATED METAL SHED	LANSCE	1987	328	Poor	Building to be excessed 5-10 years	Storage
53-0679	METAL DETECTOR SHED	LANSCE	1987	288	Adequate	Building to be excessed 5-10 years	Other
LANSCE Facilities GSF Proposed for Excess				**6,839**			
15-0040	LAB & OFFICE BLDG	Dynamic Experiments	1952	13,487	Fail	Building to be excessed 0-5 years	Administrative
15-0041	STORAGE BLDG	Dynamic Experiments	1952	323	Poor	Building to be excessed 0-5 years	Storage
15-0046	EXERCISE FACILITY	Dynamic Experiments	1952	179	Fail	Building to be excessed 0-5 years	Other
15-0140	STORAGE BUILDING	Dynamic Experiments	1952	1,210	Fail	Building to be excessed 0-5 years	Storage
15-0182	STORAGE BLDG	Dynamic Experiments	1955	86	Excellent	Building to be excessed 0-5 years	Storage
15-0305	TRANSPORTABLE	Dynamic Experiments	1982	3,552	Fair	Building to be excessed 0-5 years	Administrative
39-0005	READY MAGAZINE	Dynamic Experiments	1953	144	Excellent	Building to be excessed 0-5 years	Storage
39-0006	FIRING CHAMBER #1	Dynamic Experiments	1953	561	Good	Building to be excessed 0-5 years	Research & Development
39-0103	TRANSPORTABLE	Dynamic Experiments	1985	1,680	Poor	Building to be excessed 0-5 years	Administrative
39-0107	TRANSPORTABLE	Dynamic Experiments	1987	1,680	Good	Building to be excessed 0-5 years	Administrative
09-0020	OFFICE	Dynamic Experiments	1961	189	Poor	Building to be excessed 5-10 years	Administrative

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Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
09-0021	LAB & OFFICE BLDG	Dynamic Experiments	1953	25,423	Good	Building to be excessed 5-10 years	Research & Development
09-0022	MAGAZINE	Dynamic Experiments	1953	27	Good	Building to be excessed 5-10 years	Storage
09-0023	MAGAZINE	Dynamic Experiments	1953	9	Good	Building to be excessed 5-10 years	Storage
09-0024	MAGAZINE	Dynamic Experiments	1953	9	Good	Building to be excessed 5-10 years	Storage
09-0025	MAGAZINE	Dynamic Experiments	1953	10	Good	Building to be excessed 5-10 years	Storage
09-0026	MAGAZINE	Dynamic Experiments	1953	9	Good	Building to be excessed 5-10 years	Storage
09-0027	MAGAZINE	Dynamic Experiments	1953	9	Good	Building to be excessed 5-10 years	Storage
09-0028	SHOP BUILDING	Dynamic Experiments	1953	2,822	Fair	Building to be excessed 5-10 years	Service
09-0029	STOCK & EQUIP BLDG	Dynamic Experiments	1953	4,675	Poor	Building to be excessed 5-10 years	Storage
09-0030	GAS STORAGE	Dynamic Experiments	1953	242	Good	Building to be excessed 5-10 years	Storage
09-0031	SOLVENT STORAGE	Dynamic Experiments	1953	330	Good	Building to be excessed 5-10 years	Storage
09-0032	LAB/OFFICE BLDG	Dynamic Experiments	1953	2,556	Adequate	Building to be excessed 5-10 years	Research & Development
09-0033	LAB BLDG	Dynamic Experiments	1953	949	Good	Building to be excessed 5-10 years	Research & Development
09-0034	PROCESS LAB	Dynamic Experiments	1953	1,771	Fair	Building to be excessed 5-10 years	Industrial/Production/Process
09-0035	PROCESS LAB	Dynamic Experiments	1953	1,911	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
09-0036	MAGAZINE	Dynamic Experiments	1953	210	Good	Building to be excessed 5-10 years	Storage
09-0037	PROCESS LAB	Dynamic Experiments	1953	1,591	Fair	Building to be excessed 5-10 years	Research & Development
09-0048	MACHINING BLDG	Dynamic Experiments	1953	3,557	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
09-0049	MAGAZINE	Dynamic Experiments	1953	210	Good	Building to be excessed 5-10 years	Storage
09-0050	RECEIVING & SHIPPING BLDG	Dynamic Experiments	1953	576	Fair	Building to be excessed 5-10 years	Other
09-0051	ENVIRONMENTAL TEST	Dynamic Experiments	1953	2,122	Adequate	Building to be excessed 5-10 years	Research & Development
09-0052	MAGAZINE	Dynamic Experiments	1953	209	Adequate	Building to be excessed 5-10 years	Storage
09-0053	MAGAZINE	Dynamic Experiments	1953	209	Good	Building to be excessed 5-10 years	Storage
09-0054	MAGAZINE	Dynamic Experiments	1953	400	Good	Building to be excessed 5-10 years	Storage
09-0055	MAGAZINE	Dynamic Experiments	1953	876	Good	Building to be excessed 5-10 years	Storage
09-0204	REFRIGERATOR SHELTER	Dynamic Experiments	1959	39	Fair	Building to be excessed 5-10 years	Storage
09-0208	DAY MAGAZINE	Dynamic Experiments	1962	50	Good	Building to be excessed 5-10 years	Storage
09-0214	SHOP BLDG	Dynamic Experiments	1948	2,468	Fail	Building to be excessed 5-10 years	Service
09-0265	BOILER BLDG	Dynamic Experiments	2000	131	Excellent	Building to be excessed 5-10 years	Other
09-0272	TRANSPORTABLE	Dynamic Experiments	1988	1,698	Fair	Building to be excessed 5-10 years	Administrative
09-0273	TRANSPORTABLE	Dynamic Experiments	1984	1,701	Poor	Building to be excessed 5-10 years	Administrative
09-0282	STEAM PLANT BOILER #13	Dynamic Experiments	1996	1,200	Good	Building to be excessed 5-10 years	Other
14-0006	STORAGE BUILDING	Dynamic Experiments	1944	669	Fail	Building to be excessed 5-10 years	Storage
14-0034	CONTROL BLDG	Dynamic Experiments	1959	342	Poor	Building to be excessed 5-10 years	Research & Development
14-0040	INSTRUMENTATION BLDG	Dynamic Experiments	1975	80	Fair	Building to be excessed 5-10 years	Industrial/Production/Process
14-0043	ASSEMBLY & STORAGE BLDG	Dynamic Experiments	1985	1,000	Adequate	Building to be excessed 5-10 years	Research & Development
15-0183	LAB & OFFICE BLDG	Dynamic Experiments	1961	20,039	Fair	Building to be excessed 5-10 years	Research & Development
15-0184	PHERMEX CHAMBER/AMP	Dynamic Experiments	1961	10,144	Excellent	Building to be excessed 5-10 years	Research & Development
15-0185	POWER CONTROL BLDG	Dynamic Experiments	1961	12,698	Fair	Building to be excessed 5-10 years	Other

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Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
15-0186	DETECTION CHAMBER	Dynamic Experiments	1961	2,338	Excellent	Building to be excessed 5-10 years	Research & Development
15-0189	POWER SUPPLY BLDG	Dynamic Experiments	1961	452	Excellent	Building to be excessed 5-10 years	Other
15-0198	TUNNEL	Dynamic Experiments	1961	905	Good	Building to be excessed 5-10 years	Other
15-0199	TUNNEL	Dynamic Experiments	1961	2,027	Good	Building to be excessed 5-10 years	Other
15-0200	TUNNEL	Dynamic Experiments	1961	702	Fair	Building to be excessed 5-10 years	Other
15-0201	TUNNEL	Dynamic Experiments	1961	870	Fair	Building to be excessed 5-10 years	Other
15-0310	MULTIDIAG OPERATIONS	Dynamic Experiments	1988	3,194	Adequate	Building to be excessed 5-10 years	Research & Development
15-0447	TRAILER	Dynamic Experiments	1984	720	Poor	Building to be excessed 5-10 years	Administrative
15-0456	TRANSPORTABLE	Dynamic Experiments	1984	1,680	Fair	Building to be excessed 5-10 years	Administrative
15-0476	TRAILER	Dynamic Experiments	1986	672	Good	Building to be excessed 5-10 years	Administrative
22-0052	SHOPS BLDG	Dynamic Experiments	1954	7,161	Poor	Building to be excessed 5-10 years	Service
22-0066	STORAGE BLDG	Dynamic Experiments	1955	480	Excellent	Building to be excessed 5-10 years	Storage
22-0067	STORAGE BLDG	Dynamic Experiments	1955	480	Excellent	Building to be excessed 5-10 years	Storage
22-0068	STORAGE BLDG	Dynamic Experiments	1955	480	Excellent	Building to be excessed 5-10 years	Storage
22-0069	STORAGE BLDG	Dynamic Experiments	1955	480	Excellent	Building to be excessed 5-10 years	Storage
36-0005	PREPARATION BLDG	Dynamic Experiments	1951	624	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
36-0006	CONTROL BLDG	Dynamic Experiments	1951	658	Fail	Building to be excessed 5-10 years	Other
36-0011	PREPARATION BLDG	Dynamic Experiments	1951	688	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
36-0013	INSTRUMENT CHAMBER	Dynamic Experiments	1951	110	Good	Building to be excessed 5-10 years	Research & Development
36-0019	INSTRUMENT CHAMBER	Dynamic Experiments	1951	110	Good	Building to be excessed 5-10 years	Research & Development
39-0002	LAB OFFICE BLDG	Dynamic Experiments	1953	13,238	Fair	Building to be excessed 5-10 years	Research & Development
40-0001	LABORATORY & OFFICE BLDG	Dynamic Experiments	1951	6,095	Fair	Building to be excessed 5-10 years	Administrative
40-0002	MAGAZINE	Dynamic Experiments	1951	73	Excellent	Building to be excessed 5-10 years	Storage
40-0003	PREPARATION BLDG	Dynamic Experiments	1951	168	Excellent	Building to be excessed 5-10 years	Industrial/Production/Process
40-0004	FIRING POINT	Dynamic Experiments	1951	572	Adequate	Building to be excessed 5-10 years	Research & Development
40-0012	FIRING POINT	Dynamic Experiments	1951	1,342	Fair	Building to be excessed 5-10 years	Research & Development
40-0023	MACHINE SHOP	Dynamic Experiments	1952	8,204	Good	Building to be excessed 5-10 years	Industrial/Production/Process
40-0036	MAGAZINE	Dynamic Experiments	1953	67	Excellent	Building to be excessed 5-10 years	Storage
40-0037	MAGAZINE	Dynamic Experiments	1953	67	Excellent	Building to be excessed 5-10 years	Storage
40-0038	MAGAZINE	Dynamic Experiments	1953	118	Excellent	Building to be excessed 5-10 years	Storage
40-0039	MAGAZINE	Dynamic Experiments	1953	118	Excellent	Building to be excessed 5-10 years	Storage
40-0040	MAGAZINE	Dynamic Experiments	1953	417	Adequate	Building to be excessed 5-10 years	Storage
40-0041	LABORATORY BLDG	Dynamic Experiments	1953	417	Fair	Building to be excessed 5-10 years	Research & Development
40-0045	SOLVENT SHED	Dynamic Experiments	1970	99	Excellent	Building to be excessed 5-10 years	Storage
40-0058	EQUIPMENT BLDG	Dynamic Experiments	1962	91	Fail	Building to be excessed 5-10 years	Other
40-0090	TRANSPORTABLE	Dynamic Experiments	1999	1,587	Adequate	Building to be excessed 5-10 years	Administrative
69-0001	GUARD STATION	Dynamic Experiments	1955	200	Fail	Building to be excessed 5-10 years	Service
69-0002	DOUBLEWIDE TRAILER	Dynamic Experiments	1987	1,680	Poor	Building to be excessed 5-10 years	Administrative
69-0005	TRAILER PO 7509E	Dynamic Experiments	1986	715	Poor	Building to be excessed 5-10 years	Administrative

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Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
69-0026	GUARD HOUSE STA #431	Dynamic Experiments	1991	48	Fail	Building to be excessed 5-10 years	Service
Dynamic Experiments GSF Proposed for Excess				**186,209**			
03-0147	AIR PLENUM & FAN BLDG	Materials Science/Laser	1960	164	Poor	Building to be excessed 0-5 years	Service
Materials Science/Laser Facilities GSF Proposed for Excess				**164**			
21-0257	RAD LIQ WSTE DISPO	Waste Mgmt.	1967	4,315	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
50-0001	RAD LIQUID TREATMENT	Waste Mgmt.	1963	42,025	Poor	Building to be excessed 5-10 years	Industrial/Production/Process
50-0002	INDUST WASTE STAT TA50-2	Waste Mgmt.	1963	2,719	Fail	Building to be excessed 5-10 years	Other
50-0211	ELECTRICAL SUBSTATION	Waste Mgmt.	1995	125	Excellent	Building to be excessed 5-10 years	Other
54-0156	MODIFIED MORGAN SHED	Waste Mgmt.	1990	192	Excellent	Building to be excessed 5-10 years	Research & Development
Waste Mgmt. Facilities GSF Proposed for Excess				**49,376**			
03-0028	OFFICE BLDG	Computer Facilities	1951	17,174	Fail	Building to be excessed 5-10 years	Other
03-0510	PHOTO LAB BLDG	Computer Facilities	1991	9,006	Fail	Building to be excessed 5-10 years	Other
03-1559	TRANSPORTABLE	Computer Facilities	1986	1,688	Fail	Building to be excessed 5-10 years	Administrative
03-1566	TRANSPORTABLE	Computer Facilities	1986	1,680	Fail	Building to be excessed 5-10 years	Administrative
61-0023	MODEL SHOP	Computer Facilities	1966	6,661	Adequate	Building to be excessed 5-10 years	Service
Computer Facilities GSF Proposed for Excess				**36,209**			
18-0288	TRAILER	Nuclear (SNM)	1985	840	Fair	Building to be excessed 0-5 years	Administrative
03-0029	CMR LABORATORY	Nuclear (SNM)	1953	566,849	Good	Building to be excessed 5-10 years	Research & Development
03-0154	RAD WASTE PUMP HOUSE	Nuclear (SNM)	1962	400	Adequate	Building to be excessed 5-10 years	Industrial/Production/Process
03-0503	GUARD STATION #321	Nuclear (SNM)	1984	349	Fair	Building to be excessed 5-10 years	Service
03-0564	EQUIPMENT SHELTER	Nuclear (SNM)	1979	80	Excellent	Building to be excessed 5-10 years	Other
03-0586	MECHANICAL BLDG	Nuclear (SNM)	1996	336	Fail	Building to be excessed 5-10 years	Other
03-1610	GUARD STA #331	Nuclear (SNM)	1984	288	Poor	Building to be excessed 5-10 years	Service
03-1614	GUARD STA #332	Nuclear (SNM)	1984	64	Poor	Building to be excessed 5-10 years	Service
03-1615	GUARD STATION	Nuclear (SNM)	1984	64	Poor	Building to be excessed 5-10 years	Service
18-0001	STAGING AREA	Nuclear (SNM)	1944	1,051	Fail	Building to be excessed 5-10 years	Research & Development
18-0023	CRITICAL ASSEMBLY BLDG	Nuclear (SNM)	1947	2,681	Adequate	Building to be excessed 5-10 years	Research & Development
18-0026	VAULT	Nuclear (SNM)	1948	287	Adequate	Building to be excessed 5-10 years	Storage
18-0028	WAREHOUSE	Nuclear (SNM)	1948	4,782	Adequate	Building to be excessed 5-10 years	Storage
18-0029	POND CABIN	Nuclear (SNM)	1949	384	Adequate	Building to be excessed 5-10 years	Other
18-0030	MAIN BLDG	Nuclear (SNM)	1953	23,137	Fail	Building to be excessed 5-10 years	Research & Development
18-0032	CRITICAL ASSEMBLY BLDG	Nuclear (SNM)	1953	3,268	Adequate	Building to be excessed 5-10 years	Research & Development
18-0037	GUARD STATION	Nuclear (SNM)	1953	189	Fail	Building to be excessed 5-10 years	Service
18-0116	CRITICAL ASSEMBLY BLDG	Nuclear (SNM)	1961	5,790	Adequate	Building to be excessed 5-10 years	Research & Development
18-0119	STORAGE BLDG	Nuclear (SNM)	1958	1,242	Poor	Building to be excessed 5-10 years	Storage
18-0122	STORAGE BLDG	Nuclear (SNM)	1960	1,372	Poor	Building to be excessed 5-10 years	Storage
18-0127	PULSED ACCELERATOR BLDG	Nuclear (SNM)	1967	9,537	Fair	Building to be excessed 5-10 years	Research & Development
18-0128	ASSEMBLY COVER BLDG	Nuclear (SNM)	1962	120	Good	Building to be excessed 5-10 years	Industrial/Production/Process
18-0129	REACTOR SUB-ASSY BLDG	Nuclear (SNM)	1962	6,570	Fair	Building to be excessed 5-10 years	Research & Development

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Proposed Future Excess Facilities

Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
18-0138	WAREHOUSE	Nuclear (SNM)	1964	1,344	Poor	Building to be excessed 5-10 years	Storage
18-0141	ULTRA-SONIC CLEANING BLDG	Nuclear (SNM)	1966	963	Poor	Building to be excessed 5-10 years	Other
18-0147	OFFICE BLDG	Nuclear (SNM)	1968	1,298	Poor	Building to be excessed 5-10 years	Administrative
18-0168	SHEBA CRITICAL BLDG	Nuclear (SNM)	1970	400	Fair	Building to be excessed 5-10 years	Research & Development
18-0189	SECUR ENHANC ASSESSM	Nuclear (SNM)	1986	912	Fair	Building to be excessed 5-10 years	Other
18-0190	GUARD STATION	Nuclear (SNM)	1986	523	Poor	Building to be excessed 5-10 years	Service
18-0227	ACCELERATOR DEV LAB	Nuclear (SNM)	1990	2,838	Adequate	Building to be excessed 5-10 years	Research & Development
18-0256	BUTLER BLDG	Nuclear (SNM)	1989	920	Good	Building to be excessed 5-10 years	Research & Development
18-0270	GUARD STATION	Nuclear (SNM)	1990	42	Adequate	Building to be excessed 5-10 years	Service
18-0297	STORAGE BLDG	Nuclear (SNM)	1997	874	Excellent	Building to be excessed 5-10 years	Storage
55-0041	NUCLEAR MATRLS STORAGE	Nuclear (SNM)	1988	34,640	Good	Building to be excessed 5-10 years	Storage
55-0055	DRUM STORAGE BLDG	Nuclear (SNM)	1985	112	Fair	Building to be excessed 5-10 years	Other
55-0148	TUNNEL ACCESS	Nuclear (SNM)	1988	217	Fair	Building to be excessed 5-10 years	Other
Nuclear (SNM) Facilities GSF Proposed for Excess				**674,763**			
33-0151	BUNKER	NIS/D/B (TR)	1977	264	Good	Building to be excessed 0-5 years	Storage
35-0115	SOLVENT STORAGE SHED	NIS/D/B (TR)	1976	137	Good	Building to be excessed 0-5 years	Storage
35-0250	TRAILER	NIS/D/B (TR)	1979	711	Poor	Building to be excessed 0-5 years	Administrative
35-0257	GUARD STATION #410	NIS/D/B (TR)	1984	101	Fail	Building to be excessed 0-5 years	Service
35-0263	TRAILER	NIS/D/B (TR)	1985	720	Fail	Building to be excessed 0-5 years	Administrative
52-0105	GUARD STATION #417	NIS/D/B (TR)	1984	27	Fair	Building to be excessed 0-5 years	Service
33-0022	STORAGE	NIS/D/B (TR)	1951	109	Fair	Building to be excessed 5-10 years	Storage
33-0027	GUARD STATION	NIS/D/B (TR)	1951	186	Poor	Building to be excessed 5-10 years	Storage
33-0039	MACHINE SHOP	NIS/D/B (TR)	1952	5,415	Good	Building to be excessed 5-10 years	Service
33-0208	STORAGE BLDG	NIS/D/B (TR)	1985	144	Poor	Building to be excessed 5-10 years	Storage
35-0001	FORMER GUARD HOUSE	NIS/D/B (TR)	1951	180	Fail	Building to be excessed 5-10 years	Administrative
35-0025	MACHINE SHOP	NIS/D/B (TR)	1957	1,729	Good	Building to be excessed 5-10 years	Service
35-0027	NUCLEAR SAFEGUARD	NIS/D/B (TR)	1967	42,069	Adequate	Building to be excessed 5-10 years	Research & Development
35-0029	ZEBRA BLDG	NIS/D/B (TR)	1961	6,594	Adequate	Building to be excessed 5-10 years	Research & Development
35-0034	LABORATORY BUILDING	NIS/D/B (TR)	1960	4,747	Adequate	Building to be excessed 5-10 years	Research & Development
35-0046	REACTOR COMPONENT BLDG	NIS/D/B (TR)	1962	8,269	Fail	Building to be excessed 5-10 years	Research & Development
35-0067	SUPPORT BLDG	NIS/D/B (TR)	1965	5,037	Excellent	Building to be excessed 5-10 years	Research & Development
35-0347	GARAGE	NIS/D/B (TR)	1978	314	Poor	Building to be excessed 5-10 years	Storage
35-0382	TRAILER	NIS/D/B (TR)	1990	732	Fair	Building to be excessed 5-10 years	Administrative
43-0001	HEALTH RESEARCH LAB	NIS/D/B (TR)	1953	111,902	Good	Building to be excessed 5-10 years	Research & Development
43-0020	TRANSPORTABLE	NIS/D/B (TR)	1984	3,347	Fair	Building to be excessed 5-10 years	Research & Development
43-0024	TRAILER	NIS/D/B (TR)	1985	208	Adequate	Building to be excessed 5-10 years	Administrative
43-0037	TRAILER	NIS/D/B (TR)	1989	1,200	Adequate	Building to be excessed 5-10 years	Administrative
43-0045	TRAILER PO G2449	NIS/D/B (TR)	1991	981	Fair	Building to be excessed 5-10 years	Research & Development
52-0011	MECHANICAL ASSY BLDG	NIS/D/B (TR)	1966	2,064	Good	Building to be excessed 5-10 years	Other

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52-0123	GUARD STATION	NIS/D/B (TR)	1989	150	Poor	Building to be excessed 5-10 years	Service
NIS/D/B (TR) Facilities GSF Proposed for Excess				**197,337**			
03-0030	GENERAL WAREHOUSE	ISBSD	1952	114,060	Fair	Building to be excessed 0-5 years	Storage
03-0043	ADMIN BLDG	ISBSD	1956	315,737	Fail	Building to be excessed 0-5 years	Administrative
03-0097	GUARD STATION #329	ISBSD	1955	144	Fail	Building to be excessed 0-5 years	Service
03-0373	GUARD STATION #329	ISBSD	1971	27	Excellent	Building to be excessed 0-5 years	Service
03-0490	BADGE OFFICE	ISBSD	1984	4,524	Adequate	Building to be excessed 0-5 years	Administrative
03-1522	TRAILER	ISBSD	1979	710	Poor	Building to be excessed 0-5 years	Administrative
03-1663	WELLNESS CENTER	ISBSD	1984	11,928	Poor	Building to be excessed 0-5 years	Other
16-0457	Z VALVE HOUSE C113805	ISBSD	1965	42	Good	Building to be excessed 0-5 years	Other
16-0542	Z GAS REGULATOR BLDG C106417	ISBSD	1952	152	Fair	Building to be excessed 0-5 years	Other
35-0188	HIGH VOLTAGE DEV LAB	ISBSD	1977	1,647	Adequate	Building to be excessed 0-5 years	Research & Development
36-0046	STORAGE BLDG	ISBSD	1958	952	Fail	Building to be excessed 0-5 years	Storage
36-0047	STORAGE BLDG	ISBSD	1963	362	Fail	Building to be excessed 0-5 years	Storage
43-0039	Z DOE-LAAO HQ BLDG C101034	ISBSD	1949	39,778	Fair	Building to be excessed 0-5 years	Administrative
54-1004	STORAGE BLDG	ISBSD	1968	1,928	Excellent	Building to be excessed 0-5 years	Storage
59-0002	MODULAR OFFICE BLDG	ISBSD	1973	4,347	Poor	Building to be excessed 0-5 years	Administrative
59-0030	TRANSPORTABLE	ISBSD	1986	1,702	Fair	Building to be excessed 0-5 years	Administrative
59-0031	TRANSPORTABLE	ISBSD	1986	1,697	Fair	Building to be excessed 0-5 years	Administrative
59-0032	TRANSPORTABLE	ISBSD	1986	1,692	Poor	Building to be excessed 0-5 years	Administrative
59-0033	TRANSPORTABLE	ISBSD	1986	1,695	Fair	Building to be excessed 0-5 years	Administrative
59-0034	TRANSPORTABLE	ISBSD	1986	1,691	Fair	Building to be excessed 0-5 years	Administrative
59-0035	TRANSPORTABLE	ISBSD	1986	1,692	Poor	Building to be excessed 0-5 years	Administrative
59-0036	TRANSPORTABLE	ISBSD	1986	1,730	Poor	Building to be excessed 0-5 years	Administrative
59-0037	TRANSPORTABLE	ISBSD	1986	1,692	Fail	Building to be excessed 0-5 years	Administrative
59-0118	TRAILER PO F2111	ISBSD	1990	716	Fair	Building to be excessed 0-5 years	Administrative
59-0119	TRAILER PO F2111	ISBSD	1990	715	Fair	Building to be excessed 0-5 years	Administrative
59-0122	GARAGE BOMB SHED	ISBSD	1990	553	Excellent	Building to be excessed 0-5 years	Storage
59-0123	TRAILER PO J8230	ISBSD	1990	669	Poor	Building to be excessed 0-5 years	Administrative
64-0027	TRAILER	ISBSD	1984	520	Fail	Building to be excessed 0-5 years	Storage
64-0038	TRANSPORTAINER	ISBSD	1992	160	Fair	Building to be excessed 0-5 years	Storage
64-0039	HAZARDOUS MATERIALS RESPONSE	ISBSD	1994	6,498	Fair	Building to be excessed 0-5 years	Administrative
64-0045	TRAILER PO 8798R	ISBSD	1989	726	Poor	Building to be excessed 0-5 years	Administrative
03-0031	CHEMICAL WHSE	ISBSD	1952	30,349	Adequate	Building to be excessed 5-10 years	Storage
03-0037	Z LAB MAINT/SHOP/STOCK C105319	ISBSD	1952	5,424	Fail	Building to be excessed 5-10 years	Storage
03-0038	Z ADMINISTRATION/SHOPS C105318	ISBSD	1952	115,191	Fair	Building to be excessed 5-10 years	Service
03-0142	WAREHOUSE	ISBSD	1960	32,699	Fair	Building to be excessed 5-10 years	Storage
03-0164	URANIUM STG FACILITY	ISBSD	1964	4,197	Adequate	Building to be excessed 5-10 years	Storage
03-0170	LIQUID & COMP GAS FAC	ISBSD	1962	9,405	Poor	Building to be excessed 5-10 years	Storage

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Proposed Future Excess Facilities

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03-0374	DRUM STORAGE SHED	ISBSD	1971	1,305	Fair	Building to be excessed 5-10 years	Storage
03-1911	TRANSPORTABLE	ISBSD	1989	1,680	Fair	Building to be excessed 5-10 years	Administrative
03-2006	TRANSPORTABLE LP 9297Z	ISBSD	1991	1,711	Adequate	Building to be excessed 5-10 years	Administrative
03-2007	TRANSPORTABLE LP 9297Z	ISBSD	1991	1,708	Fair	Building to be excessed 5-10 years	Administrative
03-2008	TRANSPORTABLE LP 9297Z	ISBSD	1991	1,712	Fair	Building to be excessed 5-10 years	Administrative
03-2009	TRANSPORTABLE LP 9297Z	ISBSD	1991	1,711	Good	Building to be excessed 5-10 years	Research & Development
03-2010	TRANSPORTABLE LP 9297Z	ISBSD	1991	1,711	Good	Building to be excessed 5-10 years	Research & Development
21-0014	Z INSTRUMENT BLDG C106424	ISBSD	1947	2,956	Fair	Building to be excessed 5-10 years	Service
21-0031	MAINT, WORK SHOP & CRAFTS BLDG	ISBSD	1948	9,184	Fair	Building to be excessed 5-10 years	Service
21-0227	Z SEWAGE TRTMNT PLANT C112749	ISBSD	1967	426	Fail	Building to be excessed 5-10 years	Other
21-0229	Z CONTROL BLDG C112747	ISBSD	1966	192	Good	Building to be excessed 5-10 years	Other
21-0357	Z STEAM PLANT C117691	ISBSD	1984	5,891	Fair	Building to be excessed 5-10 years	Other
21-0448	TRAILER	ISBSD	1992	136	Excellent	Building to be excessed 5-10 years	Storage
21-1001	RECORDS CENTER	ISBSD	1947	15,423	Fail	Building to be excessed 5-10 years	Storage
21-1002	Z WAREHSE 120 6TH C101157	ISBSD	1947	15,881	Fail	Building to be excessed 5-10 years	Storage
36-0053	STORAGE BLDG	ISBSD	1977	297	Fail	Building to be excessed 5-10 years	Storage
43-0041	STORAGE BLDG	ISBSD	1949	5,748	Fail	Building to be excessed 5-10 years	Storage
46-0030	ELECTRONICS LAB	ISBSD	1958	4,183	Fair	Building to be excessed 5-10 years	Research & Development
46-0031	TEST BLDG #2	ISBSD	1958	25,534	Adequate	Building to be excessed 5-10 years	Research & Development
46-0041	AEROCHEMISTRY/DIAGNOSTICS LAB	ISBSD	1958	5,698	Adequate	Building to be excessed 5-10 years	Research & Development
46-0059	LASER LAB	ISBSD	1961	652	Fair	Building to be excessed 5-10 years	Research & Development
46-0074	TEST FACILITY	ISBSD	1961	120	Excellent	Building to be excessed 5-10 years	Storage
46-0194	MODULAR SOLAR HOUSE	ISBSD	1976	1,011	Poor	Building to be excessed 5-10 years	Research & Development
46-0195	MODULAR SOLAR HOUSE	ISBSD	1977	1,120	Poor	Building to be excessed 5-10 years	Research & Development
46-0342	GAS TEST FACILITY	ISBSD	1979	288	Fair	Building to be excessed 5-10 years	Storage
48-0002	GUARD STATION #416	ISBSD	1957	189	Fail	Building to be excessed 5-10 years	Service
48-0008	ISOTOPE SEPARATOR BLDG	ISBSD	1966	4,061	Adequate	Building to be excessed 5-10 years	Research & Development
48-0017	ASSEMBLY CHECKOUT BLDG	ISBSD	1979	1,570	Adequate	Building to be excessed 5-10 years	Industrial/Production/Process
48-0038	METAL BLDG	ISBSD	1984	300	Excellent	Building to be excessed 5-10 years	Storage
48-0039	METAL BLDG	ISBSD	1984	300	Excellent	Building to be excessed 5-10 years	Storage
48-0143	MARLEX BOOTH	ISBSD	1977	57	Fail	Building to be excessed 5-10 years	Service
50-0069	SIZE REDUCTION FACILITY	ISBSD	1980	3,760	Fail	Building to be excessed 5-10 years	Industrial/Production/Process
52-0035	TRANSPORTABLE	ISBSD	1984	3,360	Fail	Building to be excessed 5-10 years	Administrative
52-0036	TRANSPORTABLE	ISBSD	1984	3,332	Fail	Building to be excessed 5-10 years	Administrative
54-0439	MODIFIED TRANSPORTAINER	ISBSD	2000	80	N/A	Building to be excessed 5-10 years	Research & Development
54-1001	BIO RESEARCH BLDG	ISBSD	1962	2,311	Good	Building to be excessed 5-10 years	Research & Development
54-1002	LIFT BLDG	ISBSD	1962	68	Poor	Building to be excessed 5-10 years	Other
54-1003	CONTROL BLDG	ISBSD	1962	197	Poor	Building to be excessed 5-10 years	Other
54-1009	CHEMISTRY LAB	ISBSD	1974	2,324	Adequate	Building to be excessed 5-10 years	Research & Development

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Facility Number	Name	Mission	Year Built	Gross SF	Current Facility Condition Code	Future/Proposed Facility Disposition	Current Use
59-0053	TRANSPORTABLE	ISBSD	1987	1,671	Poor	Building to be excessed 5-10 years	Administrative
59-0096	TRANSPORTABLE	ISBSD	1988	1,717	Fair	Building to be excessed 5-10 years	Administrative
59-0097	TRANSPORTABLE	ISBSD	1988	1,720	Fair	Building to be excessed 5-10 years	Administrative
59-0116	TRANSPORTABLE PO K0179	ISBSD	1991	1,707	Fair	Building to be excessed 5-10 years	Administrative
59-0117	TRANSPORTABLE PO K0179	ISBSD	1991	1,700	Fair	Building to be excessed 5-10 years	Administrative
60-0003	STORAGE SHED	ISBSD	1979	2,993	Fail	Building to be excessed 5-10 years	Storage
60-0007	Z PERMANENT SHED C116800	ISBSD	1977	576	Fail	Building to be excessed 5-10 years	Storage
60-0072	Z MAINTENANCE OFFICES	ISBSD	1960	144	Poor	Building to be excessed 5-10 years	Storage
63-0001	MAINTENANCE SHOP	ISBSD	1965	2,769	Fair	Building to be excessed 5-10 years	Administrative
63-0003	Z PAN AM CRAFT SHOP C117315	ISBSD	1984	4,000	Fair	Building to be excessed 5-10 years	Other
ISBSD Facilities GSF Proposed for Excess				**864,935**			
TOTAL GSF PROPOSED FOR EXCESS				**2,410,422**			

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Attachment E-2
NNSA New Construction Spreadsheet (Space Added)

The New Construction spreadsheet (Attachment E-2) captures the gross square footage of NNSA proposed construction at the Laboratory, along with the year of beneficial occupancy, for Line Item, GPP, IGPP and other projects from FY02-FY13. New facilities are counted only when they are completed and occupied (year of beneficial occupancy). Construction projects started prior to FY03 will not be counted against the new Congressional requirement.

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Funding Source	Project Number	Facility Name	Funding Type	New Facilities (GSF)	Year of Beneficial Occupancy
FIRP	LANL-03-081	TA-16-260 Reconfiguration	GPP	4,000	FY04
FIRP	LANL-03-063	Beryllium Tech Facility - Cartridge Filter House Install	GPP	3,100	FY04
FIRP	LANL-03-104	Hydrotest Design Facility	GPP	17,400	FY04
FIRP	LANL-03-111	Shock & Vibration Laboratory	GPP	3,700	FY04
FIRP	LANL-03-079	FWO Office Building	GPP	19,400	FY04
NON	LANL-03-114	Stockpile Support Building	GPP	18,000	FY04
NON	LANL-03-131	Homeland Security Building	GPP	18,000	FY04
FY04 New Construction Total GSF				**83,600**	
FIRP	LANL-04-105	DX Shock & Detonator Physics Bldg	GPP	18,000	FY05
NON		CCN Building	GPP	18,000	FY05
OS	LANL-02-010	Center for Integrated Nanotechnology (CINT)	LI	34,000	FY05
RTBF		LASO (Part of NSSB)	LI	22,000	FY05
FY05 New Construction Total GSF				**92,000**	
FIRP	LANL-05-140	Vulnerable Office Building Replacement #05-1	GPP	18,000	FY06
FIRP	LANL-05-141	Vulnerable Office Building Replacement #05-2	GPP	18,000	FY06
RTBF	LANL-04-011	National Security Sciences Building	LI	275,000	FY06
RTBF	LANL-05-145	Calibration Laboratory	GPP	12,000	FY06
FY06 New Construction Total GSF				**323,000**	
FIRP	LANL-05-127	Electronics/Data Systems Building	GPP	16,000	FY07
FIRP	LANL-06-149	Vulnerable Office Building Replacement #06-1	GPP	18,000	FY07
FIRP	LANL-06-150	Vulnerable Office Building Replacement #06-2	GPP	18,000	FY07
FIRP	LANL-06-151	Vulnerable Office Building Replacement #06-3	GPP	18,000	FY07

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Funding Source	Project Number	Facility Name	Funding Type	New Facilities (GSF)	Year of Beneficial Occupancy
FIRP	LANL-06-121	Communication Shop Building	GPP	5,000	FY07
RTBF	LANL-06-128	Vessel Facility 1 of 4	GPP	6,700	FY07
RTBF	LANL-04-005	ESA Fabrication Facility Replacement	LI	50,000	FY07
FY07 New Construction Total GSF				**131,700**	
FIRP	LANL-07-157	Vulnerable Office Building Replacement #07-1	GPP	18,000	FY08
FIRP	LANL-07-158	Vulnerable Office Building Replacement #07-2	GPP	18,000	FY08
FIRP	LANL-07-159	Vulnerable Office Building Replacement #07-3	GPP	18,000	FY08
FIRP	LANL-06-132	GTS SLEP Support Building	GPP	5,000	FY08
RTBF	LANL-05-016	DX High Explosives Characterization	LI	32,000	FY08
RTBF	LANL-07-143	Vessel Facility 2 of 4	GPP	4,200	FY08
FY08 New Construction Total GSF				**95,200**	
RTBF	LANL-08-019	Support Services Consolidation	LI	40,000	FY09
FIRP	LANL-08-163	Vulnerable Office Building Replacement #08-1	GPP	18,000	FY09
FIRP	LANL-08-164	Vulnerable Office Building Replacement #08-2	GPP	18,000	FY09
FIRP	LANL-08-165	Vulnerable Office Building Replacement #08-3	GPP	18,000	FY09
RTBF	LANL-08-152	Vessel Facility 3 of 4	GPP	4,200	FY09
RTBF	LANL-08-153	Lab at TA-22	GPP	5,000	FY09
FY09 New Construction Total GSF				**103,200**	
FIRP	LANL-09-172	Vulnerable Office Building Replacement #09-1	GPP	18,000	FY10
FIRP	LANL-09-173	Vulnerable Office Building Replacement #09-2	GPP	18,000	FY10
FIRP	LANL-09-174	Vulnerable Office Building Replacement #09-3	GPP	18,000	FY10
RTBF	LANL-09-160	Vessel Facility 4 of 4	GPP	4,200	FY10
RTBF	LANL-09-166	Replace Machine Shop At TA-22	GPP	10,000	FY10

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Funding Source	Project Number	Facility Name	Funding Type	New Facilities (GSF)	Year of Beneficial Occupancy
FY10 New Construction Total GSF				**68,200**	
FIRP	LANL-10-178	Vulnerable Office Building Replacement #10-1	GPP	18,000	FY11
FIRP	LANL-10-179	Vulnerable Office Building Replacement #10-2	GPP	18,000	FY11
RTBF	LANL-03-012	CMR Replacement Project	LI	228,000	FY11
RTBF	LANL-08-241	Radiography Facility	LI	20,000	FY11
FY11 New Construction Total GSF				**284,000**	
Other DP	LANL-05-18	Advanced Hydrotest Facility	LI	100,000	FY12
RTBF	LANL-11-180	Classified HE Storage	GPP	2,000	FY12
RTBF	LANL-11-181	Joint DX/ESA Conference Facility	GPP	5,000	FY12
FY12 New Construction Total GSF				**107,000**	

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Attachment E-3
NNSA Excess Facility Elimination and New Construction Chart

Attachment E-3 is a chart of the Laboratory's gross square footage of NNSA Excess Facility Elimination and New Construction. The data will help to support the Departmental requirement for all sites to balance increases in the gross square footage of building space added with an offset in space due to elimination.

Overall, the Laboratory will demolish more space than it will construct over the next 10 years. The spikes in FY06 are due to the NSSB achieving beneficial occupancy and the old Administration Building (SM-43) coming down. Another spike in FY11 is due to the CMRR project coming online, however, the D&D of the existing CMR will occur just outside the window of the plan.

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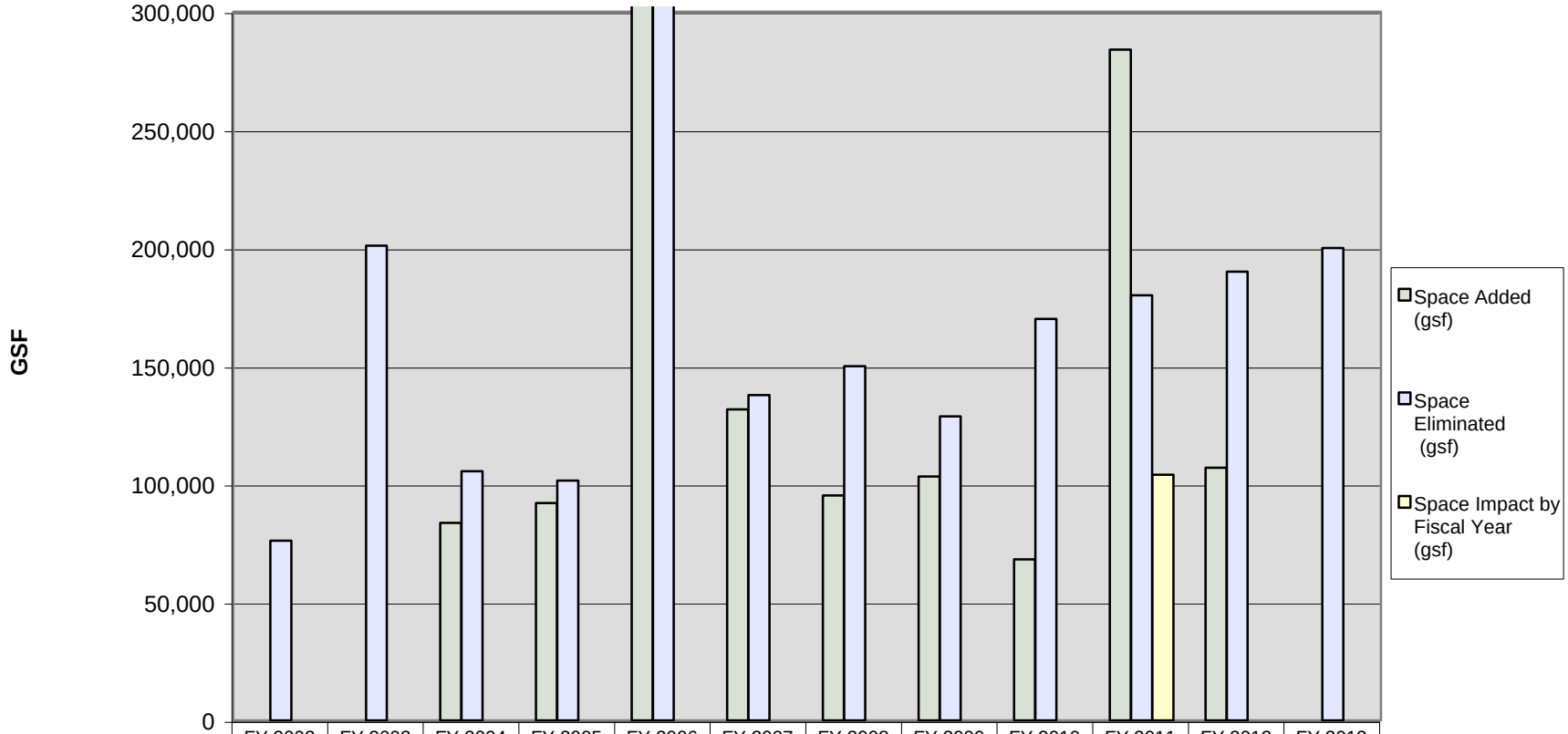
ATTACHMENT E-3
LANL NNSA Excess Facility Elimination and New Construction



	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Space Added (gsf)	0	0	83,600	92,000	323,000	131,700	95,200	103,200	68,200	284,000	107,000	
Space Eliminated (gsf)	76,116	200,900	105,500	101,500	432,350	137,700	150,000	128,660	170,000	180,000	190,000	200,000
Space Impact by Fiscal Year (gsf)	-76116	-200900	-21900	-9500	-109350	-6000	-54800	-25460	-101800	104000	-83000	-200000

Total Space Impact through FY13 = -708,710

ATTACHMENT F

Attachment F
Deferred Maintenance Baseline (FY03) and Projected Deferred Maintenance Reduction

A primary indicator of the overall health of a facility is the amount of maintenance that has been deferred. Reducing deferred maintenance associated with NNSA's facilities and infrastructure is a visible and measurable improvement to the nuclear weapons complex. NNSA committed to Congress in testimony that deferred maintenance will be stabilized by FY05 and reduced to within industry standards for mission essential facilities and infrastructure by FY09. These commitments are NNSA's demonstration of accountability for the significant resources the OMB and Congress are providing.

The NNSA Headquarters Federal and contractor facility leadership have established corporate goals for Deferred Maintenance Reduction and have reached agreement on a corporate definition for mission essential facilities and infrastructure, which is a key component of the NNSA's goal to: *Return facility conditions for our mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance/replacement plant value less than 5 percent).*

The Laboratory's data reported in the Attachment F, Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction Spreadsheet will be used to report the baseline of NNSA maintenance requirements and assess actual and planned progress towards reducing deferred maintenance. There is an emphasis on the reduction of deferred maintenance for mission-essential facilities. A NNSA corporate roll-up of data reported in this spreadsheet will be used to trend and analyze progress towards the achievement of NNSA's commitments to Deferred Maintenance Reduction.

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Attachment F
LANL NNSA Deferred Maintenance Baseline (FY 2003) and Projected Deferred Maintenance Reduction

Category of Maintenance	FY 2001 (Actual)	FY 2002 (Actual)	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
1. **NNSA ANNUAL ACTUAL AND REQUIRED [1] MAINTENANCE**	$ 91,608,900	$ 86,530,763	$ 95,898,572	$ 100,903,518	$ 106,207,134	$ 111,828,270	$ 117,786,993	$ 124,104,663	$ 128,960,355
2. **MAINTENANCE TOTAL**	$ 91,608,900	$ 86,530,763	$ 95,898,572	$ 100,903,518	$ 106,207,134	$ 111,828,270	$ 117,786,993	$ 124,104,663	$ 128,960,355
A. Direct	$ 55,255,702	$ 46,023,375	$ 50,634,446	$ 53,277,058	$ 56,077,367	$ 59,045,327	$ 62,191,532	$ 65,527,262	$ 68,091,068
B. Indirect	$ 35,841,167	$ 39,635,936	$ 45,264,126	$ 47,626,461	$ 50,129,767	$ 52,782,944	$ 55,595,461	$ 58,577,401	$ 60,869,288
3. **NNSA DEFERRED MAINTENANCE TOTAL (Excludes Programmatic Real Property or Equipment)[2]**	$ 207,373,872	$ 317,381,407	$ 564,242,663	$ 577,264,923	$ 560,924,920	$ 549,243,324	$ 499,975,544	$ 471,720,321	$ 437,700,109
A. Deferred Maintenance for Mission-Essential Facilities and Infrastructure ONLY	N/A	N/A	$ 267,109,666	$ 267,413,597	$ 260,864,603	$ 244,823,821	$ 227,113,321	$ 204,848,314	$ 179,491,263
B. Deferred Maintenance for Facilities and Infrastructure Other Than Mission-Essential Facilities and Infrastructure	N/A	N/A	$ 297,132,997	$ 309,851,326	$ 300,060,317	$ 304,419,502	$ 272,862,223	$ 266,872,007	$ 258,208,846
4. **NNSA DEFERRED MAINTENANCE REDUCTION TOTAL**	$ (11,608,185)	$ (110,007,535)	$ (246,861,256)	$ (13,022,260)	$ 16,340,003	$ 11,681,596	$ 49,267,780	$ 28,255,223	$ 34,020,212
A. Reduction in Deferred Maintenance for Mission-Essential Facilities and Infrastructure	N/A	N/A	$ (116,862,889)	$ (303,931)	$ 6,548,993	$ 16,040,782	$ 17,710,501	$ 22,265,007	$ 25,357,051
1. Reduction attributed to FIRP ONLY	N/A	See Note 3 below	$ 13,704,600	$ 19,384,981	$ 22,718,713	$ 26,052,445	$ 29,386,176	$ 29,869,000	$ -
B. Reduction in Deferred Maintenance for Facilities and Infrastructure Other Than Mission-Essential Facilities and Infrastructure	N/A	N/A	$ (129,998,367)	$ (12,718,329)	$ 9,791,009	$ (4,359,185)	$ 31,557,279	$ 5,990,216	$ 8,663,161
1. Reduction attributed to FIRP ONLY	N/A	N/A	$ 8,525,400	$ 12,059,069	$ 14,132,927	$ 16,206,785	$ 18,280,644	$ 18,581,000	$ -
5. **REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE**	$ 3,587,654,332	$ 3,091,307,294	$ 5,623,221,106	$ 5,793,839,669	$ 5,895,573,825	$ 6,040,897,058	$ 6,112,184,078	$ 6,246,364,091	$ 6,383,045,482
A. RPV for NNSA Mission-Essential Facilities and Infrastructure ONLY	N/A	N/A	$ 3,232,754,556	$ 3,312,036,610	$ 3,380,979,163	$ 3,487,941,232	$ 3,543,472,394	$ 3,619,240,529	$ 3,696,200,949
B. RPV for Other Than NNSA Mission-Essential Facilities and Infrastructure	N/A	N/A	$ 2,390,466,550	$ 2,481,803,059	$ 2,514,594,662	$ 2,552,955,826	$ 2,568,711,684	$ 2,627,123,562	$ 2,686,844,533

Assumptions:
1. Values are in real dollars vice FY02 dollars for budgeting and planning purposes.
2. RPVs take into account planned new buildings and the cuurent demolition plan for old buildings
3. Future FIRP funding will continue as an extrapolation of FY02 and FY03 FIRP funding.
4. FIRP distribution breakout is: 40% Deferred Maintenance buydown, FIRP Demolition at $9.8M FY02 dollars, remainder for facility replacement.
5. Funding deferred maintenance buydown efficiencies are: direct buydown at 80%, demolition at 100%, maintenance at 100%, facility replacement at 5%.
6. GPP funding will be constant at $9.6M FY03 dollars.
7. Maintenance reinvestment at $2M FY02 dollars.
8. Deferred maintenance estimate for FY03 will be new baseline by removing predicted reduction to estimate FY02. Due to current CAS baseline project.

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Attachment F-1
Deferred Maintenance Baseline (FY03) and Projected Deferred Maintenance Projections Chart

Attachment F-1 is a chart of the Laboratory's total NNSA deferred maintenance and the NNSA deferred maintenance for mission essential facilities and infrastructure. The data demonstrate the Laboratory's planned progress towards meeting the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards). FY03 is the baseline from which progress and results will be assessed.

NNSA Deferred Maintenance Total is the Laboratory's total NNSA Deferred Maintenance for FYs 2001-2009. The data are reported in the Attachment F spreadsheet on the third row. The NNSA Deferred Maintenance Total excludes Programmatic Real Property or Equipment.

NNSA Deferred Maintenance for Mission Essential Facilities and Infrastructure is the Laboratory's total deferred maintenance for the mission essential facilities and infrastructure listed in Attachment G. The data are reported in the Attachment F spreadsheet on the fourth row.

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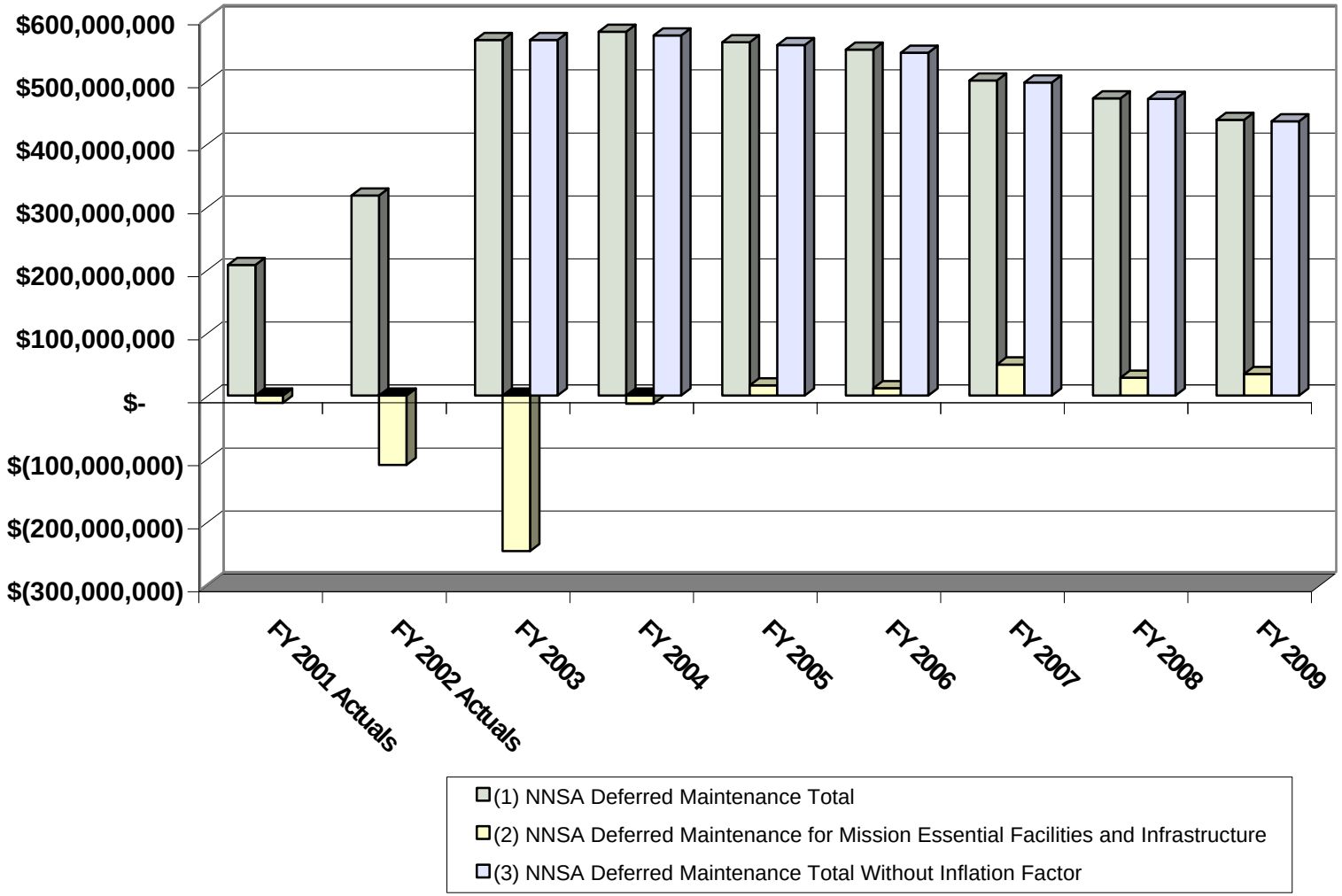
ATTACHMENT F-1
LANL NNSA Deferred Maintenance Baseline (FY03) and Deferred Maintenance Projections



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ATTACHMENT G

Attachment G
NNSA Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Engineering Facilities				
Engineering High Explosives Facilities				
Utility Bldg	08-0029	99	1951	Poor
M.A.S.H. Research Lab	08-0030	638	1951	Fair
Magazine	08-0032	224	1951	Excellent
Grinding Bldg	16-0054	3,789	1946	Fair
Change House	16-0193	12,328	1953	Poor
Trailer	16-0251	500	1991	N/A
Process Bldg	16-0260	36,072	1951	Poor
Rest House	16-0261	3,945	1951	Good
Rest House	16-0263	3,956	1951	Good
HE Assembly/Rest Hou	16-0265	1,248	1951	Adequate
Rest House	16-0267	1,128	1951	Adequate
Equipment Storage Bldg	16-0277	3,277	1965	Excellent
Equipment Storage Bldg	16-0278	3,360	1965	Excellent
Inspection Bldg	16-0280	5,918	1952	Poor
Rest House	16-0281	4,396	1952	Good
Museum	16-0283	4,093	1952	Good
Equip Storage Bldg	16-0285	3,742	1952	Adequate
Coffee House	16-0286	355	1952	N/A
Plastics Bldg	16-0304	19,513	1954	Fair
Plastics Bldg	16-0305	5,402	1954	Adequate
Plastics Bldg	16-0306	19,639	1954	Fair
Plastics Bldg	16-0307	7,716	1954	Adequate
Process Bldg	16-0308	263	1954	N/A
Process Equip Stg	16-0332	12,000	1988	Adequate
Storage Bldg	16-0360	3,911	1952	Fair
Control Shelter	16-0389	231	1962	N/A
Truck Washing Bldg	16-0400	1,183	1953	Fair
Assembly Bldg	16-0410	10,187	1952	Fair
Rest House	16-0411	2,342	1952	Fair
Rest House	16-0413	1,247	1952	Fair
Storage Bldg	16-0414	8,488	1952	Fair
Rest House	16-0415	4,559	1952	Good
HE Pressing	16-0430	19,168	1953	Good

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Rest House	16-0435	4,439	1953	Fair
Rest House	16-0437	4,323	1953	Fair
Lean To Storage Shed	16-0453	288	1995	N/A
Garage Facility	16-1507	1,200	1997	N/A
Waste Water Treatment Facility	16-1508	928	1997	Adequate
Storage Bldg	37-0001	188	1951	Poor
Magazine	37-0002	192	1951	Fair
Magazine	37-0003	416	1951	Good
Magazine	37-0004	416	1951	Adequate
Magazine	37-0005	416	1951	Adequate
Magazine	37-0006	416	1951	Adequate
Magazine	37-0007	416	1951	Adequate
Magazine	37-0008	416	1951	Adequate
Magazine	37-0009	416	1951	Adequate
Magazine	37-0010	416	1951	Adequate
Magazine	37-0011	1,144	1951	Adequate
Magazine	37-0012	1,144	1951	Adequate
Magazine	37-0013	1,144	1951	Adequate
Magazine	37-0014	1,144	1951	Adequate
Magazine	37-0015	800	1951	Adequate
Magazine	37-0016	800	1951	Adequate
Magazine	37-0017	800	1951	Adequate
Magazine	37-0018	800	1951	Adequate
Magazine	37-0019	800	1951	Adequate
Magazine	37-0020	800	1951	Adequate
Magazine	37-0021	800	1951	Adequate
Magazine	37-0022	800	1951	Adequate
Magazine	37-0023	800	1951	Adequate
Magazine	37-0024	800	1951	Adequate
Magazine	37-0025	800	1951	Adequate
Magazine	37-0026	800	1951	Adequate
Storage Bldg	37-0027	800	1951	Poor
Engineering Assembly and Storage				
Underground Vault	41-0001	7,267	1950	N/A
Guard House #318	41-0002	781	1950	Fair
Blower House	41-0003	24	1950	Excellent
Covered Passageway	41-0006	938	1952	N/A
Storage Bldg	41-0044	297	1978	Excellent
Engineering Testing Facilities				
Guard Station	08-0020	187	1951	Fail

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Nondestructive Testing	08-0022	9,956	1951	N/A
Betatron Bldg	08-0023	4,745	1951	Excellent
Flash X-Ray R&D	08-0024	2,231	1951	Excellent
Utility Bldg	08-0025	99	1951	Poor
Storage/Salvage Bldg	08-0026	638	1951	Fail
Guard Shack	08-0028	87	1951	Poor
Source Storage Bldg	08-0065	207	1955	Fair
Lab/Office Bldg	08-0070	8,807	1960	Poor
Accident Response NDE Fac	08-0120	5,099	1995	Good
Storage Bldg	11-0001	618	1945	Poor
Control Building	11-0003	529	1945	Poor
Control Building	11-0004	706	1945	Fair
Shop/Office Bldg	11-0024	3,685	1957	Good
Vibration Test Bldg	11-0030	2,001	1959	Adequate
Equipment Shelter	11-0033	66	1962	N/A
Magazine	11-0036	82	1966	Good
Weapons Component Test Facility	16-0207	22,075	1954	Good
Rest House	16-0301	6,795	1954	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Dynamic Experimentation Facilities				
DARHT				
HE Chemistry Research Building	08-0021	20,731	1951	Poor
Lab & Office Bldg	15-0040	13,487	1952	Fail
Storage Bldg	15-0041	323	1952	Poor
Exercise Facility	15-0046	179	1952	Fail
Storage Building	15-0140	1,210	1952	Fail
Storage Bldg	15-0182	86	1955	N/A
Lab & Office Bldg	15-0183	20,039	1961	Fair
Confinement & Text Fac	15-0285	3,920	1981	Good
Transportable	15-0305	3,552	1982	Fair
DARHT Facility	15-0312	62,862	1999	Adequate
Radiographic Supply Lab	15-0313	24,668	1990	Excellent
Transportable	15-0456	1,680	1984	Fair
Trailer PO 9320D	15-0468	672	1985	Poor
Trailer	15-0476	672	1986	Good
Hydrodynamic Test Operation Center	15-0484	7,386	1999	N/A
Office Building	15-0494	14,440	2000	N/A
Guard Station	69-0001	200	1955	Fail
Doublewide Trailer	69-0002	1,680	1987	Poor
Trailer PO 7509E	69-0005	715	1986	Poor
Guard House Sta #431	69-0026	48	1991	Fail
HE Science				
Lab & Office Bldg	09-0021	25,423	1953	Good
Magazine	09-0022	27	1953	Good
Magazine	09-0023	9	1953	Good
Magazine	09-0024	9	1953	Good
Magazine	09-0025	10	1953	Good
Magazine	09-0026	9	1953	Good
Magazine	09-0027	9	1953	Good
Shop Building	09-0028	2,822	1953	Fair
Stock & Equip Bldg	09-0029	4,675	1953	Poor
Gas Storage	09-0030	242	1953	Good
Solvent Storage	09-0031	330	1953	Good
Lab/Office Bldg	09-0032	2,556	1953	Adequate
Lab Bldg	09-0033	949	1953	Good
Process Lab	09-0034	1,771	1953	Fair
Process Lab	09-0035	1,911	1953	Poor
Magazine	09-0036	210	1953	Good
Process Lab	09-0037	1,591	1953	Fair

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Process Lab	09-0038	1,594	1953	Fair
Magazine	09-0039	214	1953	Good
Environment Chambers	09-0040	1,237	1953	Excellent
Comfort Station Bldg	09-0041	582	1953	Poor
Process Lab	09-0042	1,906	1953	Fair
Magazine	09-0044	210	1953	Good
Process Lab	09-0045	1,589	1953	Fail
Magazine	09-0047	210	1953	Good
Machining Bldg	09-0048	3,557	1953	Poor
Magazine	09-0049	210	1953	Good
Receiving & Shipping Bldg	09-0050	576	1953	Fair
Magazine	09-0052	207	1953	Adequate
Magazine	09-0053	208	1953	Good
Magazine	09-0054	400	1953	Good
Magazine	09-0055	876	1953	Good
Refrigerator Shelter	09-0204	39	1959	N/A
Day Magazine	09-0208	50	1962	Good
Shop Bldg	09-0214	2,468	1948	Fail
Boiler Bldg	09-0265	131	2000	N/A
Transportable	09-0272	1,698	1988	Fair
Transportable	09-0273	1,701	1984	Poor
Steam Plant Boiler #13	09-0282	1,200	1996	N/A
Storage Building	14-0006	669	1944	Fail
Magazine	14-0022	98	1953	Excellent
Control Building	14-0023	563	1953	Poor
Magazine	14-0024	33	1953	N/A
Explosive Prep Bldg	14-0030	246	1953	Good
Control Bldg	14-0034	342	1959	Poor
Instrumentation Bldg	14-0040	80	1975	Fair
Assembly & Storage Bldg	14-0043	1,000	1985	N/A
Gun Bldg	39-0056	276	1958	Fair
Gun Bldg	39-0069	2,613	1969	Adequate
Laboratory & Office Bldg	40-0001	6,095	1951	Fair
Firing Point	40-0004	572	1951	Adequate
Firing Point	40-0008	2,200	1951	Good
Firing Point	40-0009	4,520	1951	Good
Magazine	40-0010	66	1951	Excellent
Preparation & Utility Bldg	40-0011	909	1951	Poor
Firing Point	40-0012	1,342	1951	Fair
Magazine	40-0013	124	1951	Excellent
Preparation Bldg	40-0014	168	1951	Adequate
Firing Point	40-0015	605	1951	Fair

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Utility Bldg	40-0016	224	1951	Fail
Utility Bldg	40-0017	226	1951	Fail
Utility Bldg	40-0018	224	1951	Fail
Machine Shop	40-0023	8,204	1952	Good
Magazine	40-0036	67	1953	Excellent
Magazine	40-0037	67	1953	Excellent
Magazine	40-0038	118	1953	Excellent
Magazine	40-0039	118	1953	Excellent
Magazine	40-0040	417	1953	Adequate
Laboratory Bldg	40-0041	417	1953	Fair
Solvent Shed	40-0045	99	1970	N/A
Equipment Bldg	40-0058	91	1962	Fail
Transportable	40-0090	1,587	1999	Adequate
Firing Sites				
Firing Point Chamber	15-0276	117	1974	N/A
Detector Diode Prep Lab	15-0280	2,155	1977	Fair
Multidiagnostic Hydrotest Fac	15-0306	2,830	1984	Excellent
CDU Blast Protection	15-0319	108	1989	N/A
Firing Access Control Facility	15-0446	3,103	1997	Fair
Control Bldg	36-0003	1,239	1951	Poor
Preparation Bldg	36-0004	624	1951	Fail
Preparation Bldg	36-0005	624	1951	Poor
Control Bldg	36-0006	658	1951	Fail
Preparation Bldg	36-0007	624	1951	Poor
Control Bldg	36-0008	649	1951	Fail
Magazine	36-0009	67	1951	Adequate
Magazine	36-0010	416	1951	Adequate
Preparation Bldg	36-0011	688	1951	Poor
Control Bunker	36-0012	1,343	1951	Poor
Instrument Chamber	36-0013	110	1951	Good
Instrument Chamber	36-0019	110	1951	Good
Instrument Chamber	36-0020	110	1951	Good
Lab/Exercise Facility	36-0048	399	1966	Fair
Trailer	36-0082	665	1986	Poor
Magazine	36-0083	1,040	1987	Adequate
ATAC Ballistics Test Facility	36-0086	3,012	1990	Adequate
Shop	36-0104	600	1988	Fair
Control Bunker	36-0107	1,017	1990	Fair
Shrapnel Protection	36-0120	78	1987	N/A

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Trailer	36-0127	96	1982	N/A
Trailer PO 9765X	36-0210	672	1989	Fail
Trailer PO 9765X	36-0211	720	1989	Fail
Lab Office Bldg	39-0002	13,238	1953	Fair
Magazine	39-0003	400	1953	Excellent
Trim Bldg	39-0004	839	1953	Fair
Ready Magazine	39-0005	144	1953	Excellent
Firing Chamber #1	39-0006	561	1953	Good
Firing Chamber	39-0057	578	1959	Fair
Storage Bldg	39-0062	1,536	1961	Good
Equipment Shelter	39-0063	262	1961	Fair
Equipment Shelter	39-0064	262	1961	N/A
Capacitor Bank Enclosure	39-0067	280	1965	Good
Storage Bldg	39-0068	252	1968	N/A
Magazine	39-0077	205	1973	Good
Firing Chamber	39-0088	1,386	1979	Fair
Gun Gas Support Bldg	39-0089	1,800	1981	N/A
Bunker	39-0095	1,099	1984	Adequate
Access Tunnel	39-0096	333	1984	N/A
Bunker	39-0097	2,072	1984	Excellent
Branch Shops Bldg	39-0098	5,300	1987	Adequate
Trailer	39-0101	300	1962	Fair
Transportable	39-0107	1,680	1987	Good
Pulsed Power Bldg	39-0111	1,169	1990	N/A
Neutron Flux Storage	39-0138	96	1979	N/A
Guard Station #468	39-0183	108	1970	N/A
Detonator Facilities				
Storage Bldg	09-0046		1953	Fair
Environmental Test	09-0051	2,122	1953	Adequate
Warehouse & Plastic Shop	22-0005	6,152	1950	Fail
Magazine	22-0007	51	1949	Good
Process Bldg	22-0008	52	1950	Excellent
Magazine	22-0009	10	1950	Good
Magazine	22-0010	10	1950	Good
Magazine	22-0011	10	1950	Good
Magazine	22-0012	10	1950	Good
Magazine	22-0014	51	1950	Good
Storage Magazine	22-0015	52	1950	Good
Magazine	22-0016	101	1950	Good
Magazine	22-0017	99	1950	Good
Magazine	22-0018	103	1950	Good

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Magazine	22-0019	98	1950	Good
Magazine	22-0020	102	1950	Good
Magazine	22-0021	51	1950	Good
Magazine	22-0022	98	1950	Good
Magazine	22-0023	52	1950	Good
Magazine	22-0024	52	1950	Good
Guard House	22-0032	188	1953	Poor
Laboratory Bldg	22-0034	5,008	1949	Fair
Magazine	22-0035	176	1953	Excellent
Shops Bldg	22-0052	7,161	1954	Poor
Storage Bldg	22-0066	480	1955	Excellent
Storage Bldg	22-0067	480	1955	Excellent
Storage Bldg	22-0068	480	1955	Excellent
Storage Bldg	22-0069	480	1955	Excellent
Office Bldg	22-0090	13,506	1984	Fair
Detonator Facility	22-0091	22,774	1983	Adequate
High Explosive Wing	22-0093	7,615	1983	Fair
Solvent Storage Shed	22-0095	285	1986	N/A
Day Magazine	22-0096	246	1984	N/A
Storage Building	22-0110	5,000	1999	N/A7
Magazine	40-0002	73	1951	Excellent
Preparation Building	40-0003	168	1951	Excellent
Firing Point	40-0005	1,533	1951	Fair
Preparation Bldg	40-0006	168	1951	Excellent
Magazine	40-0007	73	1951	Excellent
PHERMEX				
PHERMEX Chamber/Amp	15-0184	10,144	1961	Excellent
Power Control Bldg	15-0185	12,698	1961	Fair
Detection Chamber	15-0186	2,338	1961	Excellent
Power Supply Bldg	15-0189	452	1961	N/A
Tunnel	15-0198	905	1961	N/A
Tunnel	15-0199	2,027	1961	N/A
Tunnel	15-0200	702	1961	Fair
Tunnel	15-0201	870	1961	Fair
Carpenter Shop	15-0233	1,440	1963	Poor
Ready Magazine	15-0241	142	1968	N/A
Make Up Bldg	15-0242	455	1968	N/A
Main Magazine	15-0243	516	1968	N/A
Multidiag Operations	15-0310	3,194	1988	Adequate
Trailer	15-0447	720	1984	Poor
High Frequency Radio	60-0045	2,158	1966	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
LANSCE Facilities				
Accelerator Facilities				
Lab Office Bldg	53-0001	81,939	1971	Poor
Equipment Test Lab	53-0002	25,611	1969	Good
LANSCE Accelerator Bldg	53-0003	314,333	1971	Poor
Operations Bldg	53-0004	16,445	1971	Fail
Service Corridor	53-0005	1,751	1971	Adequate
Proton Stg. Ring Facility	53-0008	12,828	1984	Excellent
High Res Beam Facility	53-0010	2,440	1987	Adequate
Development and Testing	53-0022	4,136	1978	Excellent
Data Analysis Ctr	53-0024	13,761	1978	Adequate
Shop & Storage Bldg	53-0039	2,411	1972	Adequate
Bead Blaster Bldg	53-0056	384	1970	Poor
Med Resolution Spect	53-0315	1,830	1989	Good
Neutrino Exper Servi	53-0364	1,600	1985	Excellent
Trailer	53-0505	312	1977	N/A
Trailer	53-0510	320	1979	N/A
Trailer	53-0514	720	1975	Fail
Counting House	53-0737	526	1970	Poor
Counting House	53-0738	523	1970	Poor
Trailer	53-0773	320	1991	Fail
Transportable	53-0898	1,690	1987	N/A
Process Equipment Building	53-0945	4,677	1999	N/A
Pump House	53-0954	173	1999	N/A
Lujan Center				
WNR Lab Support Bldg	53-0015	3,422	1983	Adequate
Warehouse	53-0016	1,618	1981	Excellent
Neutron Scattering Exper	53-0030	20,526	1988	Fail
ML Neutron Scattering Fac	53-0622	27,697	1989	Adequate
WNR				
LANSCE/WNR Building	53-0007	33,463	1976	Poor
Experimental Area Bldg	53-0029	2,133	1979	Fair
Detector Bldg	53-0034	300	1979	N/A
Detector Shed	53-0035	300	1981	N/A
Detector Shed	53-0036	300	1981	Good
Guard Station	53-0037	126	1972	N/A
Pump Shed	53-0368	315	1988	N/A
WNR Target Cell #4	53-0369	1,694	1988	N/A
Detector Bldg	53-0370	150	1986	Adequate
Detector Bldg	53-0371	160	1983	Excellent

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Detector Bldg	53-0372	317	1986	N/A
Metal Detector Shed	53-0382	105	1988	Fair
Trailer	53-0387	744	1992	Adequate
Trailer	53-0541	523	1975	Poor
Trailer	53-0573	233	1973	Poor
WNR Bldg #7	53-0823	109	1986	N/A
Storage Bldg	53-1031	528	1957	Poor
Metal Bldg	53-1090	300	1992	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Waste Management Facilities				
RLWTF				
Rad Liq Wste Dispo	21-0257	4,315	1967	Poor
Rad Liquid Treatment	50-0001	42,025	1963	Poor
Indust Waste Stat TA50-2	50-0002	2,719	1963	Fail
Emergency Generator Bldg	50-0188	238	1995	Adequate
Morgan Shed	50-0201	240	1994	N/A
Electrical Substation	50-0211	125	1995	N/A
TRU				
Incinerator Bldg (RAMROD)	50-0037	21,437	1976	Fair
Size Reduction Facility (WCRR)	50-0069	3,760	1980	Fail
Transportable	54-0034	1,705	1987	Fair
TRU-Waste NDA/NDE (RANT)	54-0038	7,576	1989	Good
Trailer	54-0413	240	1998	Fail
Modified Transportainer	54-0438	320	2000	N/A
Modified Transportainer	54-0439	80	2000	N/A
Modified Transportainer	54-0452	160	2000	N/A
TA-54 Solid Waste				
Lab Support Fac Area G	54-0002	1,592	1977	Excellent
Contaminated Drum Stg	54-0008	651	1977	Adequate
Storage Bldg	54-0011	1,136	1977	Adequate
Equipment Shelter Bldg	54-0020	680	1979	Good
Transportable	54-0022	1,680	1983	Poor
TRU-Waste Drum Prep	54-0033	7,854	1987	Excellent
Trailer Officer	54-0037	547	1981	Fair
PCB Waste Storage Fac	54-0039	2,173	1989	N/A
Tension Support Dome	54-0048	13,951	1985	Fair
Tension Support Dome	54-0049	25,587	1988	N/A
Trailer	54-0051	722	1987	Fail
Modified Morgan Shed	54-0055	288	1989	Fair
Trailer	54-0060	672	1986	Fair
Transportable P# J4065	54-0064	1,680	1991	Adequate
Passageway	54-0083	90	1989	Fair
Passageway	54-0084	62	1989	Fair
Trailer	54-0117	720	1989	N/A
Tension Support Dome	54-0153	18,610	1991	N/A
Modified Morgan Shed	54-0156	192	1990	N/A
Trailer	54-0185	617	1978	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Trailer	54-0210	600	1977	Fair
Trailer	54-0211	624	1978	N/A
Tension Support Dome	54-0215	15,181	1997	N/A
Tension Support Dome	54-0216	3,306	1993	N/A
Trailer	54-0221	592	1978	N/A
Tension Support Dome	54-0224	5,829	1995	N/A
Tension Support Dome	54-0226	21,718	1995	Excellent
Tension Support Dome	54-0229	20,498	1995	N/A
Tension Support Dome	54-0230	19,695	1995	N/A
Tension Support Dome	54-0231	21,363	1997	N/A
Tension Support Dome	54-0232	19,679	1997	N/A
Rover Trailer	54-0240	295	1985	N/A
Trailer	54-0242	510	1975	N/A
Doublewide Trailer PO 8519K	54-0244	1,422	1995	Good
Doublewide Trailer PO 8519K	54-0245	1,434	1995	Adequate
Doublewide Trailer PO 8519K	54-0246	1,420	1995	Fair
Doublewide Trailer PO 8519K	54-0247	1,439	1995	N/A
Shower Trailer	54-0277	144	1998	N/A
Tension Support Dome	54-0281	4,160	1997	N/A
Trailer PO 5927F	54-0288	673	1986	Good
Utility Building	54-0289	240	1997	Fair
Trailer	54-0290	636	1970	Poor
Modular Bldg	54-0296	360	1997	Adequate
HVAC Equip Bldg	54-0304	120	1995	
Trailer	54-0306	355	1994	Good
Control Bldg	54-0315	734	1997	Adequate
Trailer	54-0324	458	1983	Poor
Trailer	54-0325	996	1985	Fail
Modular Bldg	54-0367	702	1998	N/A
Decon & Volume Reduction Sys Bldg	54-0412	13,284	2002	N/A
Transportable	54-1050	2,036	1995	Excellent
Modified Modular Shed	54-1051	360	1995	N/A
Modified Modular Shed	54-1052	360	1995	N/A
Trailer	54-1058	360	1997	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
NMT Facilities				
TA-55				
Administration Bldg	55-0001	13,618	1977	Fair
Support Office Bldg	55-0002	18,304	1977	Poor
Support Bldg	55-0003	37,417	1977	Good
Plutonium Bldg	55-0004	233,193	1974	Good
Warehouse	55-0005	16,862	1975	Fair
Utility Bldg	55-0006	7,354	1975	Fail
Calcium Bldg	55-0007	455	1975	Fair
Generator Bldg	55-0008	2,453	1975	Fail
Guard Station #402	55-0009	1,160	1975	Good
Z Pump House C117352	55-0010	1,147	1975	Fail
Z Pump House C117353	55-0011	1,073	1975	Fail
Office Bldg	55-0020	1,956	1976	Fair
Utilidor	55-0021	341	1975	Fair
MC&A Support Facility	55-0028	5,919	1981	Good
Educational Support	55-0039	8,237	1989	Good
Nuclear Materials Storage	55-0041	34,640	1988	Good
Process Support Facility	55-0042	13,269	1985	Poor
Assessment Bldg	55-0043	176	1986	N/A
Generator Bldg	55-0047	683	1986	Adequate
Drum Storage Bldg	55-0055	112	1985	Fair
FITS Office Building	55-0066	24,368	2000	N/A
Trailer	55-0107	720	1985	Fail
Cold Support Ofc Bldg	55-0114	12,506	1989	N/A
Trailer PO 6002R	55-0139	672	1987	Fair
Assessment Building #408	55-0142	1,404	1992	N/A
Trailer PO 6035R	55-0144	670	1986	Fair
Trailer PO 6035R	55-0145	672	1986	Fair
Tunnel Access	55-0148	217	1988	Fair
Drum Storage Bldg	55-0185	2,427	1991	N/A
Plutonium Facility Access	55-0264	4,261	1995	Good
CMR				
CMR Laboratory	03-0029	566,849	1953	Good
Hot Waste Pump House	03-0154	400	1962	N/A
Guard Station #321	03-0503	349	1984	Fair
Equipment Shelter	03-0564	80	1979	N/A
Mechanical Bldg	03-0586	336	1996	Fail
Guard Sta #331	03-1610	288	1984	Poor
Guard Sta #332	03-1614	64	1984	Poor
Guard Station	03-1615	64	1984	Poor
TA-18 Facility				

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Staging Area	18-0001	1,051	1944	Fail
Critical Assembly Bldg	18-0023	2,681	1947	Adequate
Vault	18-0026	287	1948	Adequate
Warehouse	18-0028	4,782	1948	Adequate
Pond Cabin	18-0029	384	1949	Adequate
Main Bldg	18-0030	23,137	1953	Fail
Utility Bldg	18-0031	2,093	1953	Fail
Critical Assembly Bldg	18-0032	3,268	1953	Adequate
Guard Station	18-0037	189	1953	Fail
Critical Assembly Bldg	18-0116	5,790	1961	Adequate
Storage Bldg	18-0119	1,242	1958	Poor
Storage Bldg	18-0122	1,372	1960	Poor
Pulsed Accelerator Bldg	18-0127	9,537	1967	Fair
Assembly Cover Bldg	18-0128	120	1962	Good
Reactor Sub-Assy Bldg	18-0129	6,570	1962	Fair
Warehouse	18-0138	1,344	1964	Poor
Ultra-Sonic Cleaning Bldg	18-0141	963	1966	Poor
Office Bldg	18-0147	1,298	1968	Poor
Sheba Critical Bldg	18-0168	400	1970	Fair
Trailer	18-0184	248	1974	N/A
Secur Enhanc Assessm	18-0189	912	1986	Fair
Guard Station	18-0190	523	1986	Poor
Accelerator Dev Lab	18-0227	2,838	1990	Adequate
Butler Bldg	18-0256	920	1989	N/A
Trailer PO 9288Z	18-0257	1,440	1990	Fair
Trailer PO 8797R	18-0258	1,440	1989	Poor
Guard Station	18-0270	42	1990	Adequate
Trailer	18-0288	840	1985	Fair
Storage Bldg	18-0297	874	1997	N/A

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NNSA Mission Essential Facilities and Infrastructure Name	Facility Identification Number	GSF	Year Built	Current Condition
Beryllium Technology Facility				
Beryllium Technology Facility	03-0141	33,336	1960	Adequate
ASCI (NA-11)				
Computer Bldg	03-0132	122,938	1961	Fair
Security Station	03-1414	428	2002	N/A
Data Communication	03-1498	102,533	1989	Adequate
Strategic Computer Complex	03-2327	367,655	2002	Excellent
ICF (NA-11)				
Laser Bldg	35-0125	60,530	1980	Fair
Lab Optics Evaluation	35-0189	12,763	1977	Good
Target Fabrication Bldg	35-0213	84,818	1983	Adequate
Polymer Laboratory	35-0455	4,304	1992	Fair

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ATTACHMENT H

Attachment H
Facility Strategic Planning

The Laboratory's continuing development of a facility strategic planning (FSP) program aligns with and supports the TYCSP. The FSP program provides a consistent planning process for consolidation efforts across Laboratory divisions and responds to a need for increased long-range planning. The FSP process is organization-oriented and incorporates a business approach to strategies for improving facility efficiency and effectiveness. Proposed construction and infrastructure projects are validated, and new projects are conceptualized in support of institutional goals.

Other Laboratory planning activities coordinate with the FSP process, including the following:

- NEPA— Requirements for alternative analysis, proposed projects, and inter-relationships,
- Space Management—Provides current space information and identifies issues and needs of organizations,
- Security Planning—Coordinates with physical requirements of facilities and sites for organizations,
- Project launch and development activities, and
- Maintenance prioritization.

Projects defined through FSP are based on organizational vision and needs. Project proposals are prioritized by the directorate and institution through the TYCSP project call process. Those projects *approved* for institutional prioritization are presented in the TYCSP project lists.

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Weapons Physics (WP) Directorate

Dynamic Experimentation (DX) Division

DX Division is chartered to manage, maintain, operate, and provide other facility and science services for research, development and testing in support of the Department of Energy Stockpile Stewardship program The majority of facilities that sustain the work of DX Division are currently located at TA-8, 9, 15, 22, 36, 40, 46, and 69. Division goals and objectives are

- Decrease space requirements,
- Replace failing buildings with modern cost efficient ones,
- Incorporate energy conservation and sustainable design concepts,
- Provide an appropriate quality of life for the workforce, and
- Enhance physical security.

To accomplish these goals, DX Division has proposed several new construction projects for TA-22. Drivers for division consolidation in TA-22 include a desire to reduce operating and maintenance costs associated with 50-year old structures, a requirement to locate HE R&D capabilities near the Detonator Production Facility, and a desire to co-locate HE, shock wave physics, and HE systems researchers. The plan includes several projects for infrastructure, safety, and security upgrades; TA-22 expansion; recovery from the Cerro Grande fire; and new or upgraded experimental facilities. The end-state will provide significant programmatic benefits related to capability enhancements and facility modernization at TA-22 and economic benefits from facility consolidation.

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Physics (P) Division

Physics Division furthers understanding of the physical world, generates new technology in experimental physics, and establishes a physics foundation for current and future Los Alamos programs. The Physics Division undertakes research using multidisciplinary approaches and pursues its goals by establishing and maintaining a scientific environment that promotes creativity, innovation, and excellence. The Division fosters communication, both within the Division and with the external scientific and industrial communities, to realize fully the implications and benefits of physics research. P Division is currently located in TAs-3, 35, and 53. Division facility goals are the following:

- Modernize scientific space to attract and retain the finest scientific talent available, and
- Co-locate as much of the Physics Division staff and operations as possible at TA-3 to gain synergies among the division's groups and be near most collaborators.

In short, P Division believes that drawing the staff and the majority of its laboratories together at TA-3 will increase scientific productivity and improve cost-effectiveness for the Laboratory. To accomplish these goals, the P-Division plan envisions constructing two GPP buildings and a line-item project. The first GPP will contain a mix of unclassified offices and light labs, and the other will contain unclassified office space. The line-item project, the National Security Physics Building, will be approximately 150,000 gsf and contain office space and laboratories.

These new facilities will be located in the central TA-3 area, allowing P-Division to consolidate all of the division in one area and excess current space and substandard buildings. Forty-one buildings (46,000 gsf) are currently proposed for excess.

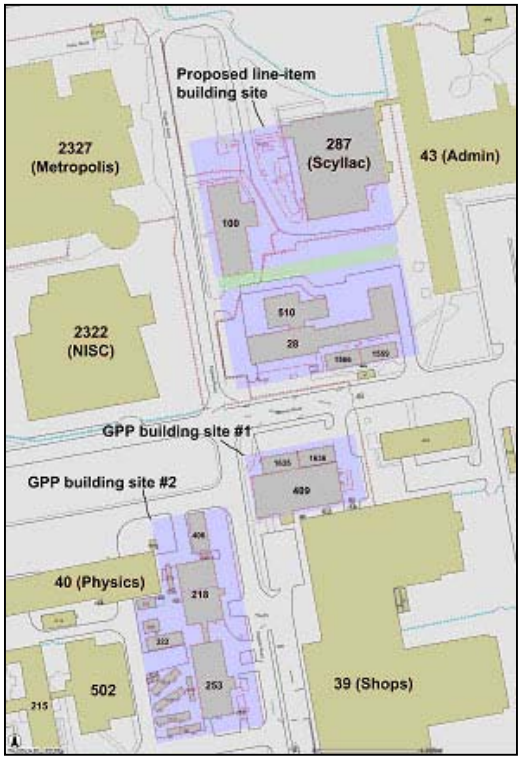

Figure H-1: Proposed P Division facilities.

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Computer and Computational Sciences (CCS) Division

The Computer and Computational Sciences Division conducts basic and applied research to develop multi-disciplinary computational techniques that support the Laboratory's core missions as well as novel computer-science solutions to advance hardware and software technology. The division is currently housed in some 18 facilities, some of which are located in technical areas distant from their primary location (TA-3), such as TA-53 and TA-55. The dispersion of staff significantly impacts collaboration and inhibits the pace of development. In addition, limitations in available space in TA-3 requires that people must be housed in space constructed for other purposes such as warehouses or security vaults.

The division anticipates five years of steady growth and increasingly more appropriate space that provides flexibility for computing capabilities. Goals of the division's facility plan include:

- Create quality work environments that enhance collaboration to include foreign national participation,
- Decrease facility costs, operations and maintenance,
- Co-locate capabilities, and
- Eliminate temporary structures (trailers and transportables).

Currently three options to satisfy the division's facility needs are under consideration. Each option includes revitalization of the Laboratory's existing computing and communications facility (TA-3-132) to accommodate the computing requirements of multiple division's, one of which would be CCS Division. In addition, one to three GPP-level projects would be needed depending upon the preferred option. In addition, CCS Division may be included in the Los Alamos Science Complex third-party financing initiative. Evaluation and prioritization of options is underway.

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Weapons Engineering and Manufacturing (WEM) Directorate

Engineering Sciences and Applications (ESA) Division

ESA Division provides stewardship of nuclear weapons and enabling engineering technologies to ensure the safety and reliability of the nuclear weapons stockpile; preserve and advance warhead and subsystem design capability; enhance the ability to manufacture and process weapon components and materials; and nurture engineering technologies that enhance the ability to accomplish the mission and to seek out programs that complement this mission. ESA Division facility related goals include the following:

- Divide the Weapons Engineering Complex into two primary functional areas, labs or technical facilities and administrative offices,
- Locate future lab buildings contiguous with existing labs and provide close proximity office buildings that support lab operations, and
- Create a pedestrian-oriented campus.

ESA's planning efforts will achieve the following vision:

- An infrastructure that will support the weapons engineering missions for the next 20 years,
- Create weapons engineering clusters using many existing facilities at S-Site,
- Decrease overall footprint by more than 30 percent,
- Replace 1970s/80s technology with more robust, flexible capabilities,
- Increase engineering synergy: Co-locate sponsors, designers, modelers, fabricators, testers, and analysts, and
- Eliminate transportable buildings; improve the quality of engineering workspace.

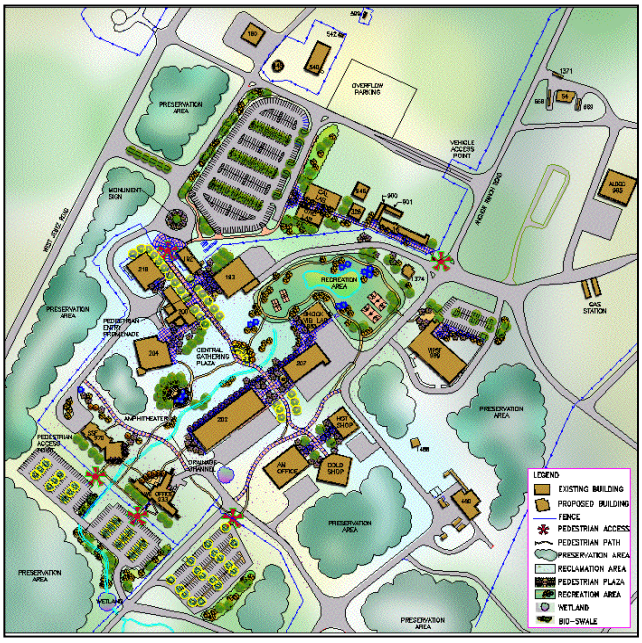

Figure H-2: Proposed ESA development.

ESA has developed a list of nearly 100 buildings as proposed excess space and 17 new projects that supports the achievement of goals and vision. The following graphic represents the Master Site Plan for ESA Division, with proposed new construction.

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Strategic Research (SR) Directorate

The Strategic Research (SR) Directorate's mission is to advance knowledge across a broad range of scientific disciplines. In collaboration with Nuclear Weapons and Threat Reduction directorates, SR promotes basic and applied research directed toward solving complex scientific and technological problems in support of the Laboratory's national security and threat reduction missions. SR leads the Laboratory's broad national security missions in energy security, environmental security, and critical infrastructure. As a broker of scientific knowledge and understanding, SR supports the mission of the Laboratory by fostering innovation and creativity by the staff, by supporting and enhancing the scientific reputation of the Laboratory through a vigorous basic research program and by serving as a gateway from the scientific world to industry and academia through collaboration with government laboratories, universities, and industry.

In support of the SR mission, technologies and methods must be implemented to make construction, operation, and maintenance of facilities safe, secure, and cost effective. Maintaining facilities and technologies in an appropriate condition, consistent with the FSP strategy, will ensure continued scientific, technological, and manufacturing activities.

The SR Directorate must make cost effective investments in the infrastructure, workforce, facilities, and technologies that will enable effective program management of activities in support of our goal. Goals and objectives for SR facilities are derived through coordination with the Strategic Research Directorate Laboratory Supporting Plan – 2002-2005, and the Strategic Research Directorate Facility Strategic Plan – 2002-2005. The SR Directorate facility goals are the following:

- Deliver and maintain safe and secure facilities,
- Provide attractive and comfortable office and laboratory space for our staff,
- Enhance the productivity and interaction of our staff, and
- Replace failing facilities with modern cost efficient ones with attention to the environment, safety, security and consolidation of capabilities.

The SR Directorate employs approximately 2,000 staff members; including more than 1,600 scientists, engineers, post-doctoral fellows, and students. The SR Directorate maintains most of the Laboratory's collaborations with scientists at universities, industrial firms, other government laboratories and international research centers. It also hosts the largest share of Laboratory's Fellows, long term visiting scientists, postdoctoral researchers and graduate students. Half of the yearly SR Directorate's budget is supported by non-DP programs that provide financial support for facility operations. As aging facilities are run to failure and placed in cold stand-by mode, non-DP activities will

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have to be relocated to other facilities that are most probably DP supported. Deactivation and decommission of failed facilities and the costs associated with environmental cleanup across the Complex will have significant impact on DP programs. Current facility needs are due to the following reasons:

- Facilities in which SR Divisions reside continue to degrade and are becoming less suitable for meeting future missions,
- SR Divisions and operations are scattered unnecessarily. Historically, this has happened over time and based on space availability, and
- Alternative financing methods such as third-party financing are being explored for projects that did not receive funding through traditional Line Item or GPP methods. The SR Directorate is considering alternative financing as a way to accelerate upgrades of facilities in order to keep up with declining condition and suitability.

More efficient designs, smaller footprints and consolidation of programmatic needs will result in better operability for mission requirements.

The Laboratory needs outstanding scientists and engineers working in state-of-the-art facilities to advance the scientific knowledge that is required to manufacture and certify the 21st century nuclear weapons stockpile and further accomplish the Laboratory's mission in national and global security.

The Strategic Research Directorate and other Institutional partners will continue implementation of FSP to ensure that the right facilities and infrastructure are in place to ensure the long-term viability of the Laboratory. This will ensure that mission-related scientific research is conducted in a unique and powerful collaborative setting designed to be environmentally sound and highly cost effective.

SR Directorate is developing a list of 27 buildings as proposed excess space and plans to vacate tenant space in 56 buildings. These lists have been developed as SR Divisions complete their FSP and are considered proposals for internal management consideration during the project prioritization processes. EES, ESS, and IBD completed the FSP process in FY02. C, T, and MST Divisions will complete their FSPs in FY03.

By the close of FY03, all of the SR Directorate divisions and program offices will have completed the FSP process. The SR Directorate will continue to use the FSP process to define needs and consolidation efforts. Working with the Institution, the SR Directorate is the champion for the development of the Los Alamos Science Complex to provide state-of-the-art facilities that will consolidate the majority of the scientific research staff that supports the DOE/NNSA mission.

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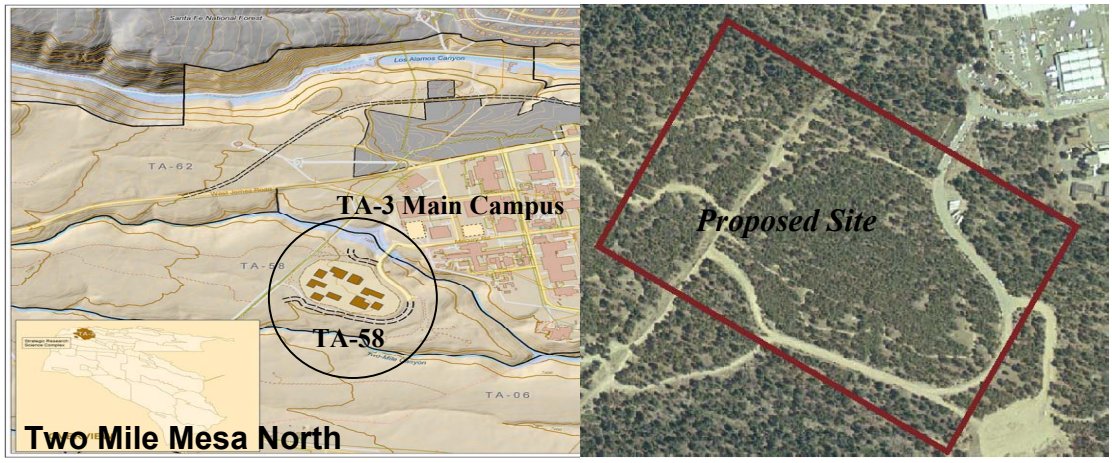
- Chemistry Division: Remain in the Integrated Nuclear Planning and CMRR Consolidation projects.
    - Focus on TA-46 and TA-48 as priority for facility upgrades, replacement, and excess.
    - Construct a dedicated facility for Dissolving and Radiochemistry.
    - Develop and construct a consolidated radiological/non-radiological chemistry building to replace RC-1.
- Earth and Environmental Science Division: Relocate division and outlying group in the Los Alamos Science Complex at TA-58.
- Energy and Sustainable Systems Program Office: Relocate to TA-3 or the Los Alamos Science Complex.
- Industrial Business Development Office: Relocate to TA-3 or the Los Alamos Science Complex.
- Materials Science and Technology Division: Remain in TA-3.
    - Develop the infill of the MSL (TA-3 Bldg. 1698) to provide office and possible light laboratory space during construction of new buildings and meet current basic office space needs.
    - Center for Integrated Nanotechnology (CINT): Build in TA-3 and collocate within the MST area.
    - National Fuel Cell Center: Locate in the Los Alamos Research Park.
    - Weapons Materials Engineering Complex: Develop a facility that integrates storage, handling, forming, machining and assembly of radiological material / components.
- T Division: Relocate division in the Los Alamos Science Complex at TA-58.

Figure H-3: Proposed Los Alamos Science Complex development at TA-58.



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Chemistry (C) Division

Chemistry Division is a vital component of the Laboratory and a charter member of the Strategic Research Directorate. Current activities in the division cover a wide range of areas, including actinide and fission product chemistry, inorganic and organometallic chemistry, catalysis, radioisotope production and distribution, chemical engineering, detection technologies, nanoscience and nanotechnology, analytical chemistry, environmental chemistry, nuclear and radiochemistry, physical chemistry, chemical and nuclear physics, mass spectrometry, and optical and vibrational spectroscopy. C Division is currently located in nine TAs and dispersed in 64 buildings. Division goals include the following:

- Participate as key constituents in Integrated Nuclear Planning and CMRR projects.
- Enhance national security, nonproliferation and Laboratory mission support chemistry facilities at TA-46 and TA-48,
- Eliminate trailers and transportables, and
- Consolidate capabilities, classified operations, nonradiological operations, radiological operations, and permanent storage facilities.

C Division must maintain its current mission with small to moderate growth for counter and nonproliferation, homeland security, and DP projects. New, modern energy efficient facilities are needed to reduce the cost of retrofitting, decontaminating, and repairing aged and failing infrastructure, and to reduce non-productive time due to infrastructure problems. C Division needs to increase centralized activities and location of non-secure division workers in adequate space (roughly 2/3 of the work force). The remainder of the Division needs offices and lab space in a classified environment.

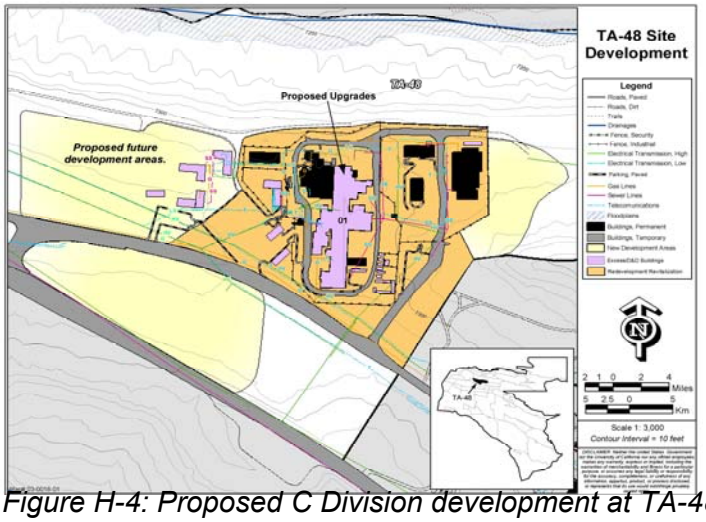

Figure H-4: Proposed C Division development at TA-48.

Approximately 25% of C Division will be accommodated through the CMRR Project. The remainder of personnel and activities are proposed to be consolidated at two locations: TA-48 Refurbishment (for radiological activities), and the Los Alamos Science Complex (for nonradiological activities). The majority of the Division's radiological activities are currently conducted in TA-48 Building 1 (RC-1), and a major construction replacement facility is needed to support the current and projected levels of work.

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Earth and Environmental Sciences (EES) Division

Using capabilities in earth and environmental science and engineering, EES Division provides solutions to complex problems of local, national, and global interest in the Environment, Energy, and National Security. Current capabilities include atmospheric/oceanic sciences; computational science/mathematics; ecology; geochemistry/geomaterials; geology; geophysics/seismology; hydrology; national security science/technology; and technical leadership/management. EES is currently located in TAs-3, -48, and –51. Division facility goals include the following:

- Relocate personnel from 50 year-old structures that have asbestos, NEC, HVAC issues,
- Co-locate all of EES Division personnel from TA-3, 48, and 51 residing in temporary, aged, and failing structures to the Los Alamos Science Complex,
- Decrease our overall space footprint by 58,913 square feet,
- Find solutions to improve operations and maintenance and related costs through consolidation of activities, capabilities, equipment, and infrastructure,
- Decrease billable storage and the practice of using billable space for unnecessary storage,
- Decrease cost and increase service support by centralizing common, shared administrative space,
- Decrease the cost of ergonomic modifications to office space by using state-of-the-art adjustable, system furniture, and
- Modernize computing, analytical, and experimental facilities.

EES will become increasingly non-productive and unable to meet its deliverables during the next 10 years due to temporary failed structures and the loss of equipment and productive time; the cost to maintain or modify vulnerable structures and laboratories will not be met because of the lack of a dedicated budget to fund new structures or modifications. In addition, the division will continue to lose highly qualified scientists and will be unable attract new scientists due to the poor work environment. Customers will be lost because of aged and failing facilities that cannot be updated to accommodate new equipment and instruments.

EES Division plans to relocate to the Los Alamos Science Complex, located at Two Mile Mesa North, to help eliminate the high cost of maintenance and modifications to aged, failed, and temporary structures. EES will consolidate and co-locate division personnel from TA-3, -48, and -51 and vacate or excess approximately 58,900 square feet. Consolidation and co-location will greatly increase efficiency, productivity, and collaborations with TR Directorate and CCS, CHS, OEEI, C, CCS, B, RRES, T, D, X, and NIS Divisions.

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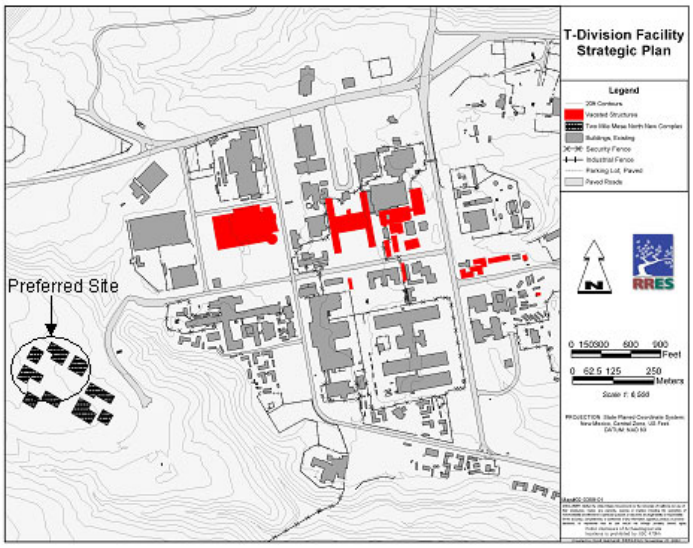
Theoretical (T) Division

T Division performs theoretical research in theory to further scientific understanding of the physical world; to establish a technical foundation for current and future defense, civilian, and industrial needs; and to explore interdisciplinary frontiers of scientific endeavors. In addition to participating in large Laboratory projects, T Division nurtures small projects for their intrinsic scientific and technical interest to the Laboratory and the Nation. Approximately one-third of T Division's total space is located in transportables in TA-3. Some of T Division facility goals include the following:

- Demonstrate cost-effective operational excellence,
- Decompress overcrowded offices and labs and improve the functional capabilities of work spaces to accommodate modern work environments and equipment,
- Improve the quality and aesthetic appearance of workspaces to inspire, retain, and attract top-quality talent. Create spaces and places that foster interaction, and
- Integrate operations with other SR Directorate functions.

Figure H-5: T Division Facility Strategic Plan.



T Division strives to maintain current mission with slow growth to support the National Institute of Health and Department of Homeland Security (30 percent increased growth anticipated over the next 10 years). Modern facilities that accommodate the functions of T Division are needed to reduce costs of retrofitting and repair and reduce the loss of nonproductive time from HVAC problems. Increased centralized activities and improved location of non-cleared T Division workers in appropriate space (two-thirds of the workforce) are needed. Approximately one-third of the Division will need work space in a classified environment. Due to severe overcrowding, decompression will require additional space to maintain the current population.

It is a top priority to replace temporary structures, which is about one-third of T Division's total space. However, the preferred alternative is to construct a single building of approximately 85,000 gsf to consolidate all T Division activities at the Los Alamos Science Complex. T Division has developed a list of 20 buildings (almost 60,000 nsf) as proposed excess space that supports the achievement of T Division goals and vision.

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Materials Science and Technology (MST) Division

MST Division serves the nation by providing the core materials science and technology base needed to maintain confidence in the safety and reliability of the Nation's nuclear weapons; applying technical expertise to address a broad range of national needs in energy, environment, infrastructure, and conventional defense; and researching materials to create new knowledge and lay the foundations for new technologies. MST Division consists of 550 staff in TAs-3 and -35. MST Division facility goals include the following:

- Maintain responsiveness to programmatic needs and deliverables,
- Improve existing facility functionality, appearance, and desirability while decreasing facility maintenance, operational, and energy costs,
- Develop space to meet current and projected programmatic requirements while working to replace transportable buildings with permanent structures,
- Consolidate capabilities to the greatest extent possible to further staff interaction, innovation, and the continuing pursuit of scientific excellence, and
- Plan and implement objectives in a cost effective manner.

The key locations for MST Division Groups will remain in TA-3 consolidated within the TA-3 Material Science Complex and Sigma/Beryllium Technology Facility and at TA-35 at the Target Fabrication Facility and other TA-35 facilities including the Atlas Building. Some of MST Division will remain within the Research Park, where a new National Fuel Cell Resource Center is proposed. MST Division also needs additional office space, including an 8 percent increase in primary offices and 23 percent increase in office support space.

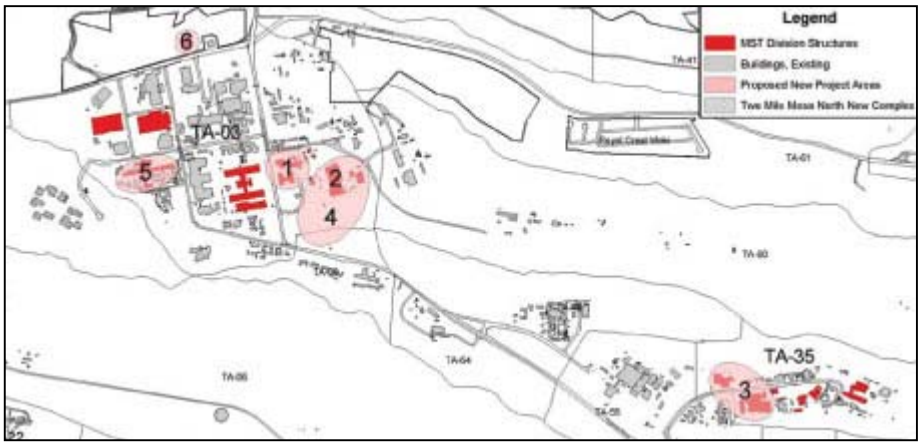

Figure H-6: MST Division Facility Strategic Plan.

The Division so far has developed a preliminary list of 17 buildings as proposed excess and 10 new projects that support the achievement of goals and vision. The plan strategy is also to relocate, certain nuclear and non-nuclear materials activities. Both traditional funding sources, such as RTBF, FIRP, LIP, and GPP, and third party financing will be pursued.

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Threat Reduction (TR) Directorate

Decision Applications (D) Division

The Decision Applications Division enables important national security decisions pertaining to safety and reliability of the national's nuclear detterent; national critical infrastructure protection and homeland security; national defense transformation; and nuclear energy and the environment. The division is currently housed in 13 buildings, some located in TA-3 and several in TA-52. Some 68 percent of the space is categorized as poor based on the recently completed Laboratory condition assessment process. The division anticipates significant growth in program requirements for modeling and simulation which will required state-of-the-art facilities.

In FY02, the D Division Office Building was approved for construction through FIRP funding. The new structure will house approximately 80 people with secure computing capability. The division also anticipates allocation of space in the new NSSB. These buildings satisfy approximately 70 percent of the issues to be addressed in their Facility Strategic Plan. The plan is anticipated to include four options.

- Consolidate D Division in TA-3 requiring two new GPP-level projects and assigned space in the NSSB,
- Consolidate D Division in TA-52 requiring four new GPP-level projects,
- Remain in a split configuration with parts of the division in TA-3 and TA-52. This option would garner consolidation by program focus and adjacency to appropriate customers and require two new GPP-level projects and assigned space in NSSB, and
- Locate D Division in the proposed Los Alamos National Laboratory Science Park using third-party financing.

Evaluation and prioritization of options is currently underway.

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Nonproliferation and International Security (NIS) Division at TA-33

Technical Area 33 is being planned for significant development to support homeland and international security programs. In October 2003, the Proliferation and Monitoring Division will spin off from NIS Division and be the primary resident of TA-33. The site (TA-33) currently has 10 structures with 90 percent of them over 40 years old. However, the site also provides significant advantages to the highly secure requirements of the division. It is remotely located with significant nature barriers to access and has sufficient developable land to accommodate the needs. Twelve projects are identified in the facility plan that include the following:

- Bunker revitalization (TA-33-24, -25, and -87) to support experimental activities,
- Utilities and infrastructure upgrades needed to support planned population,
- Three GPP-level projects to support people and basic capabilities to support science activities. The capabilities include electronics and machine shops; radio frequency, optics, laser and computer labs; and materials processing,
- Up to four project support buildings for specific experiments that accommodate maximum flexibility to house various levels of secure programs,
- Site security upgrades to allow classified and unclassified access control with improved fencing, guard stations, and roads, and
- Power and infrastructure extensions to support field measurement activities, UAV testing, and antenna and laser ranges.

Funding for these projects is anticipated to be non-DOE. In FY04, program funds to begin the first GGP-level project is anticipated.

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Bioscience (B) Division

Bioscience Division is committed to creating an environment in which distinguishing capabilities in biological, physical, computational and computer science can combine to enable the next revolution in Bioscience. This specifically includes the Genomic Resource Center for National Health Security where genomic sequence information is sufficiently understood to apply it to DOE mission needs. B Division facility goals include the following:

- Provide adequate office and laboratory space to accommodate a growing mission, especially in meeting the Nation's need in Homeland Security.
- Preclude lost opportunities due to lack of space to execute the work.
- Replace failing structures with modern, cost-efficient ones that are suitable for today's bioscience, and that will eliminate costly corrective maintenance.
- Mitigate problematic security and safety concerns due to: 1) the HRL's location within the town site and 2) the vulnerability of transportables to fire and break-ins.
- Consolidate operations in a new laboratory and office complex that will enable NNSA's future role in the biosciences.

B Division plans to move into a 138,000 gross square foot office/laboratory facility in the proposed Los Alamos Science Complex. Expansion and consolidation of office and laboratory space will allow for some program growth until a new facility is constructed. In the interim, the division is identifying office and laboratory space, such as TA-35-85, to allow the acceptance of new work. Other elements of the B Division FSP include the following:

- Construct new $5M BSL-2 Select Agent Facility and $5M Bioinformatics Facility,
- Construct new $54M, 108,000 gross sq. ft. Genomes to Life Facility,
- Maintain NMR Facility (TA-03-562) and BSL-3 Facility, and
- Develop work areas in classified environments (FY03-FY05).

Consolidation of operations in a new laboratory and office complex will enhance B Division's mission, improve safety and security, facilitate collaboration of all capabilities, improve opportunities to grow programs, enhance communication and staff integration through co-location, minimize support function redundancies, and eliminate lost productivity due to commute time. In addition, a new facility designed specifically for modern functions will be less expensive to maintain than old buildings in poor condition, or transportables, and trailers that are geographically dispersed.

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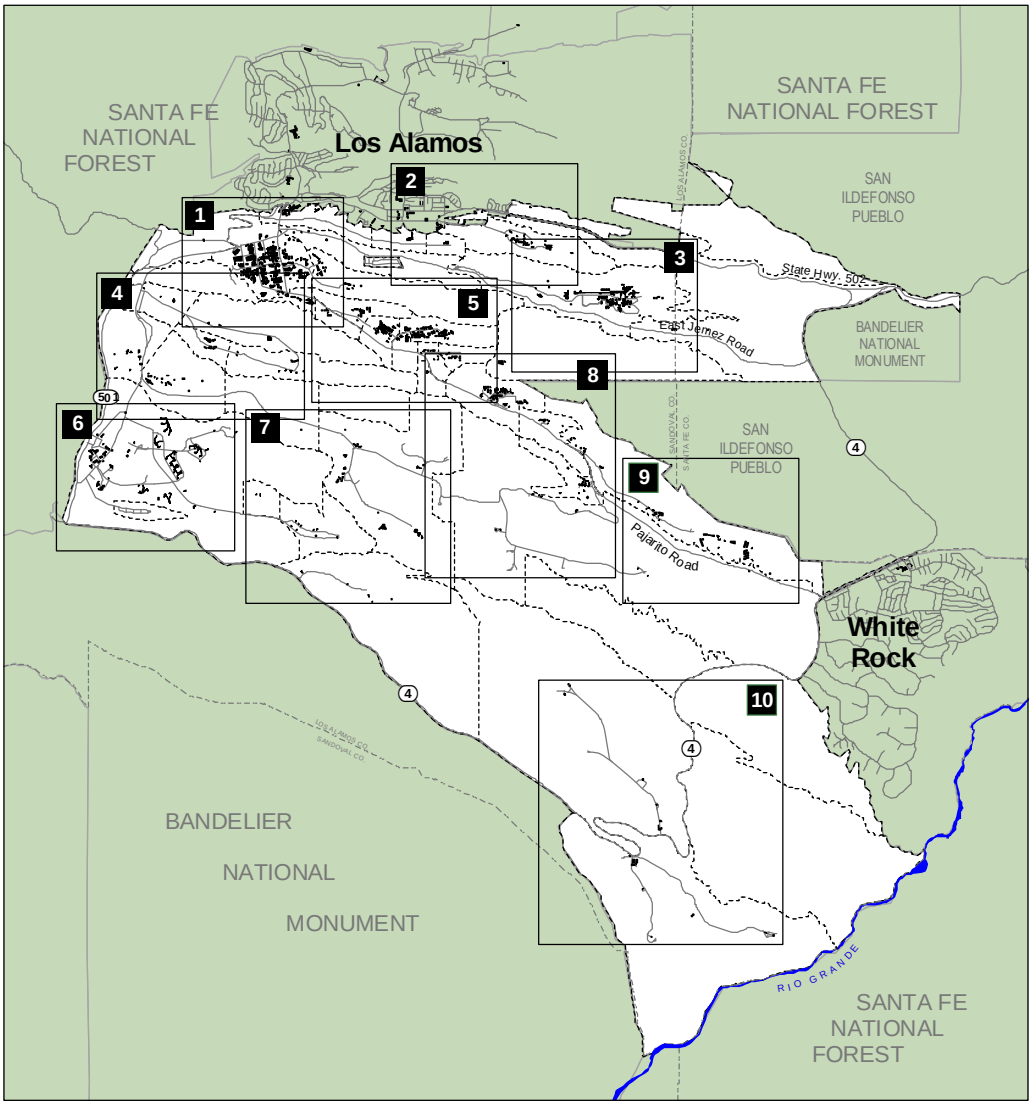
ATTACHMENT I

Attachment I
Sitewide Maps



Site Wide Index Map

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Current and Future Facility Status

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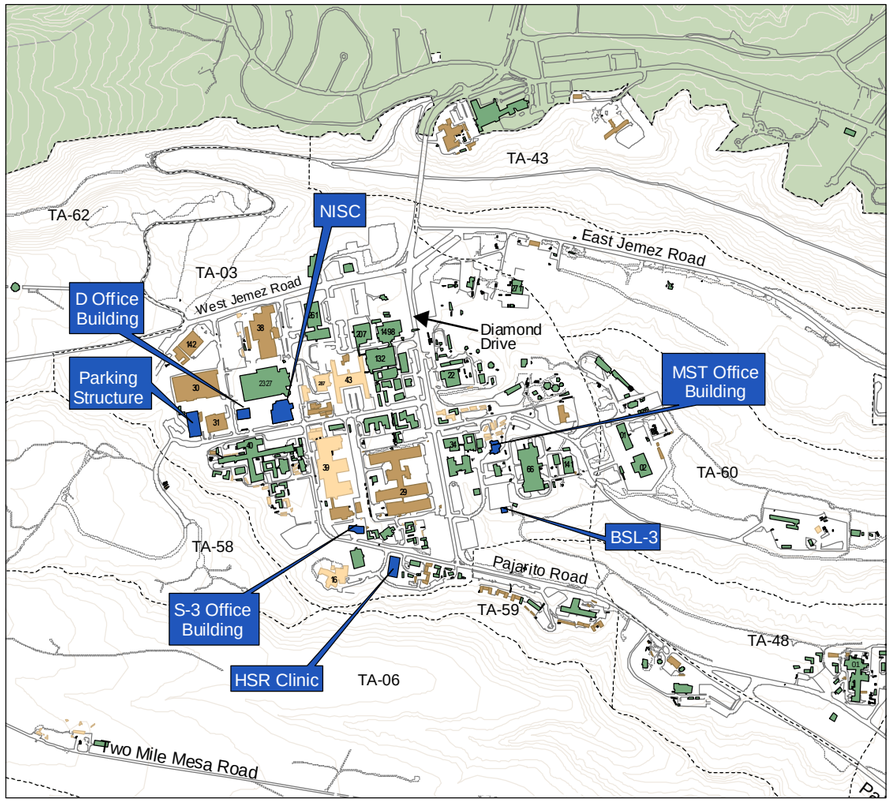
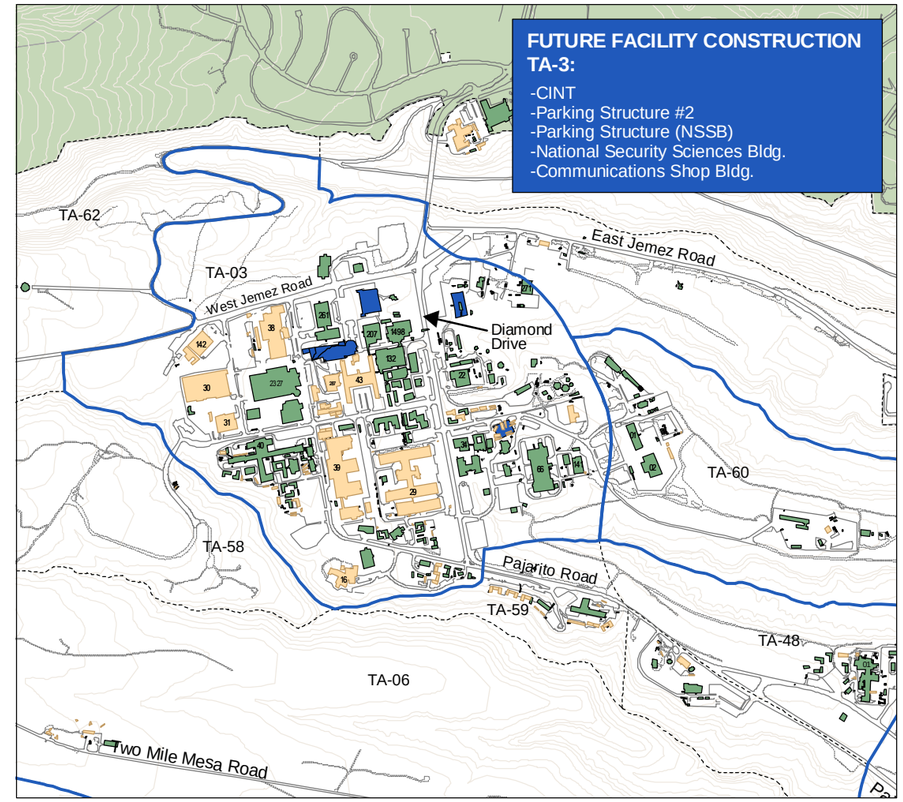


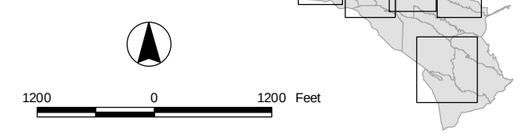
Facility Status, 2004
with Currently Funded Construction



Facility Status, 2013
with Proposed Future Construction

LEGEND

- Active Facility
- Active, Proposed for Excess by 2012
- Excessed Facility
- Spare Facility
- New and/or Proposed Facility
- Technical Area Boundary
- Technical Area Boundary with Future Facility Construction Project



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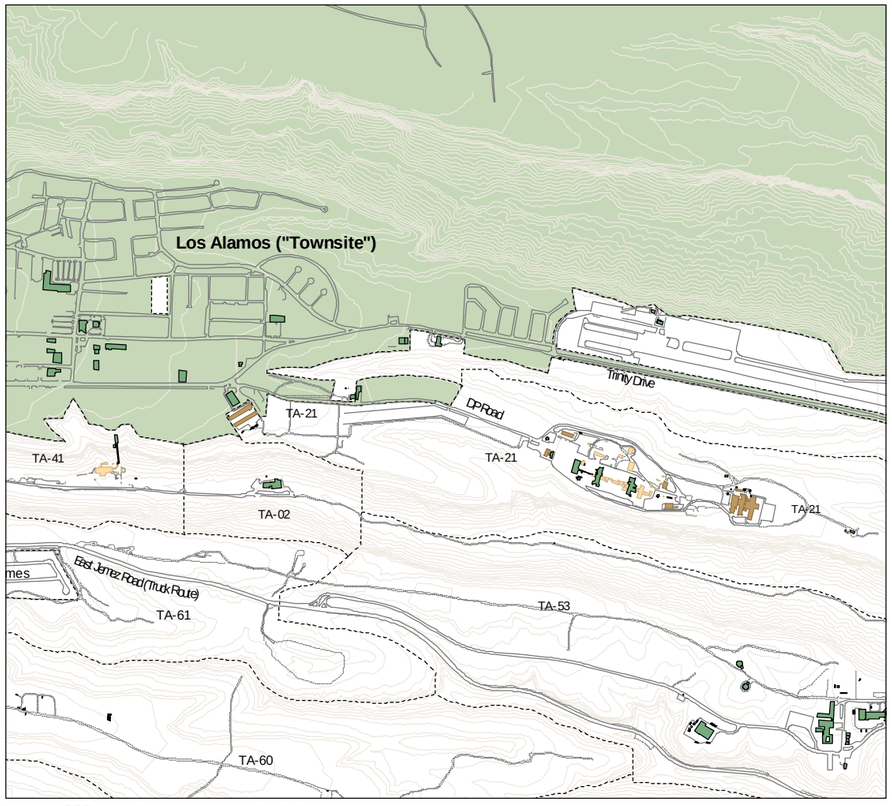

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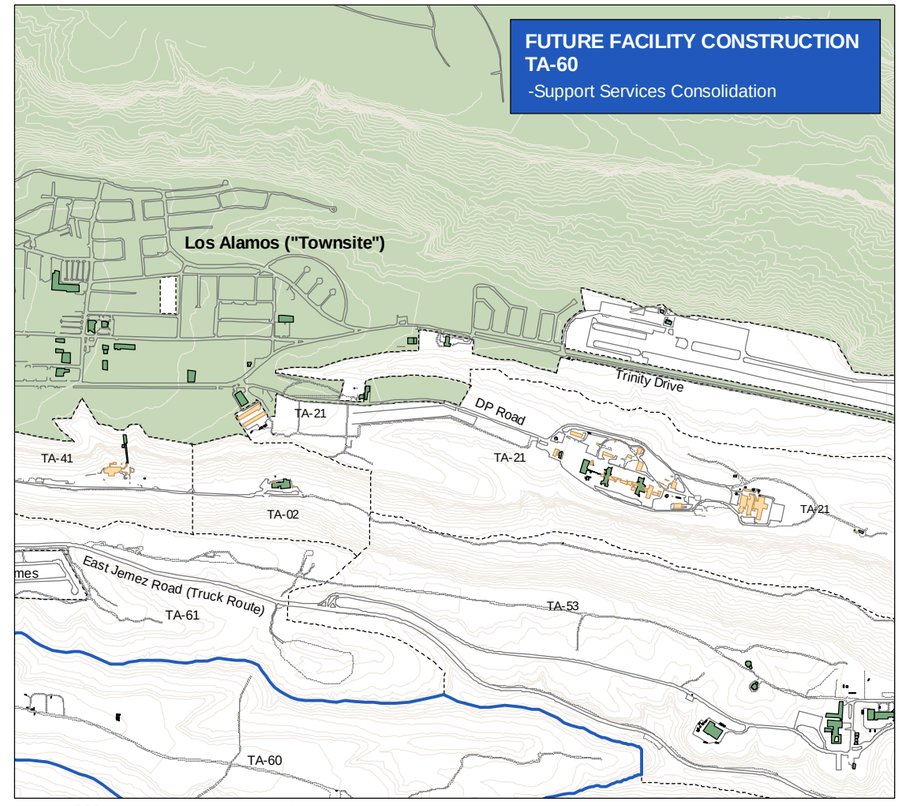
with Currently Funded Construction



Facility Status, 2013
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LEGEND

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- Spare Facility
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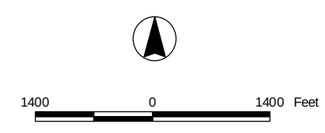

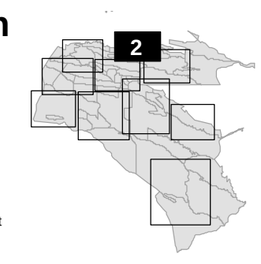

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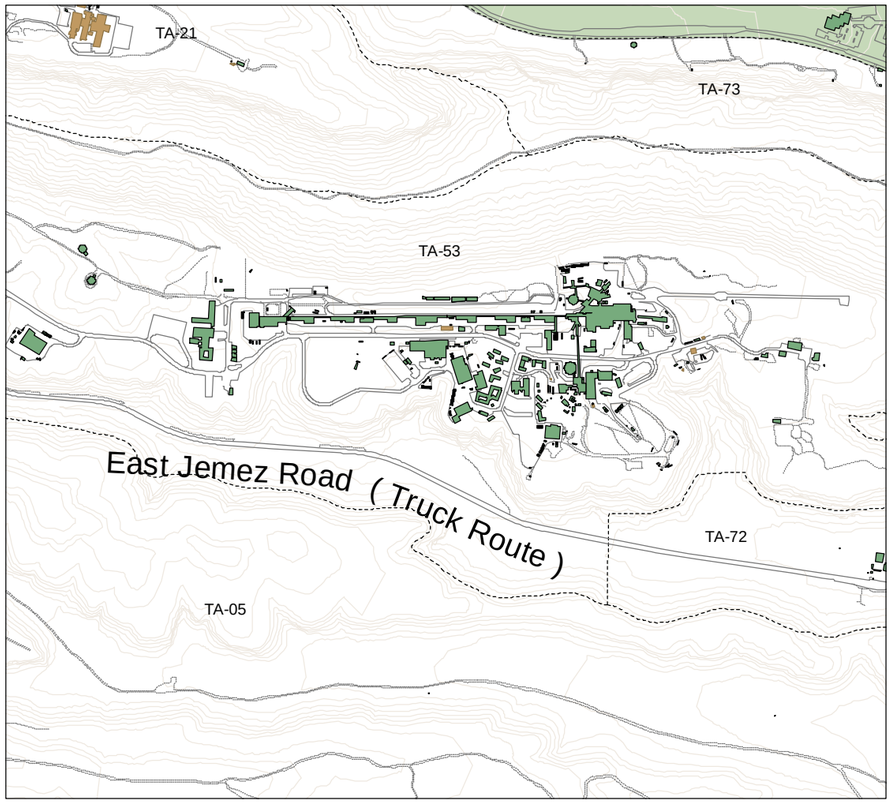
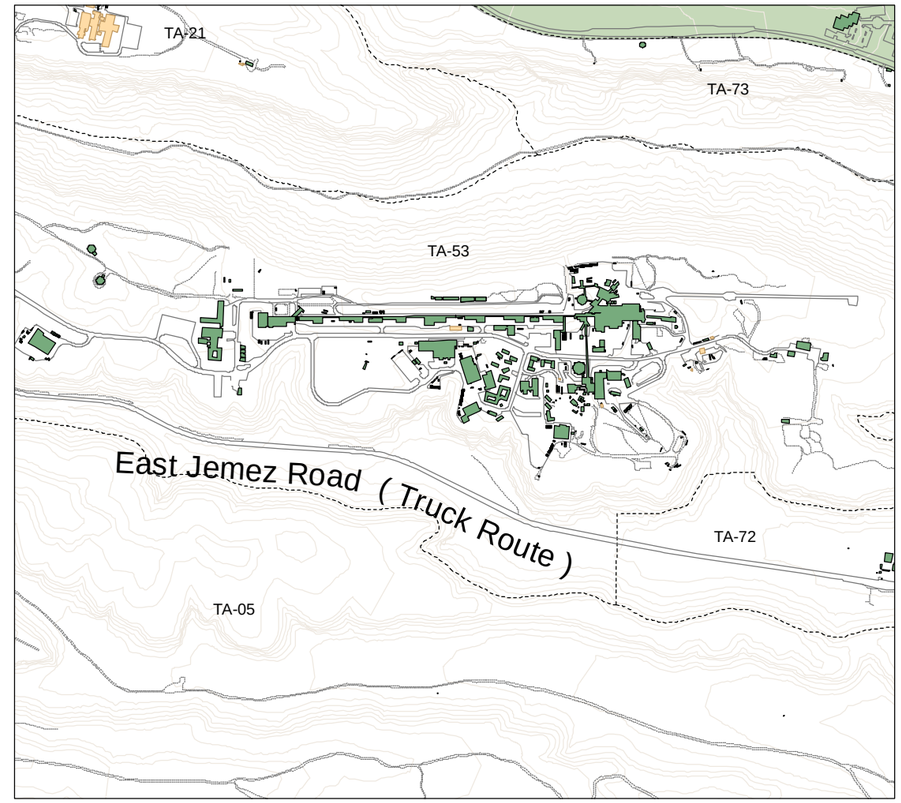


Facility Status, 2004
with Currently Funded Construction

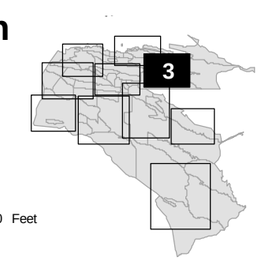


Facility Status, 2013
with Proposed Future Construction

LEGEND

- Active Facility
- Active, Proposed for Excess by 2012
- Excessed Facility
- Spare Facility
- New and/or Proposed Facility
- Technical Area Boundary
- Technical Area Boundary with Future Facility Construction Project

1000 0 1000 Feet



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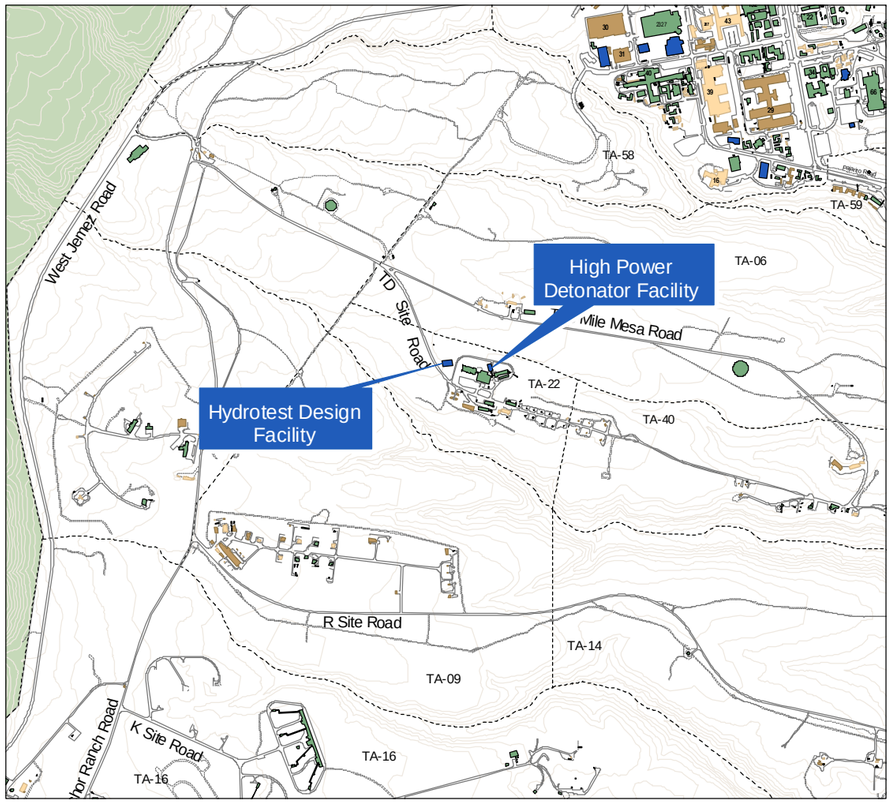
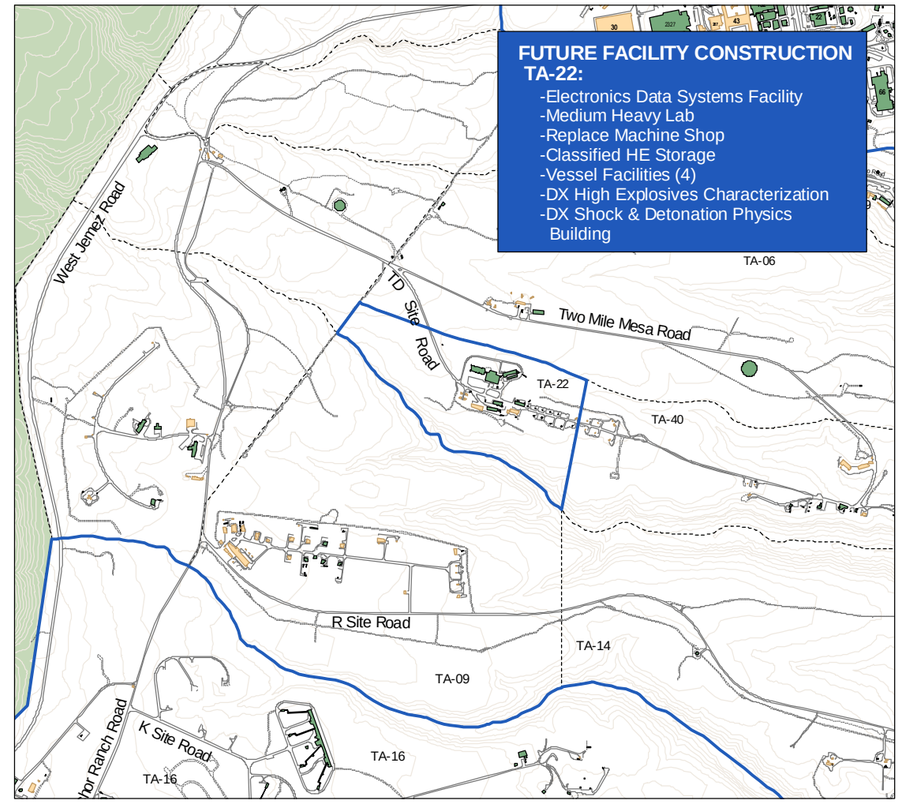


Facility Status, 2004 with Currently Funded Construction



Facility Status, 2013 with Proposed Future Construction

LEGEND

- Active Facility
- Active, Proposed for Excess by 2012
- Excessed Facility
- Spare Facility
- New and/or Proposed Facility
- Technical Area Boundary
- Technical Area Boundary with Future Facility Construction Project

1500 0 1500 Feet

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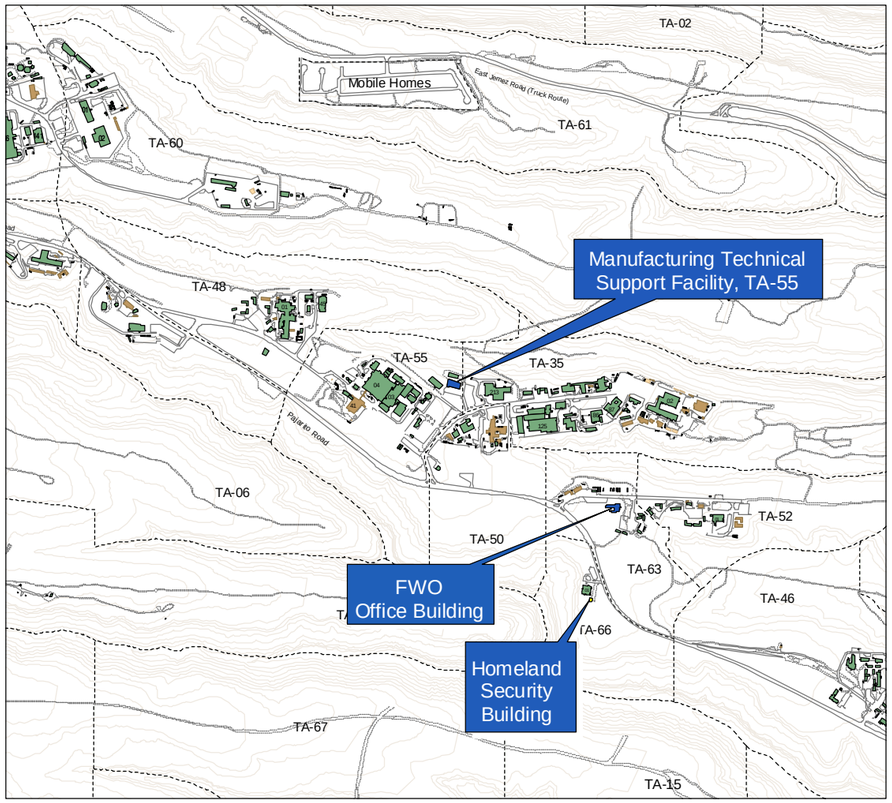
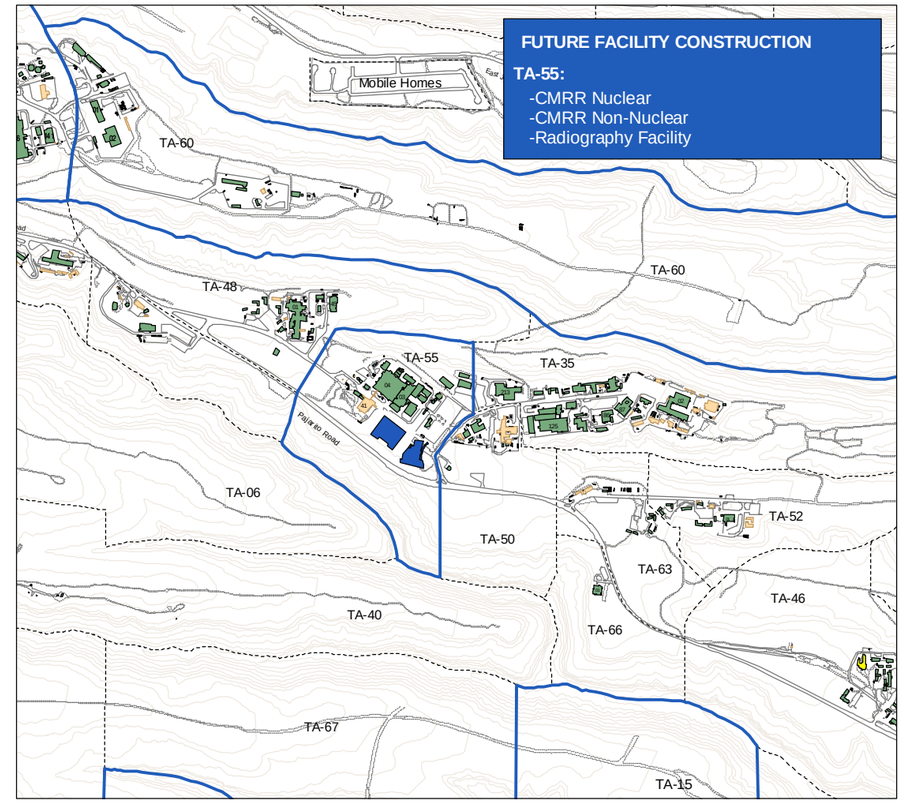


Facility Status, 2004
with Currently Funded Construction



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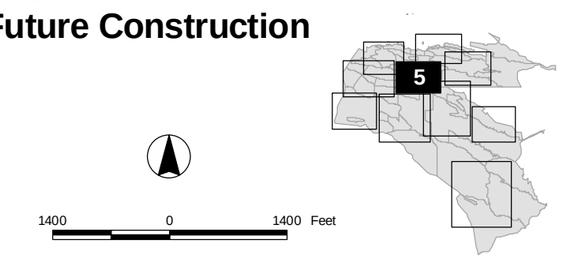

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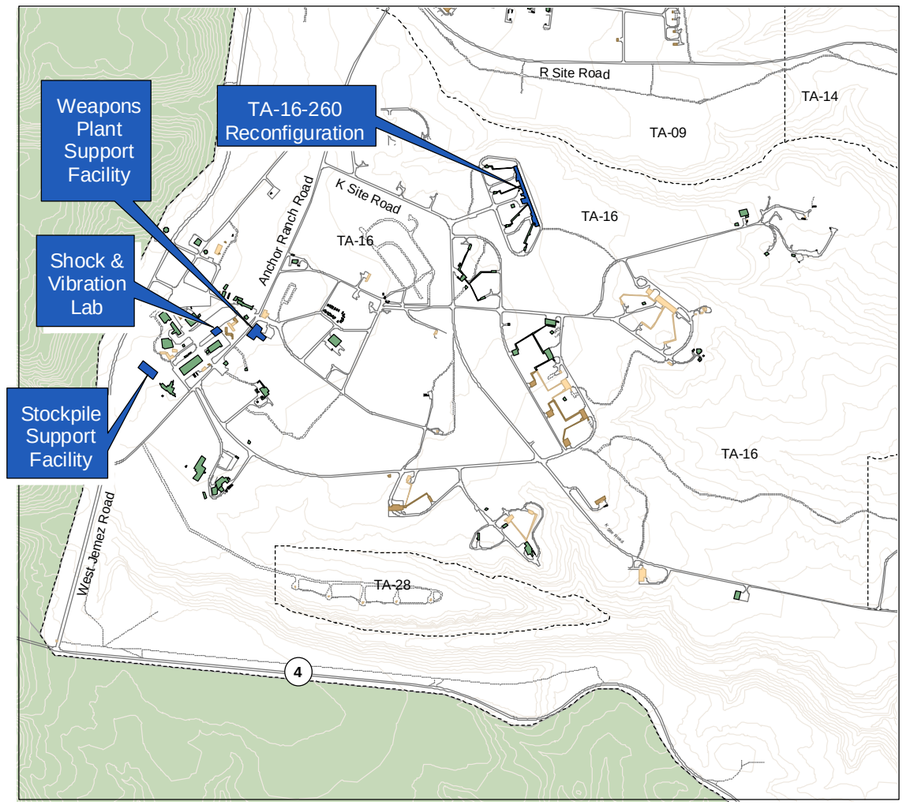

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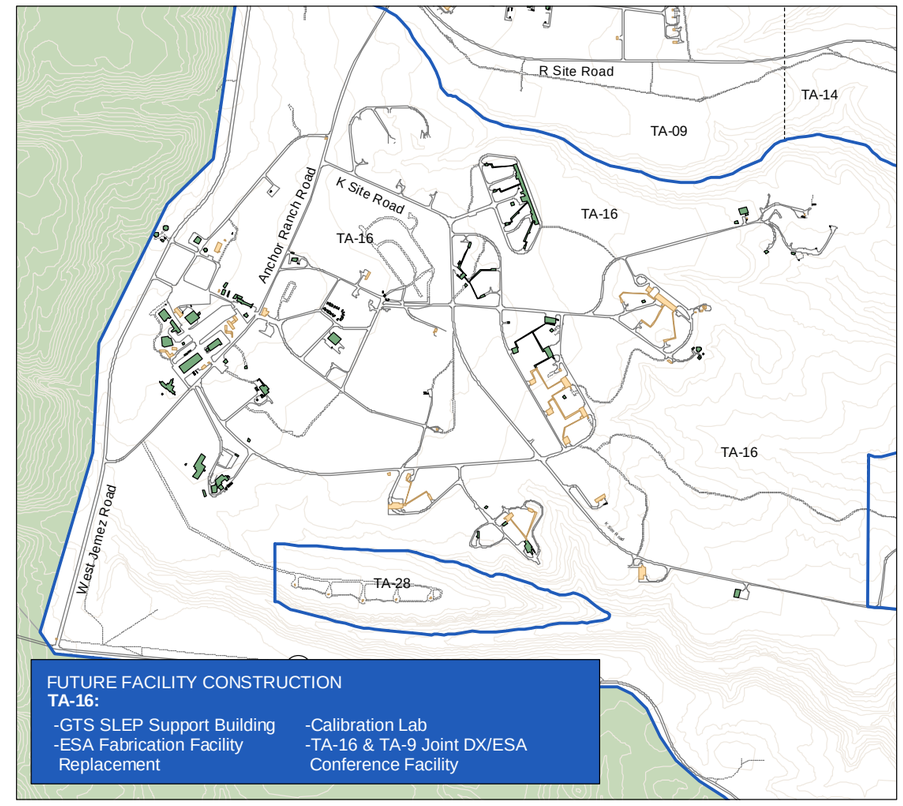

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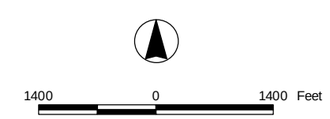

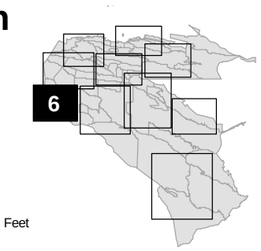

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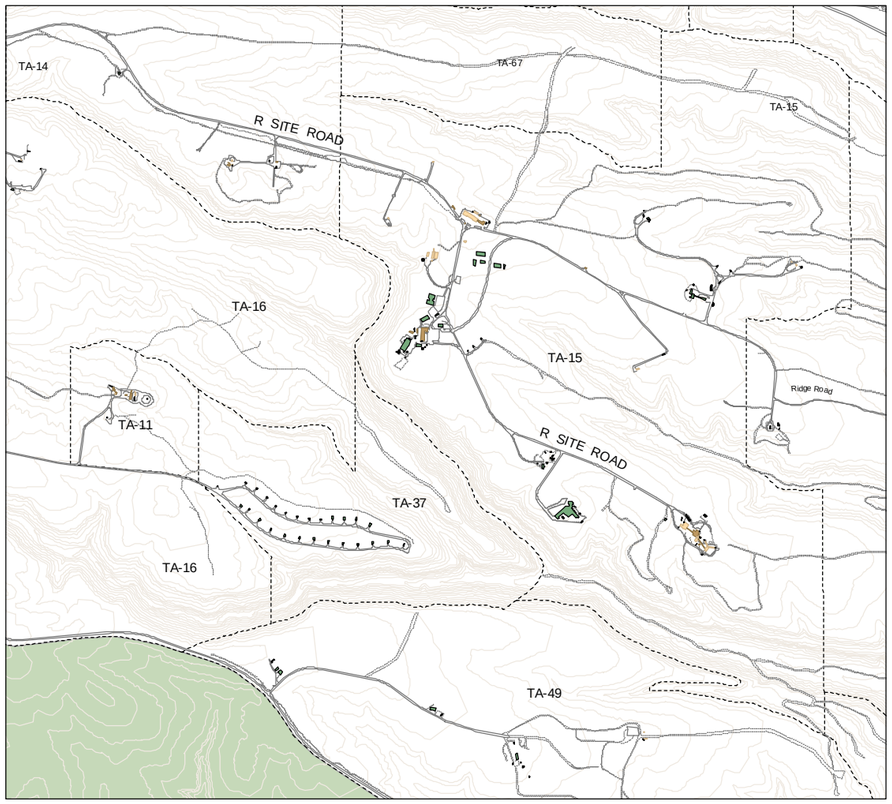
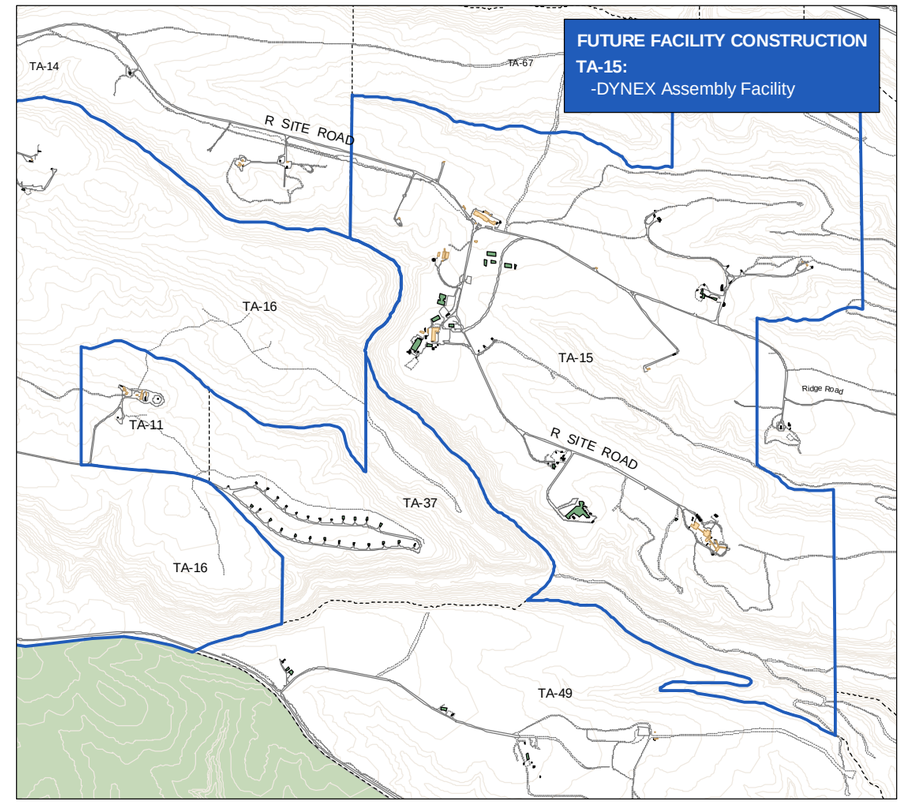


Facility Status, 2004
with Currently Funded Construction



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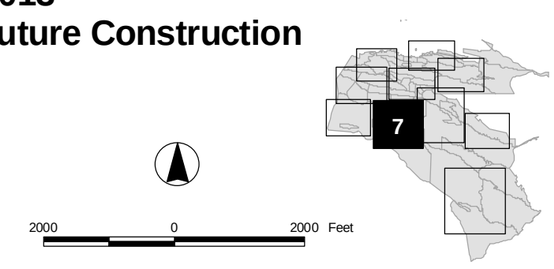

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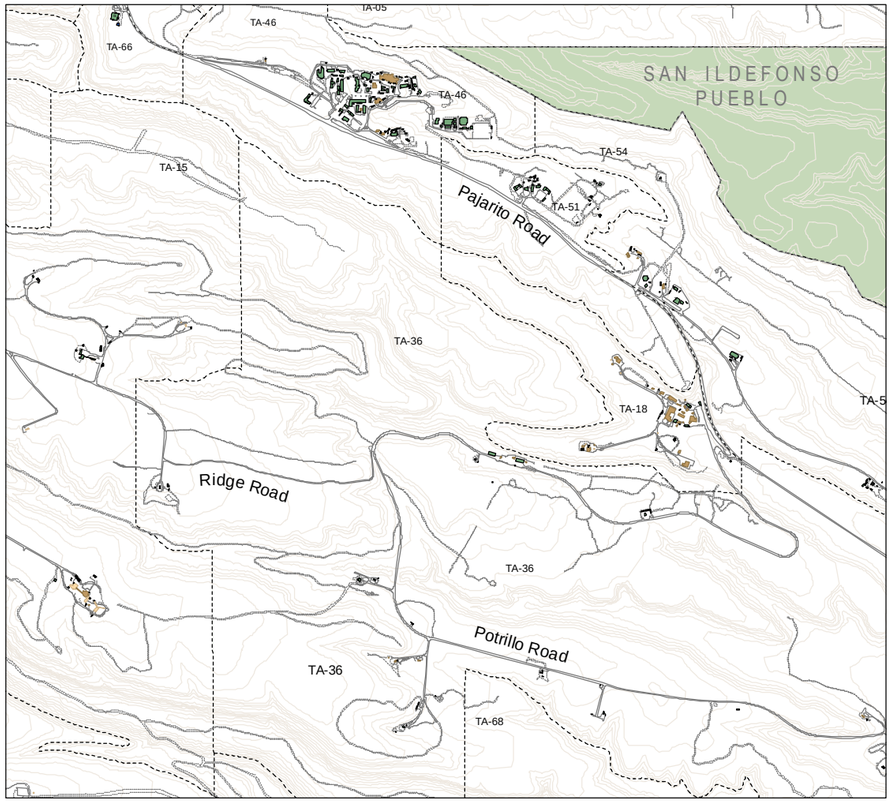

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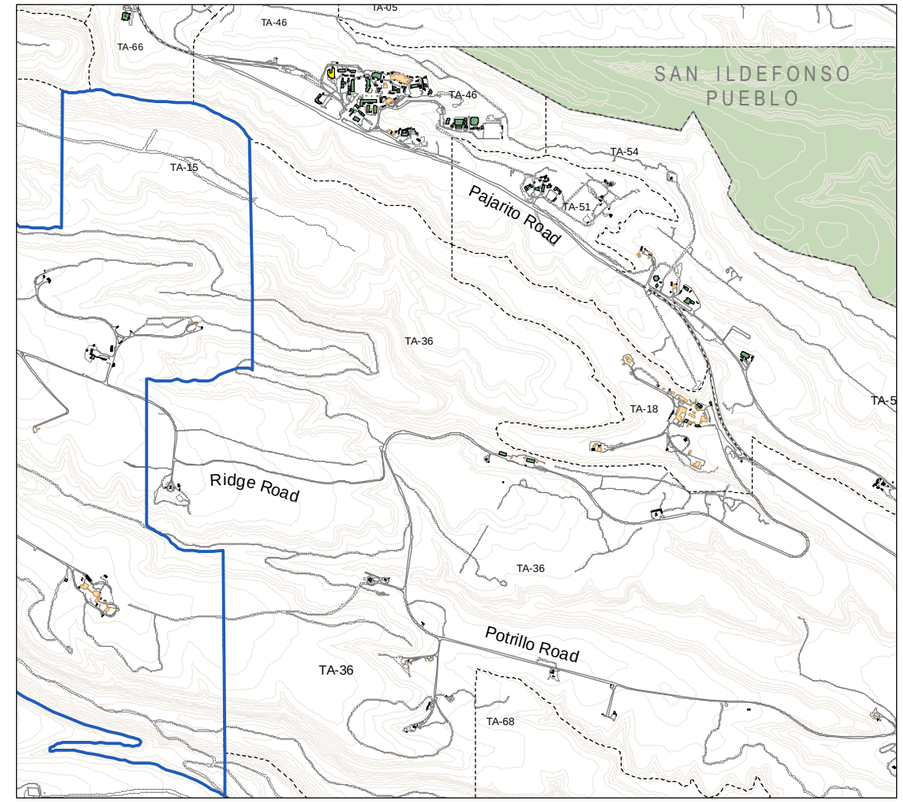

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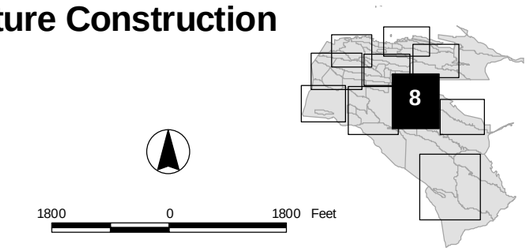

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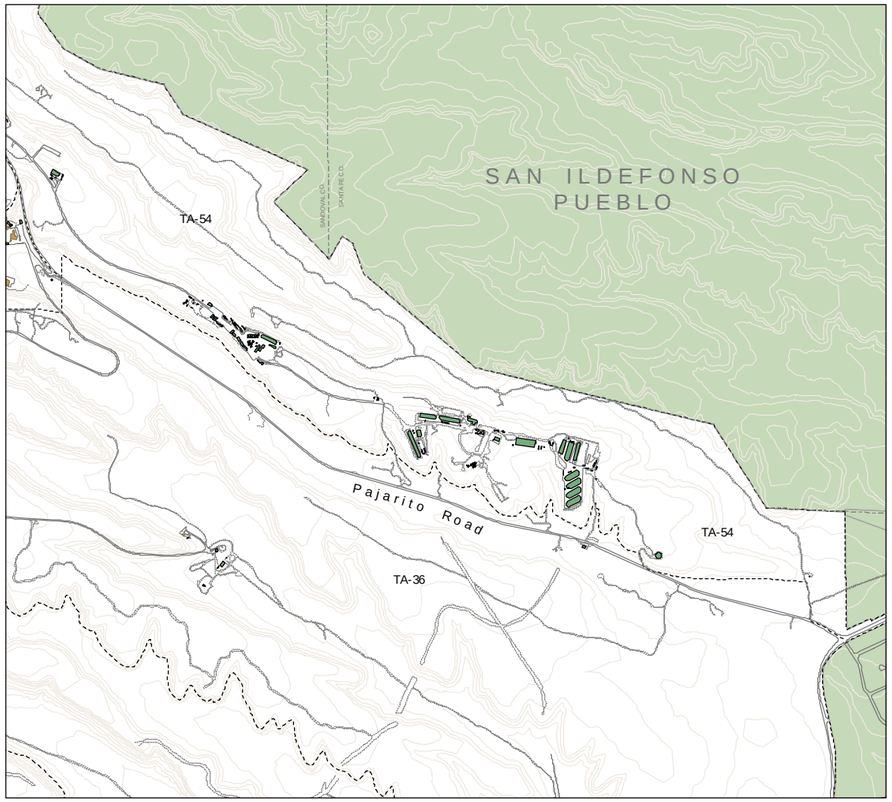

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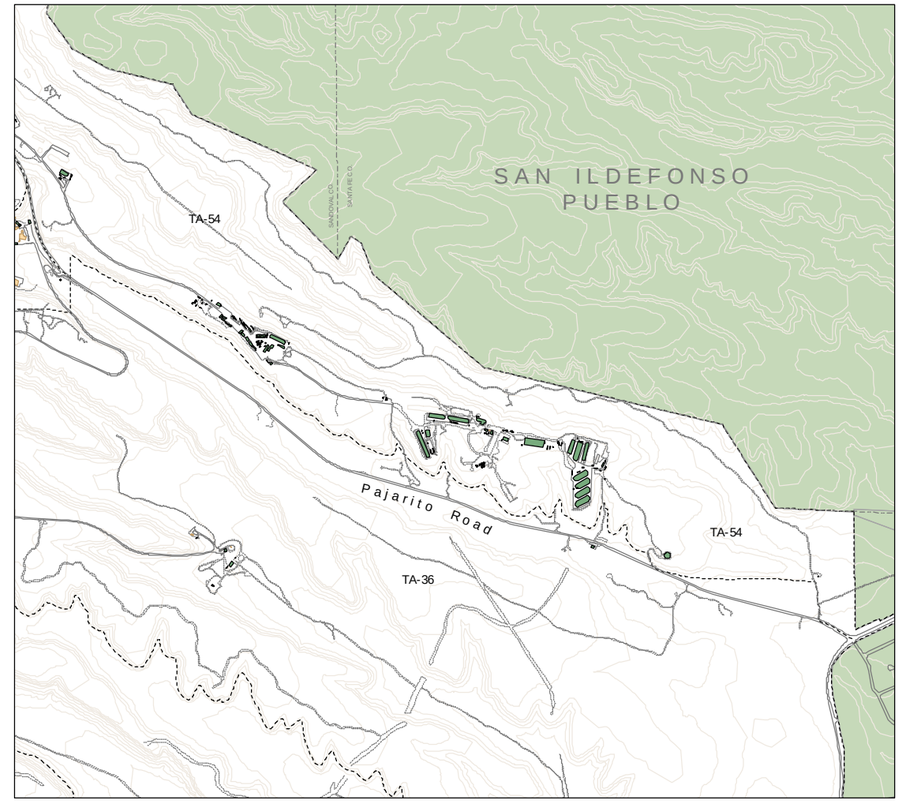
with Currently Funded Construction



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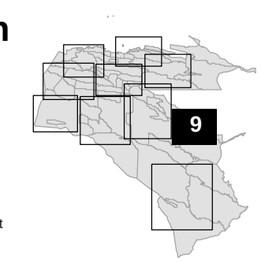
1800 0 1800 Feet



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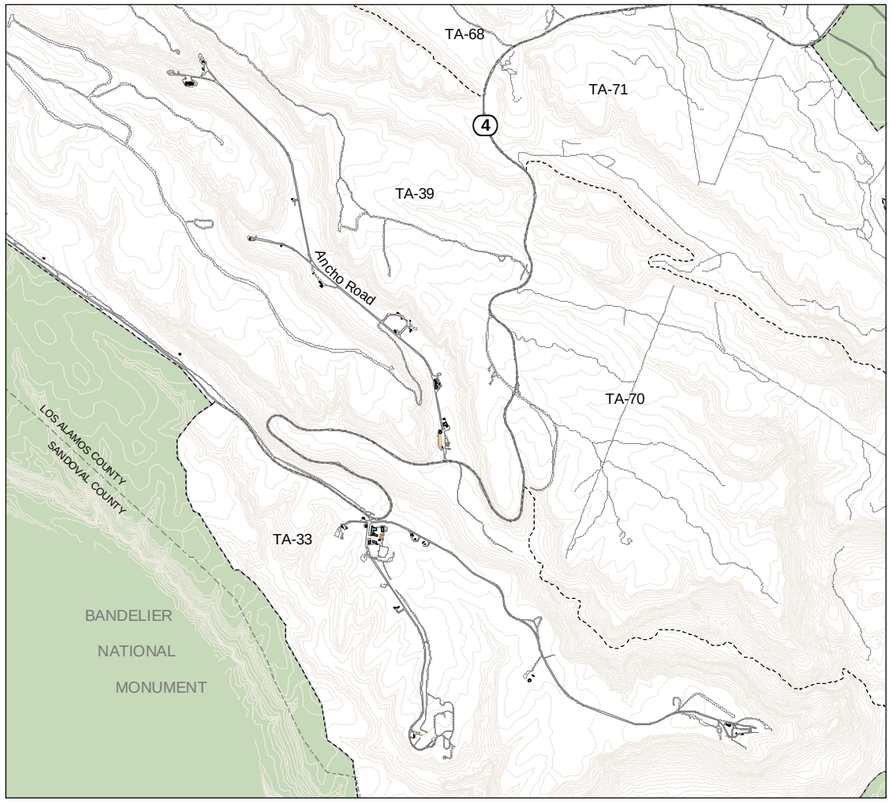

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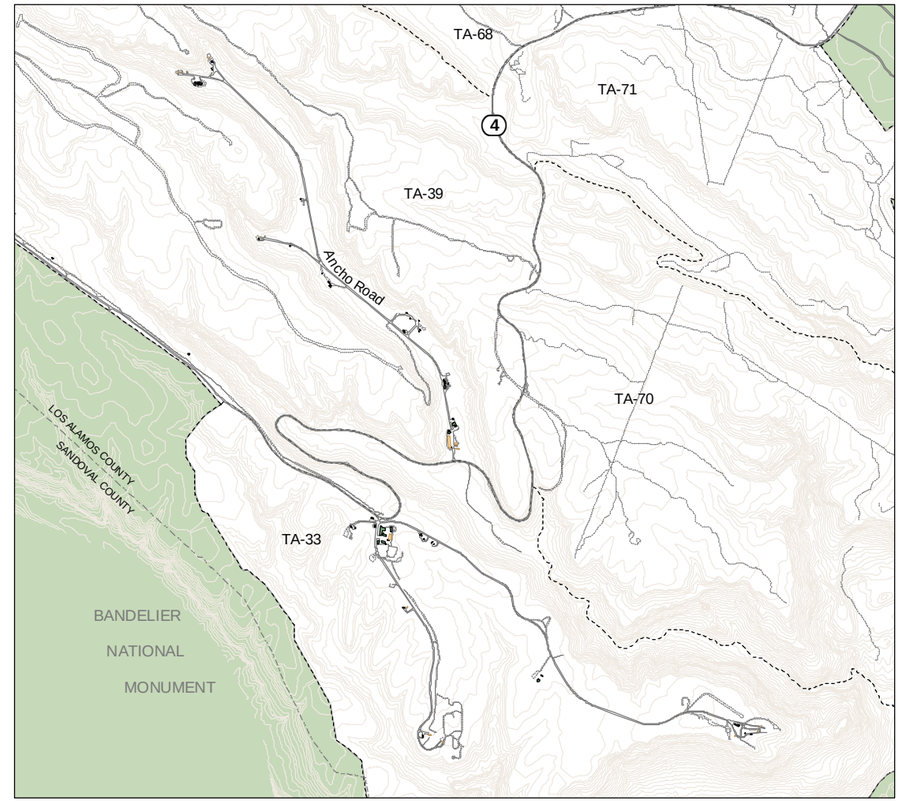
with Currently Funded Construction



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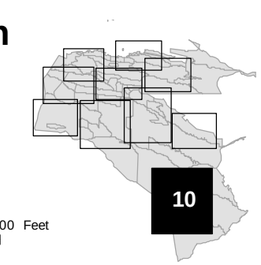
2400 0 2400 Feet



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Programmatic Associations Maps

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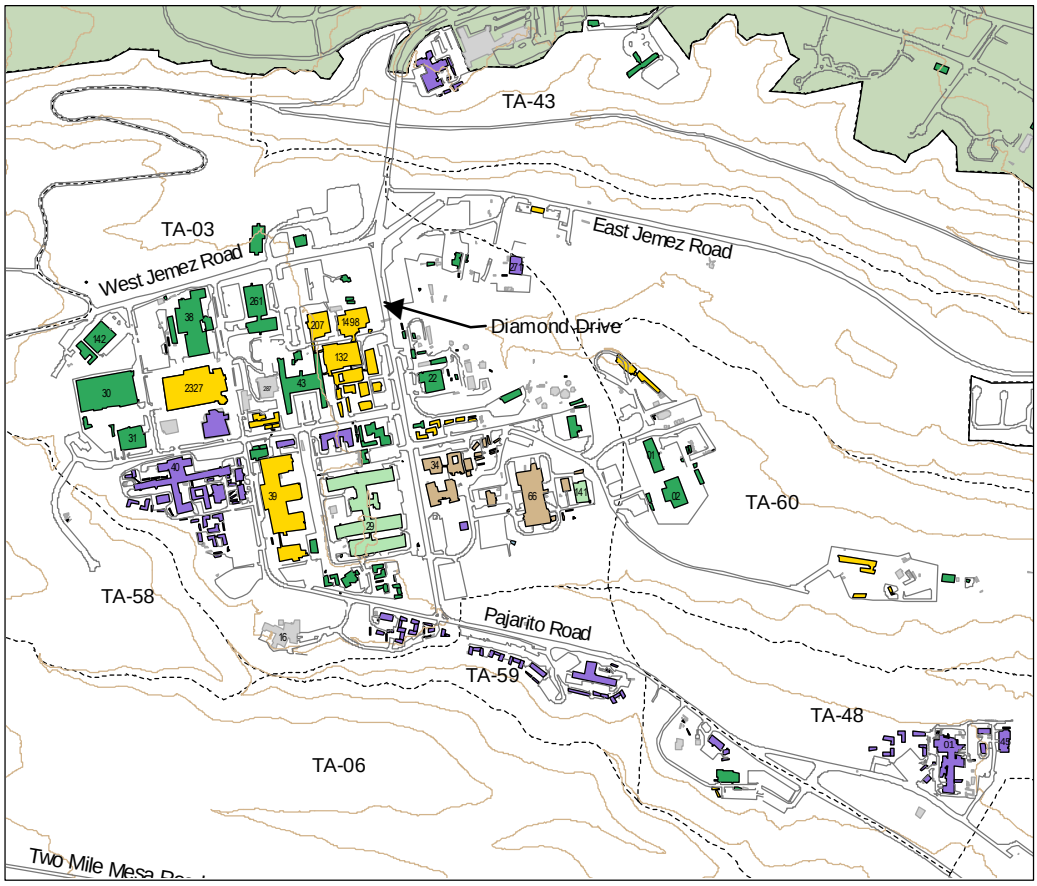
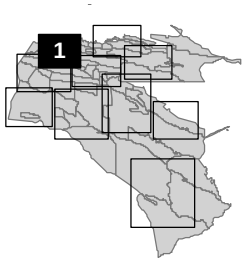


Programmatic Associations

LEGEND

- NA-11: Stockpile Stewardship
- NA-12: Stockpile Management
- DP-GEN: General
- DP-LL: Infrastructure & Defense Programs Landlord
- EM: Environmental Management
- Non-DP or Institutional Science Base
- Other
- Technical Area Boundary



1000 0 1000 Feet

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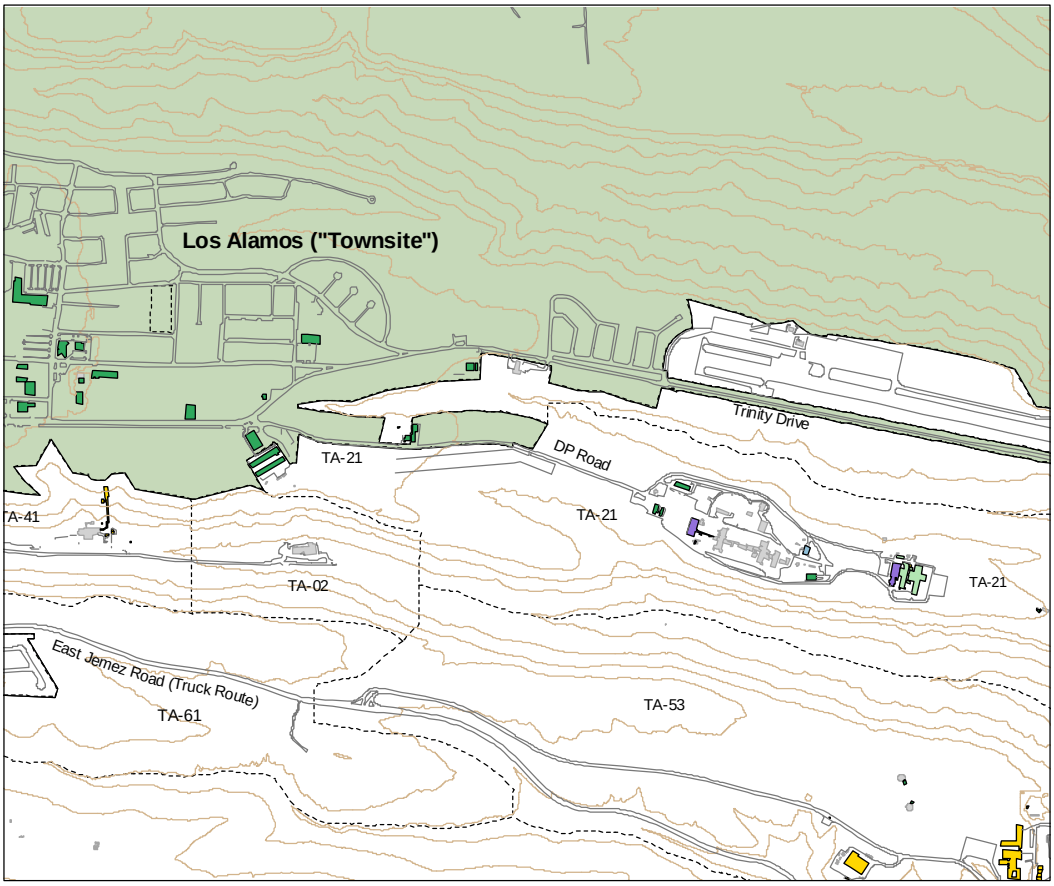

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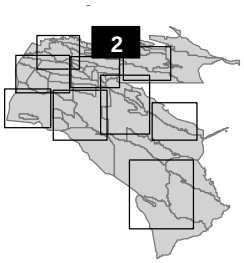

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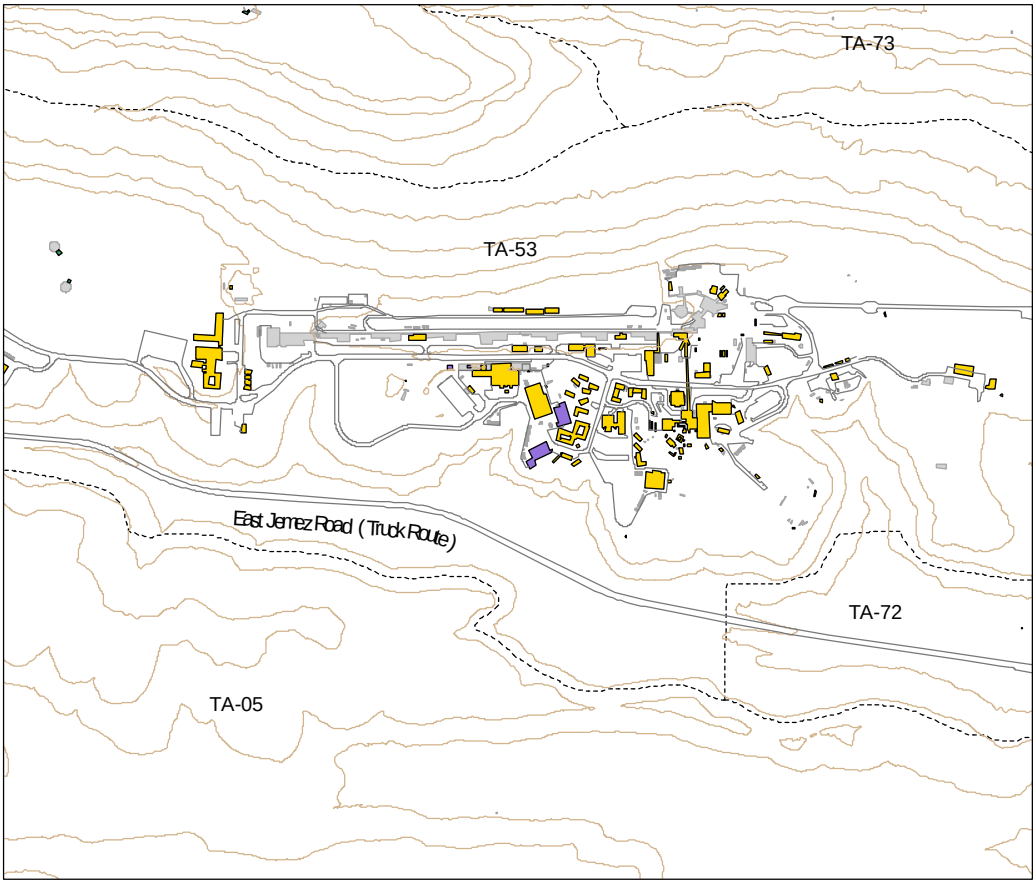

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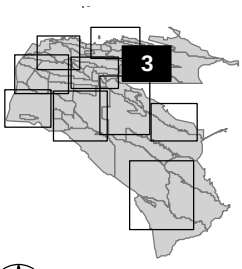

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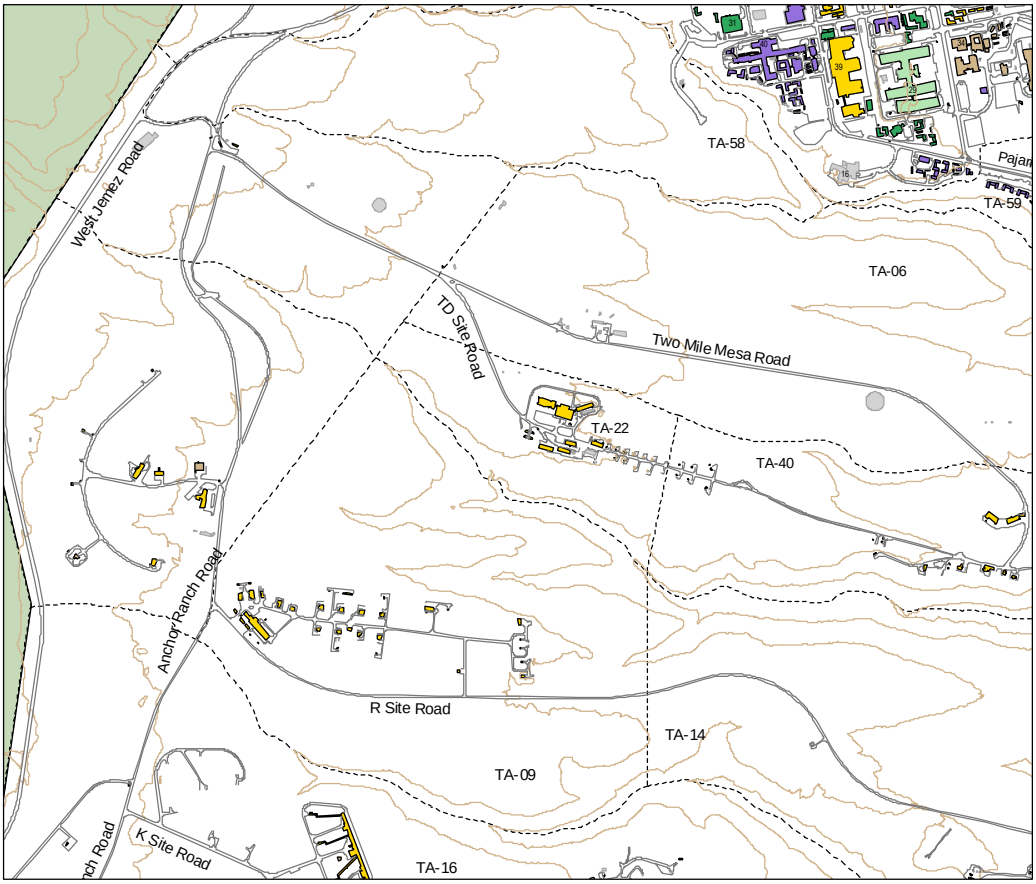

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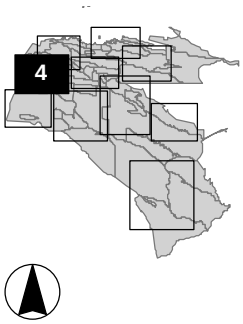

2000 0 2000 Feet

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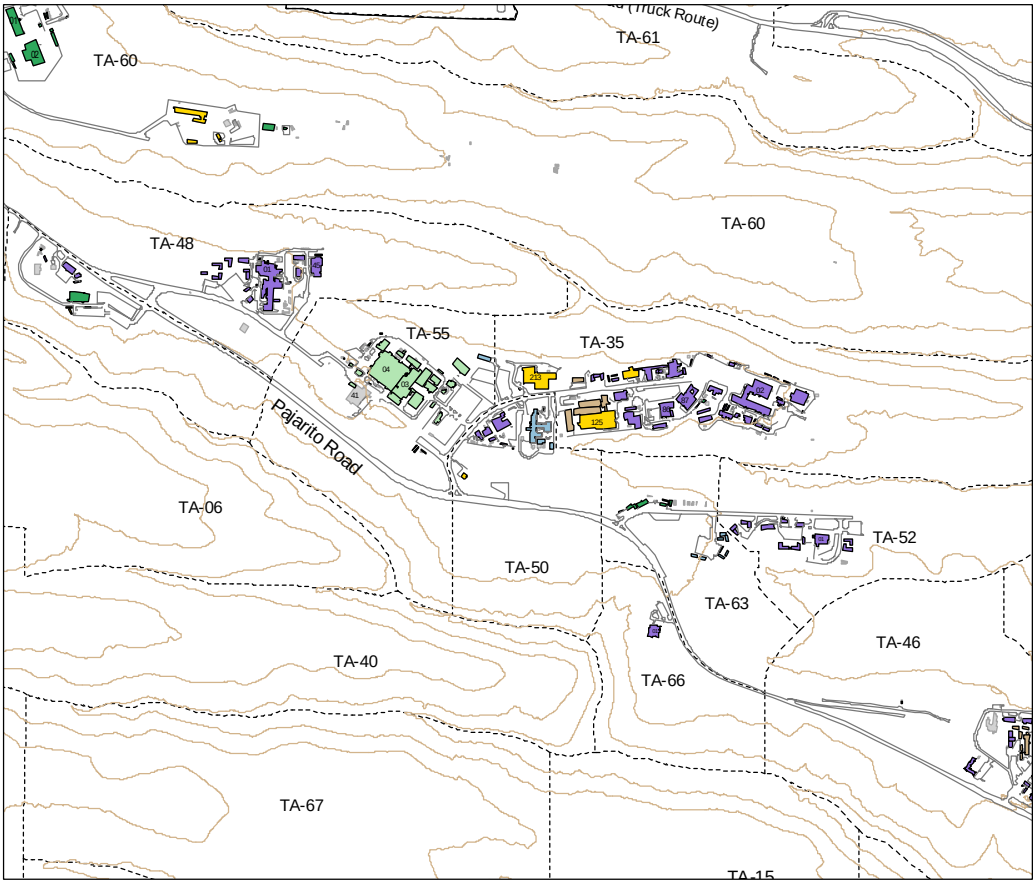

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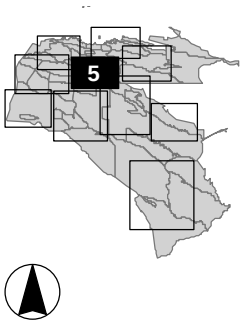

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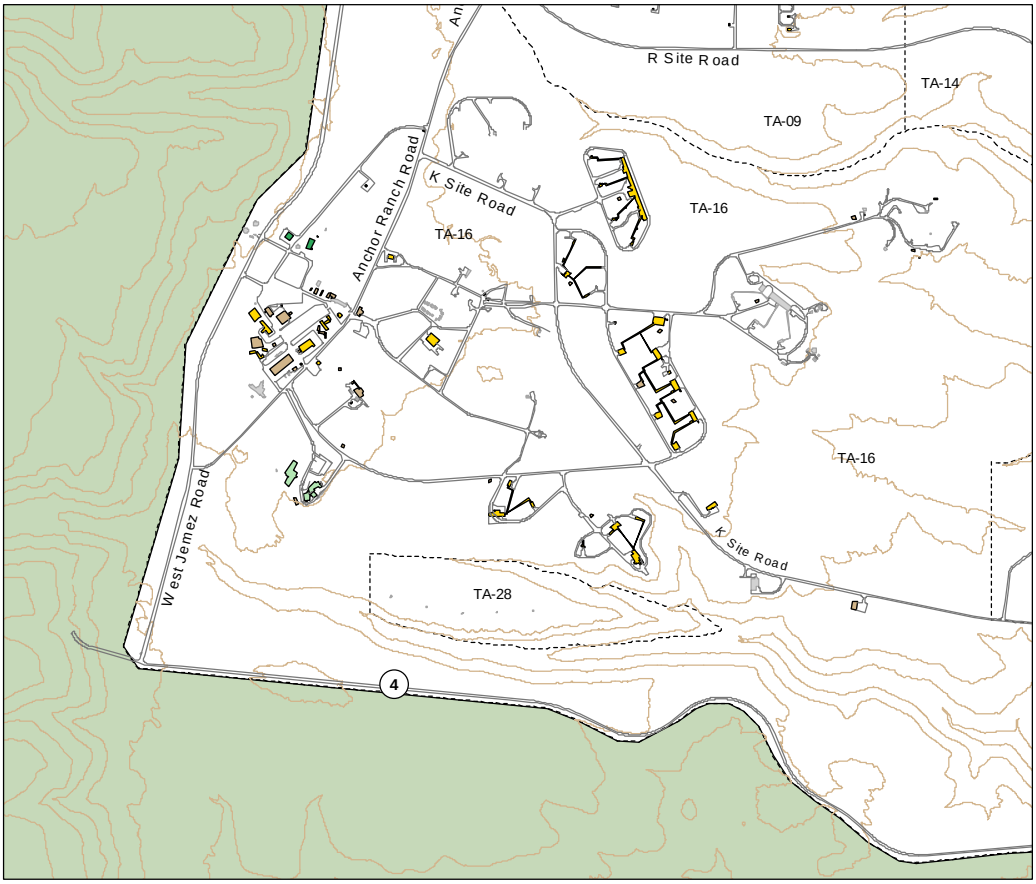

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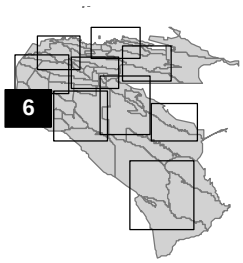

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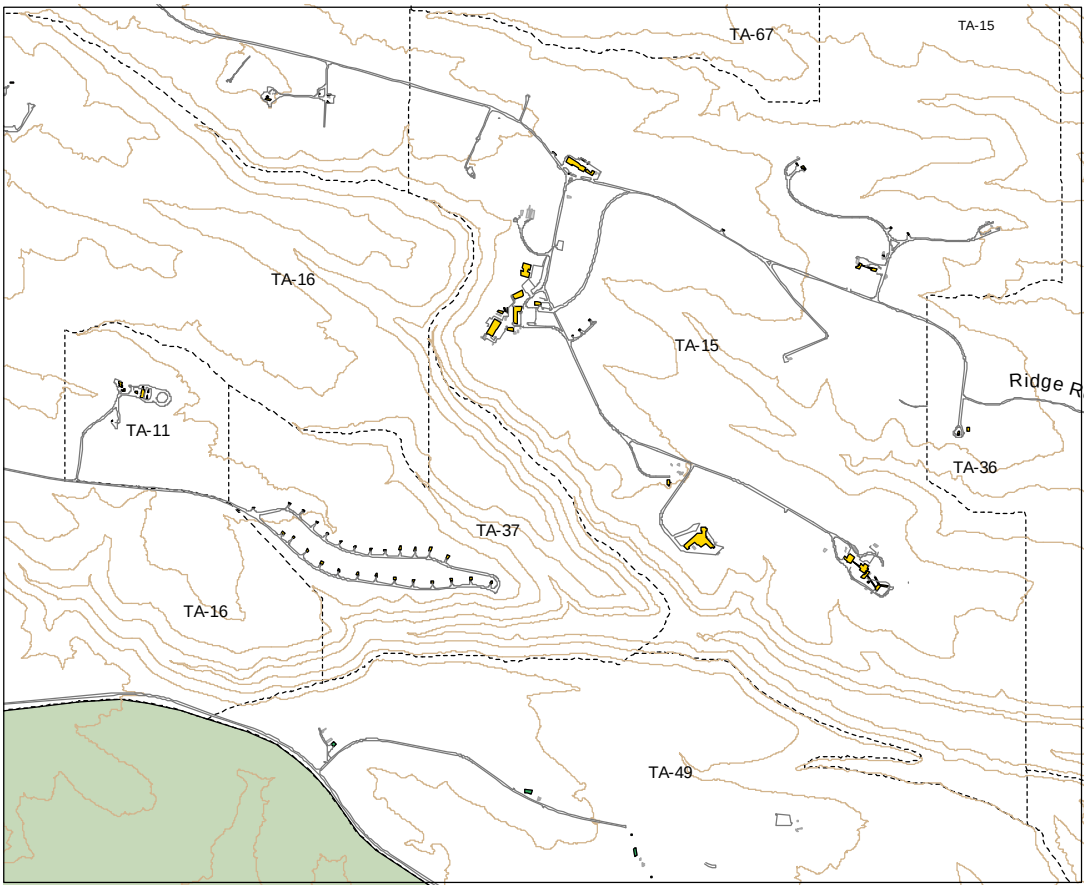

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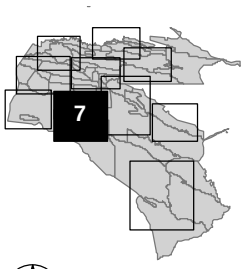

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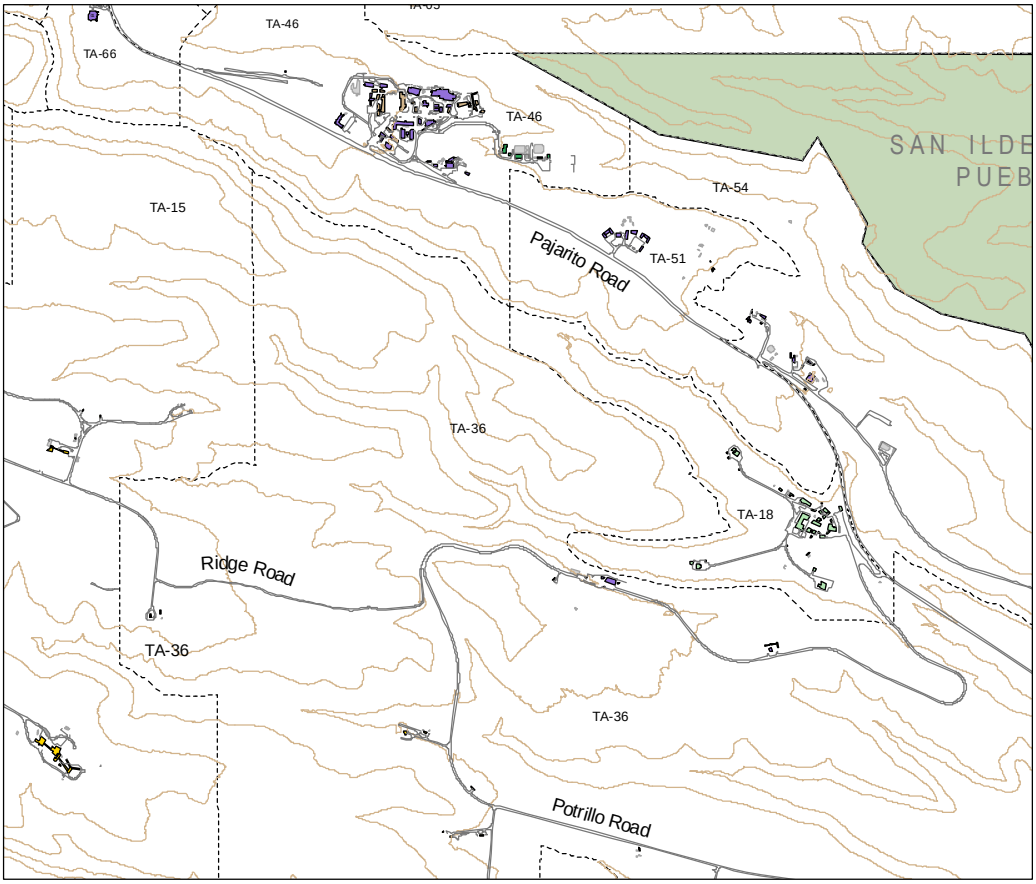

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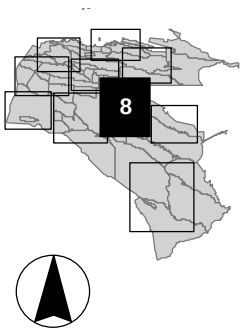

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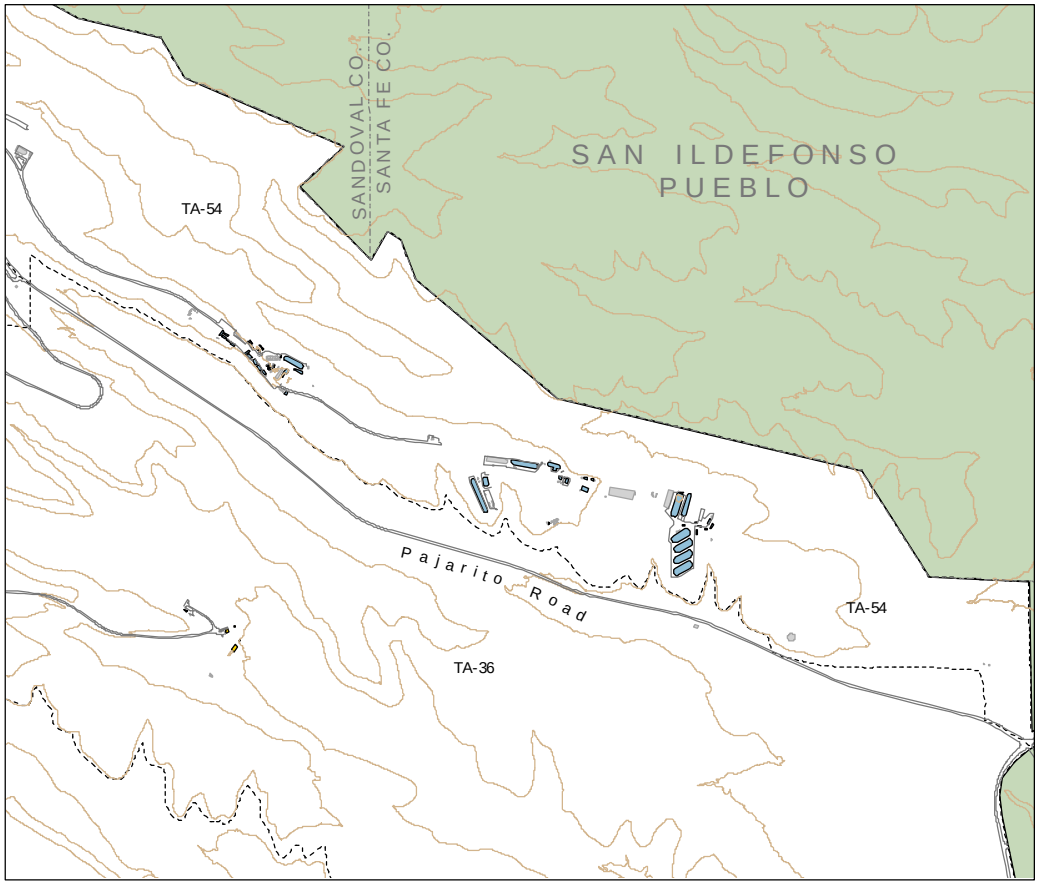

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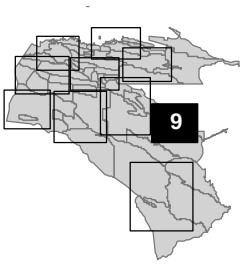

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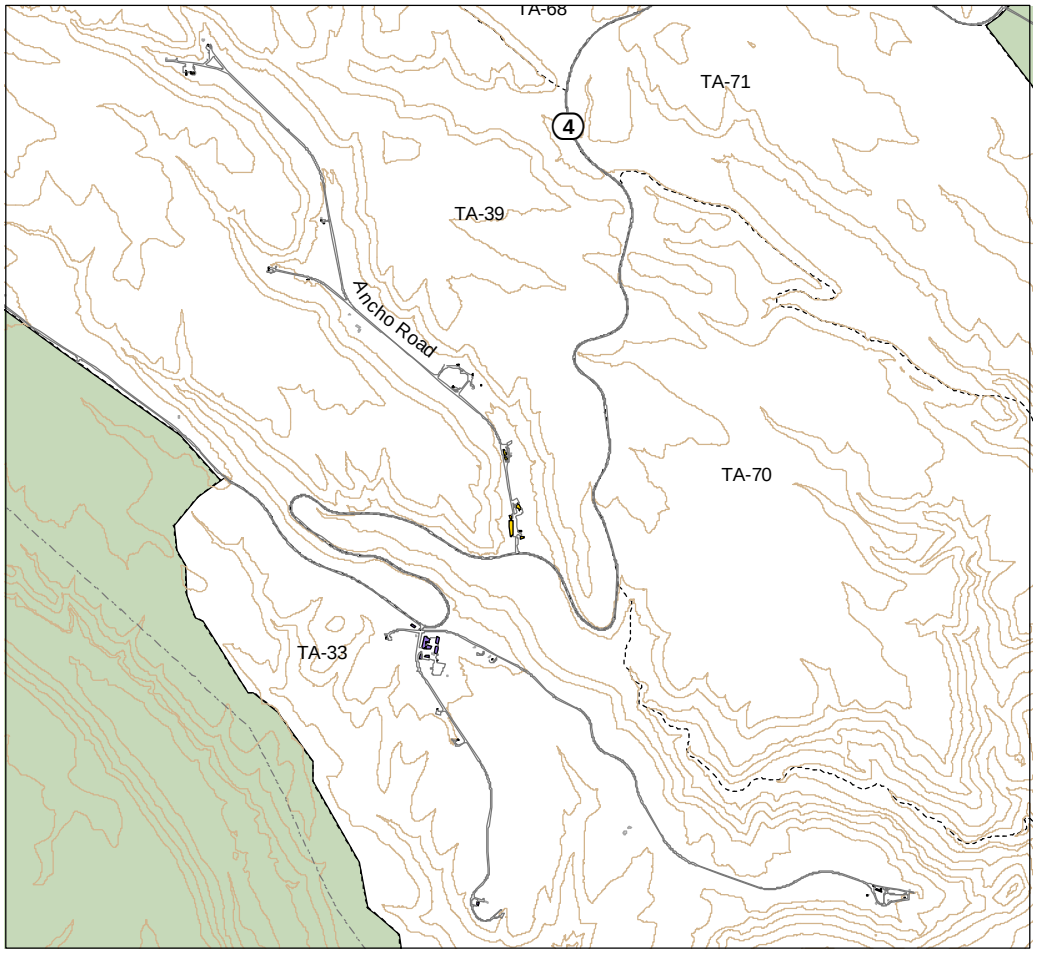

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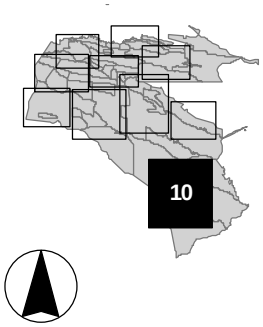

2000 0 2000 Feet

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Utility Maps

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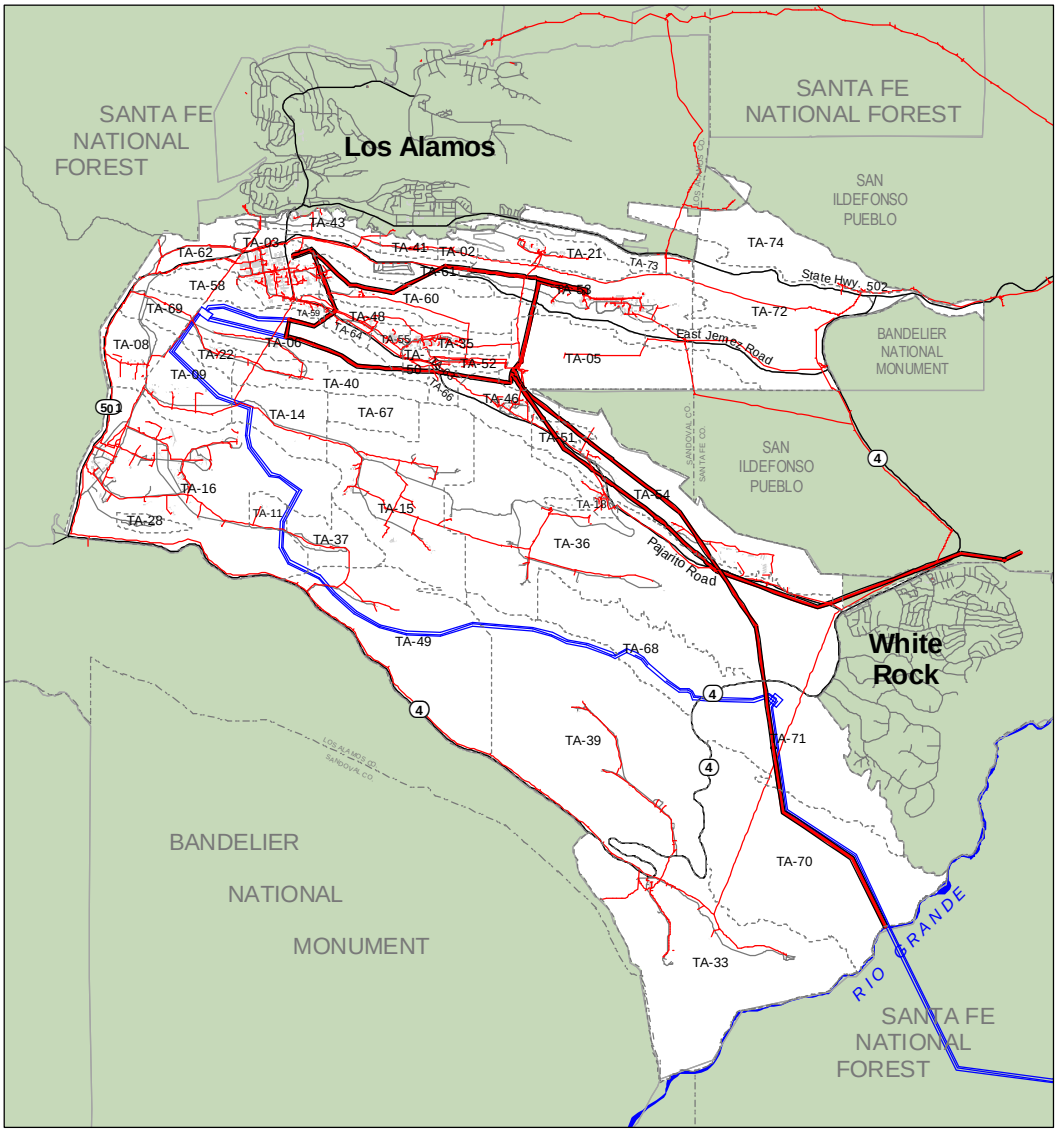

Electrical Utilities

LEGEND

- Electric Transmission
- Electric Distribution
- Proposed 115kv Transmission Line

8000 0 8000 Feet

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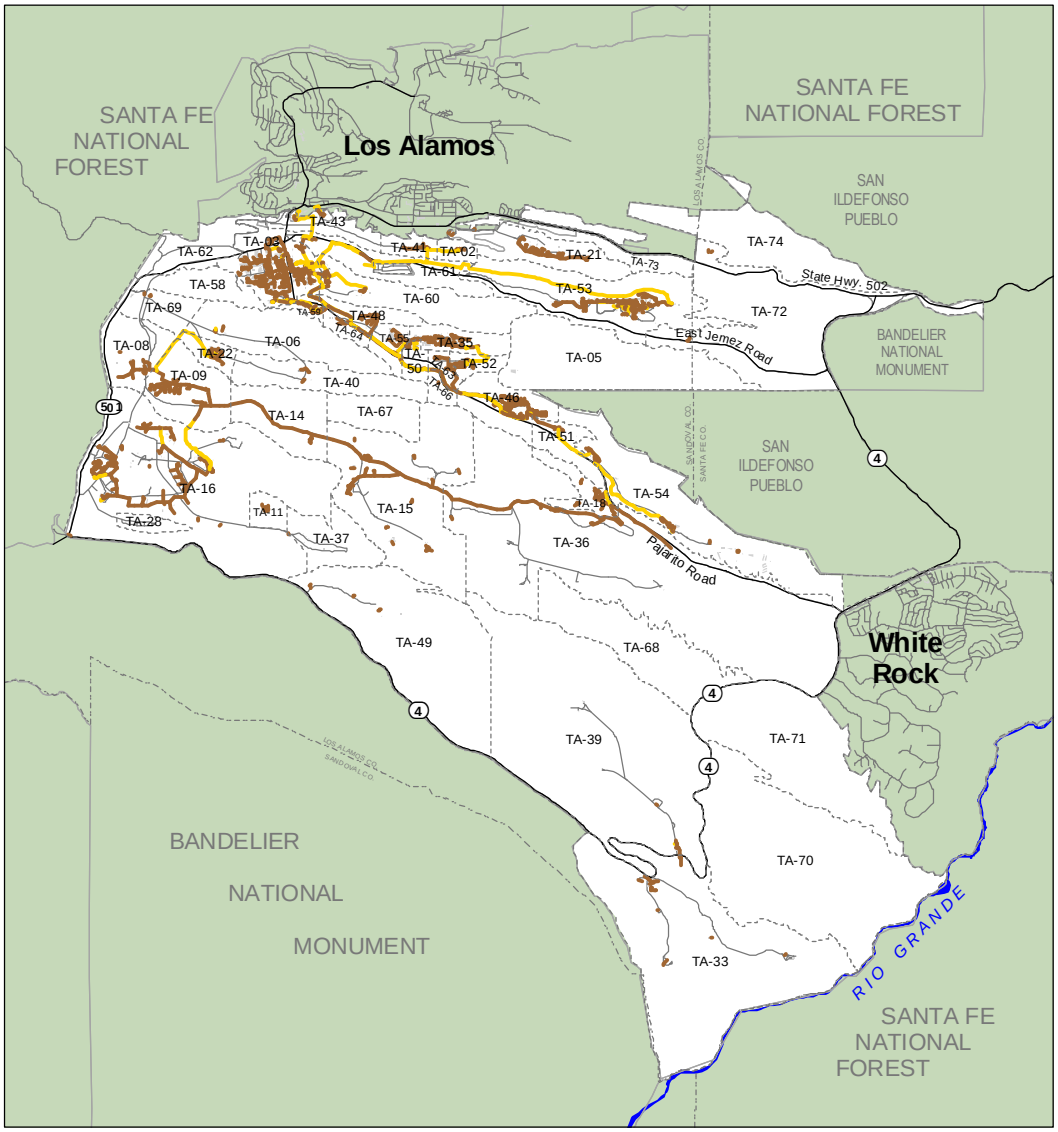

Sanitary Sewer Utilities

LEGEND

Gravity

Force Main

8000 0 8000 Feet

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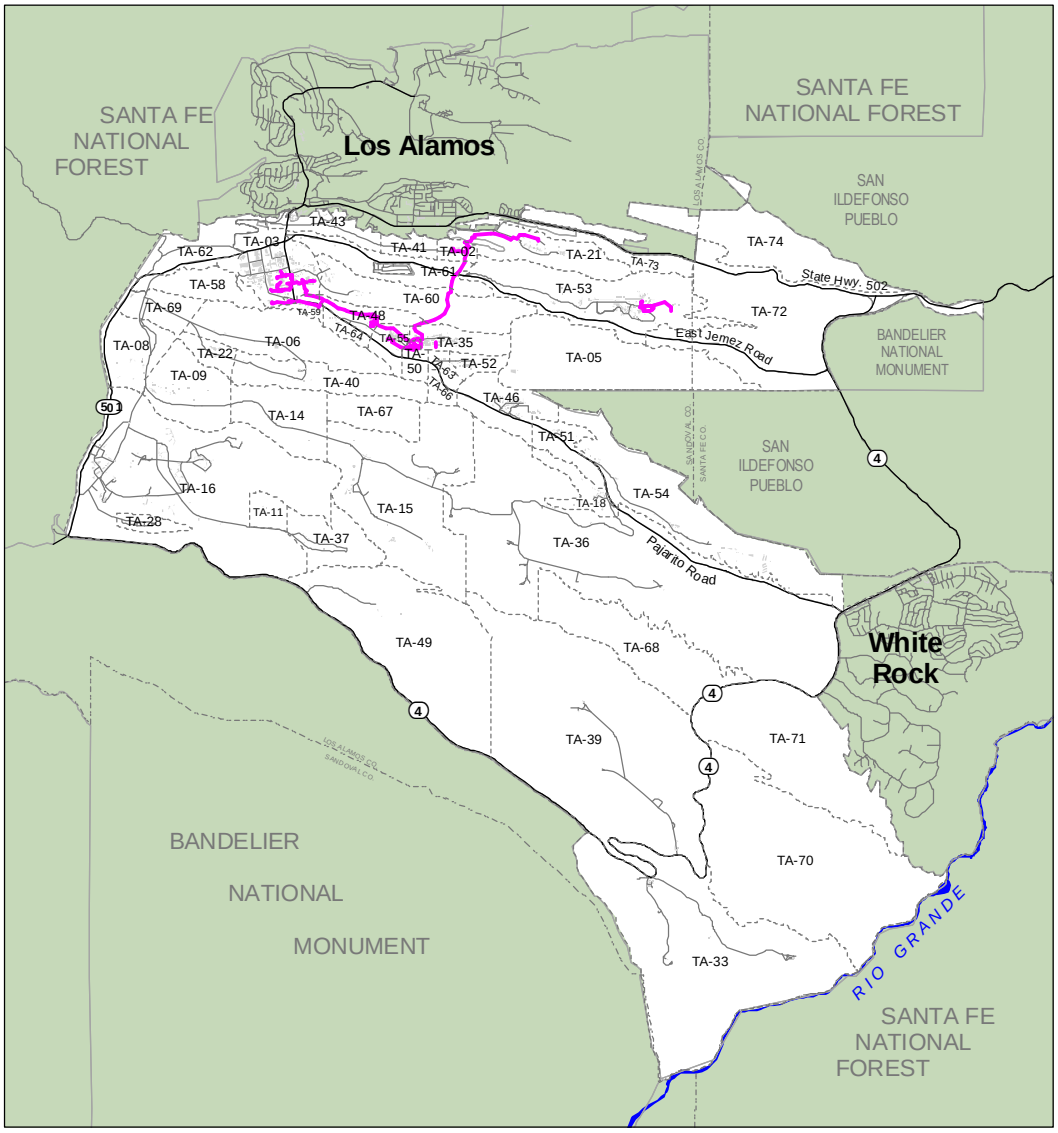

Radioactive Liquid Waste

LEGEND

Radioactive Liquid Waste

8000 0 8000 Feet

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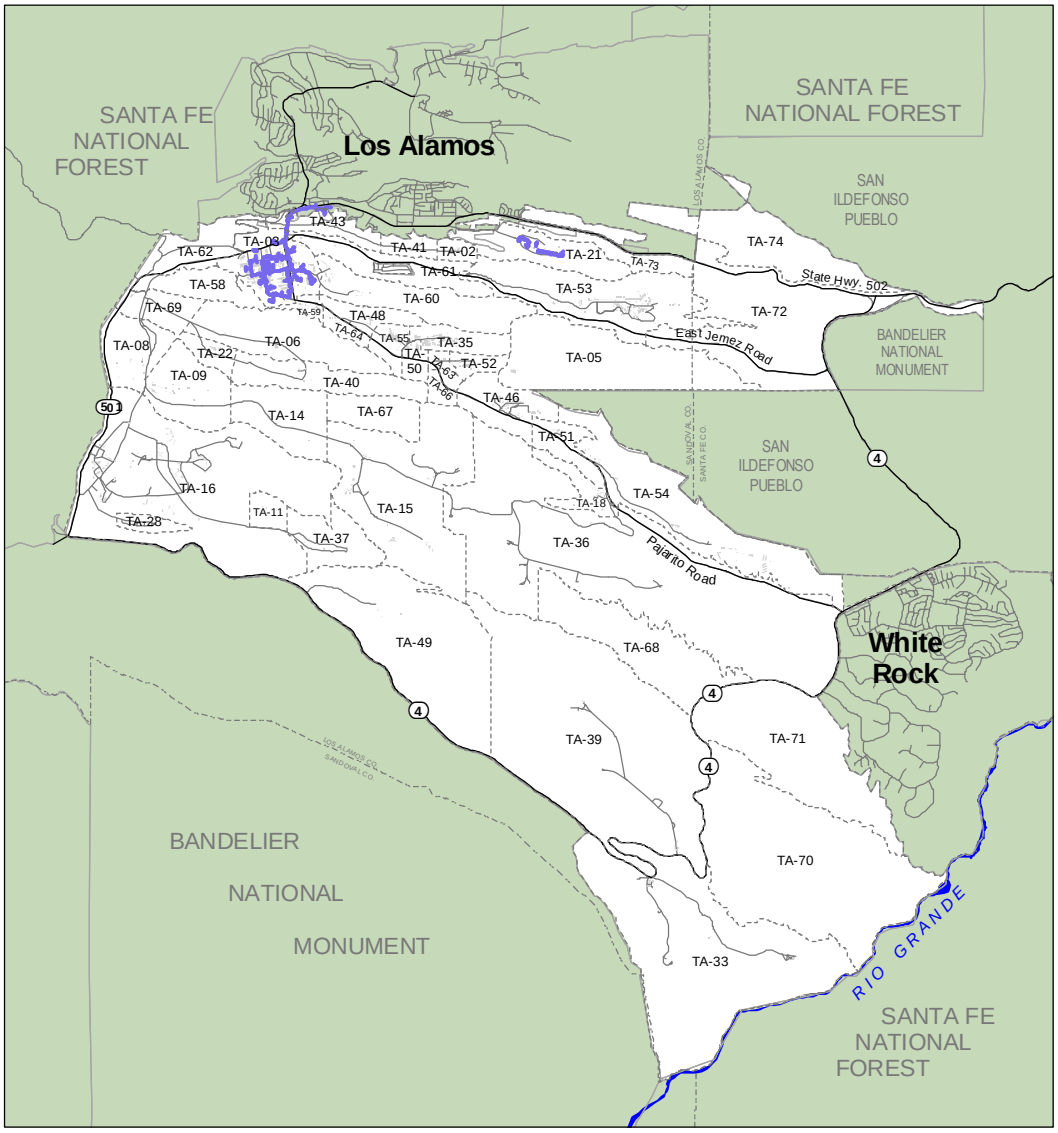

Steam Utilities

LEGEND

Steam Distribution Line

8000 0 8000 Feet

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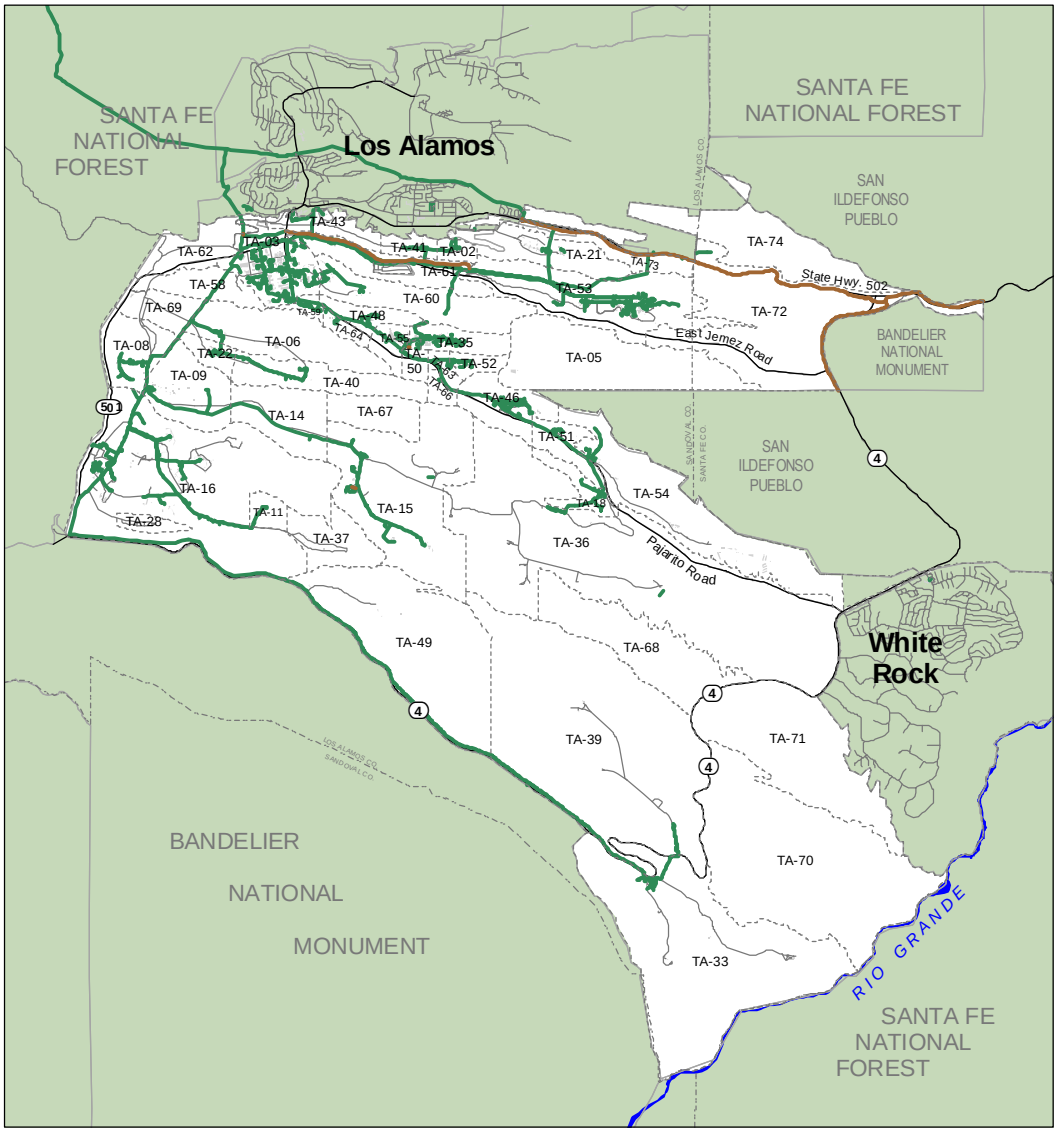

Natural Gas Utilities

LEGEND

- Gas Transmission
- Gas Distribution

8000 0 8000 Feet

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Water Utilities

LEGEND

- Water Transmission
- Water Distribution

8000 0 8000 Feet

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Ten-Year Comprehensive Site Plan FY05 – FY14

February 11, 2005

LA-CP-04-0678

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Date: October 1, 2004
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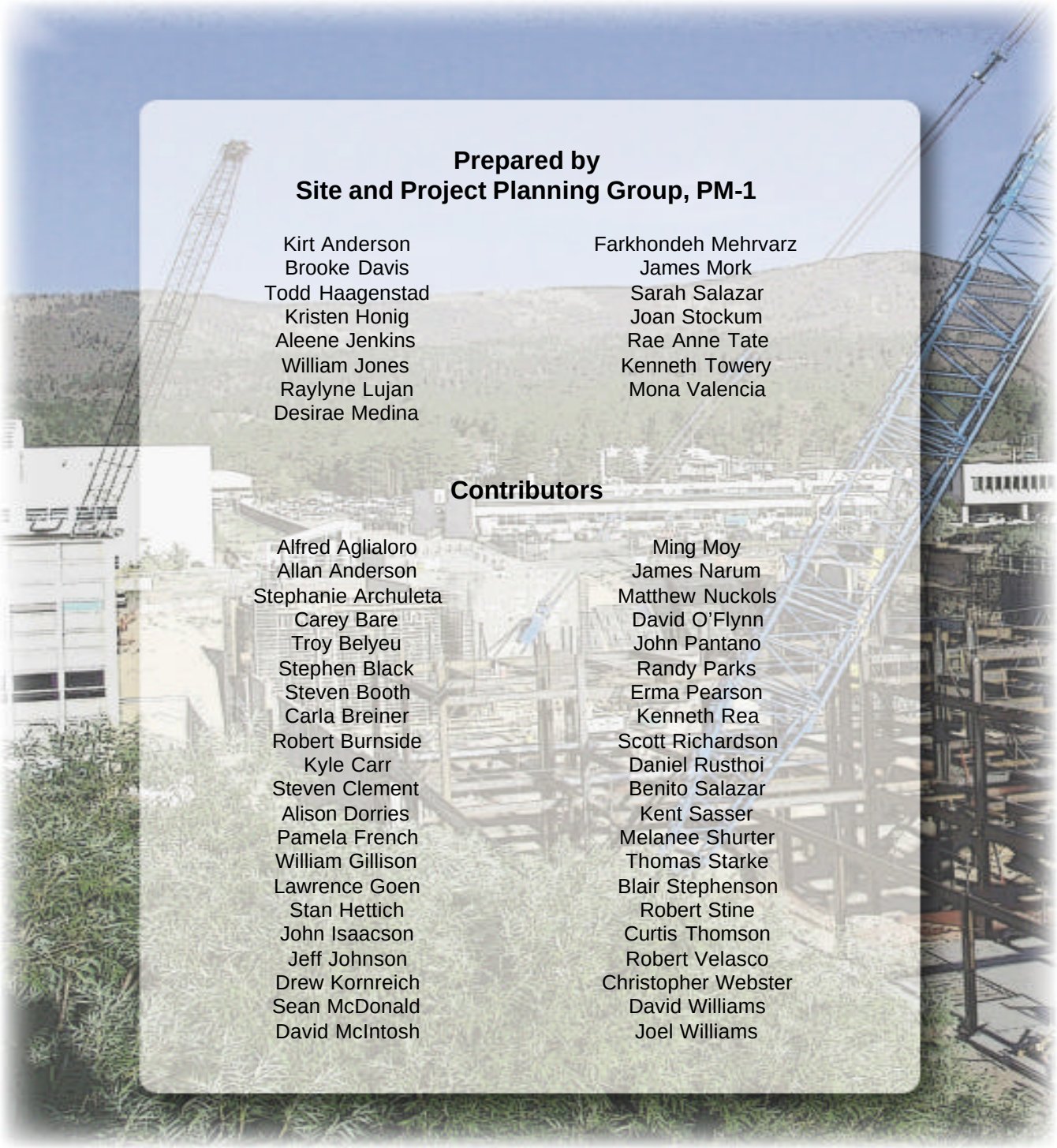

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DIRECTOR'S STATEMENT

On July 16, 2004, I suspended all work activities at the Los Alamos National Laboratory to ensure this Laboratory operates safely and meets all our national security obligations. At that time, I asked for a point-to-point risk assessment of all Laboratory day-to-day activities.

We have been reviewing every organization's activities as well as their performance. I have insisted that every manager talk to each of his or her employees, work with them to analyze the safety, security and environmental risks, and recommend restart only when convinced all the local compliance issues have been addressed. In no case am I authorizing a restart unless I am absolutely convinced that each organization will not risk further compromise of safety, security and environment.

The move to suspend all work will undoubtedly impact our view of operations of facilities as well as the full infrastructure of the Laboratory. As we resume activities, we will gain an unprecedented understanding of the risk associated with programmatic and institutional operations. This knowledge will drive shifts in priorities in infrastructure investment as our comprehensive view of the infrastructure risks become clear in the coming months. However, this reality should not detract from the concepts and plans included in the FY05-FY14 Ten-Year Comprehensive Site Plan. We recognize the annual submittal of the TYCSP, which integrates our fundamental strategies, is critical to maintain NNSA support of our ongoing efforts to revitalize this institution.

October 13, 2004

G. Peter Nanos, Director

Los Alamos National Laboratory

EXECUTIVE SUMMARY

The fiscal year (FY) 2005 Ten-Year Comprehensive Site Plan (TYCSP) was due at National Nuclear Security Administration (NNSA) Headquarters (HQ) on September 1, 2004. Due to the Laboratory's work suspension on July 16, 2005, additional time was needed for senior management to provide a final review of the document. Both NNSA HQ and the Los Alamos Site Office (LASO) were notified of the delay, and an anticipated transmittal date of October 15, 2004 was established. However, there was difficulty addressing questions and comments from LASO on the plan, and transmittal was delayed until November 12, 2004.

The FY05 TYCSP was transmitted from LASO to NNSA HQ without concurrence from the LASO manager, and the following general areas of concern were identified non-concurrence issues: 1) deferred maintenance and its buy-down; 2) stated indefinite impact of the restart activities; and, 3) narrow focus on Defense Programs facilities. A small team of managers and technical personnel from both LASO and LANL was established to collaboratively resolve the three non-concurrence issues.

On February 11, 2005, the Laboratory respectfully requested LASO acceptance of a revised FY05 TYCSP for final concurrence. The three non-concurrence issues have been resolved by revising the FY05 TYCSP and providing a re-submittal letter. To address the non-concurrence issue related to deferred maintenance and its buy-down, the following significant changes have been made in the FY05 TYCSP:

1. Chapter 4, The Plan, now includes text that appropriately qualifies the influence of the Chemistry and Metallurgy Research (CMR) facility on projected maintenance funding,

2. Attachment F-2 now includes a footnote that summarizes the influence of the CMR facility on projected maintenance funding, and

3. Attachment F-3 now includes revised deferred maintenance growth projections that reflect 2% of current deferred maintenance.

Non-concurrence issues related to the stated indefinite impact of the restart activities and the narrow focus on Defense Programs facilities are addressed in detail in Attachment 2 the re-submittal letter.

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This TYCSP for Los Alamos National Laboratory provides vital input to meet the National Nuclear Security Administration's (NNSA) commitment to stewardship of the reliability, safety and security of the United States nuclear stockpile. The collective TYCSPs from all NNSA sites are the foundation for the complex-wide facilities and infrastructure strategic planning and the cornerstone of the program's initiative to restore, revitalize and rebuild the complex. Los Alamos remains a prominent contributor to the NNSA's missions through its programs and campaigns in developing unique science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile. The objective of this TYCSP is to provide the vision for achieving the state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet this Laboratory's specific operations and mission requirements.

The Laboratory's first submittal of the TYCSP was issued shortly after the terrorist attacks on our country on September 11, 2001. As that document was finalized, the Laboratory did so with the belief that the world would be changed forever. While the world has changed, the vision for the Laboratory's infrastructure remains consistent.

That document's Executive Summary noted the following:

> *"The Laboratory has stated on several occasions that while facilities will only be operated in a safe and secure fashion, the level of funding has not ensured sustainability. The principal Laboratory strategies in addressing sustainability are through consolidation planning along with a graded approach to maintenance, based on long-term mission need.*
>
> *Our position is that the "catch up" approach to the maintenance backlog will not work – and even if there were enough funding to do so, it would not be in the best interest of the ongoing Defense Programs (DP). Instead, a smaller footprint for facilities in addressing the mission of today and tomorrow, instead of the "cold war" mission of the 50s and 60s will provide for a more effective and robust capability. This strategy provides a progressively more cost efficient approach to providing effective facilities.*
>
> *As we consolidate functions and then excess facilities, our operating costs are reduced. As we decommission and demolish (D&D) buildings that have no future use, we remove associated surveillance and maintenance costs forever. In addition, former building sites provide very good (from an environmental standpoint) options for future facilities to support the mission. Demolition of as much as 1 million square feet of Laboratory space over the next 5 to 10 years is*

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seen as viable. The project (construction and demolition) lists include the investment levels necessary to ultimately carry out consolidation planning. The approach includes projects of all funding types. Primary focus areas of consolidation planning noted in this TYCSP are the following:

- *Integrated Nuclear Planning,*
- *Engineering Sciences,*
- *Dynamic Experimentation, and*
- *Removal of temporary trailers and transportables with construction of larger permanent structures."*

The words of three years ago are very much a part of today's message. It is also important to note that while transforming the Laboratory's infrastructure has always been seen as at least a decade-long effort, significant progress is being made.

The initiation of the Facilities and Infrastructure Recapitalization Program (FIRP) as a concerted investment approach to address the entire NNSA complex's condition recognized that missions were at risk due to failing infrastructure. The establishment of the NNSA FY05 corporate goal to stabilize deferred maintenance and the FY09 corporate goal to improve the condition of mission essential facilities to industry standard has provided direction for FIRP. Neither the Laboratory nor most other sites had a consistent understanding of their infrastructure condition before FIRP. Without understanding the baseline condition and the investments needed to make improvements, it was impossible to reverse the degradation trends. Developing the deferred maintenance baseline and establishing the replacement plant value that occurred in FY03 were needed so that the Laboratory could ensure success in achieving the goals.

Recent Accomplishments

In FY04, the Laboratory was able to increase maintenance budgets consistent with the models for meeting the FY05 and FY09 goals. In addition, the Laboratory has continued to ramp up FIRP execution having direct impact on "postponed" maintenance issues. In recent years, supported by several funding sources, the Laboratory has achieved significant success in construction of replacement facilities as well as those for new mission capabilities.

Since 2000, the Laboratory has completed, or has under construction, over 20 major General Plant Projects (GPPs) and Line Item Projects, many of which were discussed in previous TYCSPs. The following are some of the recent construction successes.

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Line Items Projects

The Nicolas C. Metropolis Center for Modeling and Simulation (right): This project was completed in 2001 ahead of schedule, returned all contingency to NNSA, and achieved numerous NNSA and industry awards. The Nonproliferation and International Security Center (left): This facility was completed in 2003 ahead of schedule and under budget.

Emergency Operations Center: Another line item project completed in 2003 within all scope, cost, and schedule baselines.

General Plant Projects

Medical Clinic: This FIRP-funded project replaced the deteriorated structure previously housing the Laboratory's clinic.

Security Office Building: A FIRP-funded project that consolidated security functions and allowed for D&D of nine temporary and permanent structures.

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Decision Applications Division Office Building: This FIRP-funded project is approximately 20,000 gross square feet. Personnel were relocated to this structure from the sub-basement of the Administration Building.

Materials Science and Technology Division Office Building: This FIPR-funded facility allowed for D&D of 17 trailers and transportables.

Manufacturing Technical Support Facility: A program-funded facility that addressed program expansion requirements at TA-55.

TA-3 Parking Structure: An institutional-funded project that addressed one the highest employee concerns by constructing the Laboratory's first parking structure.

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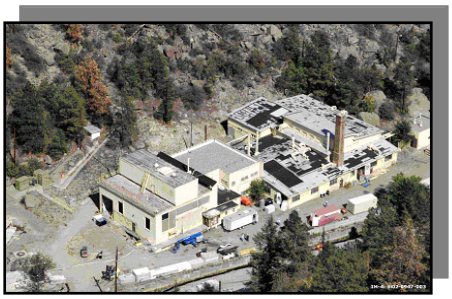
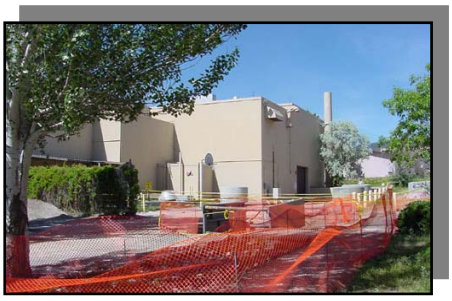
D&D Projects

Over the last five years, the Laboratory has also worked to remove facilities using a variety of funding sources. Today, the principal funding sponsor for removal of non-process contaminated facilities is FIRP. By the end of calendar year 2004, the Laboratory will have eliminated approximately 400,000 square feet during a five-year timeframe. Below are some highlights of completed demolition projects.

Omega West Reactor: Funded by the Cerro Grande Rehabilitation Project, removal of this structure reduced risk associated from potential post-fire flooding.



Sherwood Building, TA-3: This project was funded by RTBF and was the first major demolition project in the Laboratory's main Technical Area. The availability of the land allowed for the construction of the National Security Sciences Building several years later.



Syllac Building, TA-3: Removal of this high-bay experimental science facility was another FIRP-funded project. Also removed was an adjacent old cafeteria. Total square feet eliminated was 59,000.

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TA-3 Rack Towers: Funded by FIRP, this project removed these obsolete structures no longer needed for testing capabilities.

TA-16-220 X-Ray Complex: This FIRP project removed several structures (36,000 square feet), including interconnected corridors across several acres.

HSR Clinic: Funded by FIRP, this project eliminated a structure comprised of several prefabricated buildings which were plagued by years of deterioration and high maintenance costs.

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Future Outlook

The 2014 vision of the Laboratory, as determined by institutional strategic planning efforts, will be accomplished by completing the following activities as described in this TYCSP:

- Stabilize and then reduce deferred maintenance to help NNSA achieve the corporate goals for deferred maintenance reduction.
- Consolidate facility operations into fewer/smaller facilities to provide more efficient facility operations in support of missions.
- Decommission and demolish (D&D) facilities that are excess to mission needs.
- Through Integrated Nuclear Planning, consolidate a large number of nuclear materials facilities within a single security fence. A series of projects would replace 50+ year-old nuclear facilities over approximately eight to 10 years.
- Upgrade or replace infrastructure (electricity, water, wastewater, natural gas, roads, and protection and communications systems) to ensure sufficient capacity and capability to support ongoing and new missions.
- Construct or modify existing facilities to meet specific program/campaign needs, increase quality workspace, improve safety, security, employee morale and retention, and reduce maintenance and operations costs.
- Upgrade site security planning to meet new threat guidance.

As the Laboratory's planning processes continue to mature, a look at the long-range infrastructure capabilities (up to 20 years) is beginning to emerge. Such long-term planning is not a forecast or identification of specific projects, but a rationale for projected solutions driven by mission needs as annual updating of the TYCSP continues. The need that transforms the "built environment" to contribute to the long-term health, safety, security, and welfare of the institution in support of its missions, its employees and visitors, and the surrounding environment is fundamental.

The TYCSP and the Laboratory's ongoing long-range planning provide linkages to mission and programs, regulatory expectations, and budget constraints. Institutional planning efforts engage the support of facility managers, program and line managers, and subject matter experts (e.g., utilities, condition assessments, budgets, programs, and human resources) from across the Laboratory and provide the foundation and principles for physical development. Laboratory comprehensive site planning is now and will continue to serve as a strategic vehicle for making facility and infrastructure decisions that ensure the vitality and viability of the Laboratory's national security mission.

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The Fiscal Year (FY) 2005 TYCSP follows the NNSA's *Ten-Year Comprehensive Site Plan (TYCSP) Guidance* (dated February 2004). Brief summaries of each chapter follow.

Chapter 1 introduces the TYCSP and presents an overview of the plan's content and the assumptions, current situations and changes from the FY04 TYCSP as affecting the long-range facilities and infrastructure planning process. Various assumptions that the Laboratory used in developing the FY05 TYCSP are updated, and new, current situations are described along with identification of deficiencies and challenges affecting upcoming initiatives. The role of the National Environmental Policy Act (NEPA) is reviewed with updates defined as it affects the planning or modification of new development activities. Finally, changes and processes in the document are summarized along with accomplishments since the prior year TYCSP.

Chapter 2 provides descriptions of the geographical setting in which Los Alamos National Laboratory exists and includes discussions of the Northern New Mexico regional ecosystems and natural/cultural resources available for integration into the Laboratory's development. Also presented here is a description of current land use, including past and future transfers of land. Summary maps illustrate the current and future status of buildings, including new construction projects and excess facilities. An overview of the current Laboratory workforce is also provided.

Chapter 3 focuses on mission needs and program descriptions. The role of the five programmatic directorates devoted to achieving the Laboratory's mission is presented along with along with a summary of the Readiness in Technical and Base Facilities (RTBF) program. The chapter also includes a comprehensive table that captures the Laboratory's forecasted mission activities. Mission essential facilities are identified and their locations shown on a map. Finally, impacts from non-NNSA programs are described, and a discussion of the role of technology is provided.

Chapter 4 details the overall site plans and recommendations for the next 10 years. New discussions on facility Condition Assessment Survey (CAS) and deferred maintenance reduction are provided in this year's document, including information on the Laboratory's completed deferred maintenance baseline validation effort. Current and future space utilization is described, as well as efforts to D&D excess space. Expanded discussions on sitewide environmental, safety, and health (ES&H) issues, utilities, transportation, and parking are included as well as an updated security section that describes efforts to integrate security planning with site planning. Another element included for FY05 is a discussion on sitewide master planning activities.

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Chapter 5 discusses the various construction project funding sources and describes in detail the line item projects the Laboratory is planning over the next 10 years. For each of these projects, information on scope, costs, and benefits are provided.

Various attachments provide supporting information as required by the guidance. Two additional attachments have been included; the first section describes ongoing consolidation planning efforts by organizations; and the second section provides sitewide maps with greater detail than in those included in the chapters.

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Attachment E

Attachment E-1—Excess Facilities Disposition Plan Spreadsheet

Attachment E-2—New Construction Spreadsheet (Space Added)

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Attachment F

Attachment F-1 Deferred Maintenance Baseline (FY 2003) and Projected Deferred Maintenance Reduction Spreadsheet

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Acronyms

AB	Authorization Basis
AD	Associate Director
ADAPT	Advances Design and Production Technologies
ADP	Area Development Plan
ADO	Associate Director for Operations
ADWEM	Associate Director for Weapons, Engineering, and Manufacturing
ARIES	Advanced Recovery and Integrated Extraction System
B	Bioscience Division
BOP	Balance Of Plant
BSL	Biosafety Level
BTF	Beryllium Technology Facility
C	Chemistry Division
CAIS	Condition Assessment Information System
CAS	Condition Assessment Survey
CCF	Central Computing Facility
CCS	Computer and Computational Sciences Division
CCN	Computing, Communications, and Networking Division
CD	Critical Decision
CINT	Center for Integrated Nanotechnologies
CMMS	Computerized Maintenance Management System
CMR	Chemistry and Metallurgy Research Facility
CMRR	Chemistry and Metallurgy Research Facility Replacement
CREM	Classified Removable Electronic Media
CSP	Comprehensive Site Plan
CSSR	Center for Stockpile Stewardship Research
CX	Categorical Exclusion
D&D	Decommissioning and Demolition
DARHT	Dual Axis Radiographic Hydrodynamic Facility
DBT	Design Basis Threat
DBTIP	Design Basis Threat Implementation Plan
DNFSB	Defense Nuclear Facility Safety Board
DoD	Department of Defense
DOE	Department of Energy
DOE-LASO	Department of Energy – Los Alamos Site Operations
DM	Deferred Maintenance
DMPS	Deferred Maintenance Prioritization and Scheduling
DP	Defense Programs
DSM	Directorate Space Manager
DSW	Directed Stockpile Work
DX	Dynamic Experimentation Division
EA	Environmental Assessment
EES	Earth and Environmental Sciences Division

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EIS	Environmental Impact Statement
EM	Environmental Management
EMS	Environmental Management System
EP	Enterprise Project
EPA	Environmental Protection Agency
ER	Environmental Restoration
ERP	Enterprise Resource Planning
ESA	Engineering Sciences and Applications Division
ES&H	Environment, Safety, and Health
FAaRS	Facility Assessment and Ranking System
FCI	Facility Condition Index
F&I	Facilities and Infrastructure
FIMS	Facility Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
FM	Facility Manager
FMU	Facility Management Unit
FONSI	Finding of No Significant Impact
FWO	Facility and Waste Operations Division
FWO-FP	Facility and Waste Operations Division – Facility Planning
FWO-IP	Facility and Waste Operations Division – Institutional Projects Office
FY	Fiscal Year
FYNSP	Future Years Nuclear Security Plan
GPP	General Plant Project
GSA	General Services Administration
GSF	Gross Square Feet
HCI	Historical Cost Index
HE	High Explosives
HSR	Health, Safety, and Radiation Division
IFC	Infrastructure, Facilities, and Construction
ICPP	Integrated Construction Program Plan
IDR	Inspection Deficiency Report
IFMP	Integrated Facility Management Program
IGPP	Institutional General Plant Project
INP	Integrated Nuclear Planning
ISE	Imminent and Substantial Endangerment
ISM	Integrated Safety Management
ISMP	Integrated Space Management Program
ISR	International, Space and Response Division
ISSM	Integrated Safeguards and Security Management
ISO	International Organization for Standardization
IWM	Integrated Work Management
KSL	Kellogg, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates

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kV	Kilovolt
LACEF	Los Alamos Critical Experiment Facility and Hillside Vault
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center Division
LIR	Laboratory Implementing Requirement
LIP	Line Item Project
LPR	Laboratory Performance Requirement
LRR	Laboratory Readiness Review
LTS	Long-Term Stewardship
M	Million
M&O	Management and Operations
MDA	Material Disposal Area
ME	Master Equipment
MEL	Master Equipment List
MRC	Modern Radiological Complex
MSA	Management Self Assessment
MSL	Materials Science Laboratory
MST	Materials Science and Technology Division
N	Nuclear Nonproliferation Division
NA-10	Deputy Administrator for Defense Programs
NA-11	Defense Programs – Stockpile Stewardship
NA-12	Defense Programs – Stockpile Management
NA-50	Associate Administrator Facilities and Operations
NA-52	Office of Safeguards and Security
NCB	NEPA, Cultural Resources, and Biological
NEPA	National Environmental Policy Act
NISC	Nonproliferation and International Security Center
NMED	New Mexico Environmental Department
NMR	Nonnuclear Reconfiguration Program
NMSSUP	Nuclear Materials Safeguard and Security Upgrade Project
NMT	Nuclear Materials Technology
NNSA	National Nuclear Security Administration
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NSSB	National Security Sciences Building
NTS	Nevada Test Site
NWP	Nuclear Weapons Program
O&M	Operations and Maintenance
OPC	Other Project Costs
OSF	Other Structures and Facilities
P	Physics Division
PADNWP	Principal Associate Director for Nuclear Weapons Program
PCB	Polychlorinated biphenyl
PE&D	Preliminary Engineering and Design

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PGIU	Power Grid Infrastructure Upgrades
PHERMEX	Pulsed High-Energy Radiographic Machine Emitting X-Rays
PF	Plutonium Facility
PIB	Program Integration Board
PM	Project Management Division
PR-ID	Permits and Requirements Identification
PRS	Potential Release Site
PTLA	Protection Technology Los Alamos
Pu	Plutonium
PY	Prior Year
R&D	Research and Development
RAMROD	Radioactive Materials Research Operations and Demonstration
RANT	Radioactive Assay Nondestructive Testing Facility
RCRA	Resource Conservation and Recovery Act
R-I-K	Replacement-In-Kind
RLW	Radioactive Liquid Waste
RLWTF	Radioactive Liquid Waste Treatment Facility
ROD	Record of Decision
RPV	Replacement Plant Value
RRES	Risk Reduction and Environmental Stewardship Division
RTBF	Readiness in Technical Base and Facilities
S&S	Security and Safeguards Division
S&M	Surveillance and Maintenance
SA	Supplemental Analysis
SCIF	Sensitive Compartmented Information Facility
SECON	Security Condition
SET	Senior Executive Team
SMC	Space Management Committee
SNL	Sandia National Laboratory
SNM	Special Nuclear Material
SPCC	Site Planning and Construction Committee
SR	Strategic Research Directorate
SSC	Structure, System, and Component
SSP	Stockpile Stewardship Program
SSSP	Site Safeguards and Security Plan
SWEIS	Sitewide Environmental Impact Statement
SWSC	Sanitary Wastewater Systems Consolidation
T	Theoretical Division
TA	Technical Area
TCP	Traditional Cultural Property
TEC	Total Estimated Cost
TR	Threat Reduction
TSR	Technical Safety Requirements
TYCSP	Ten-Year Comprehensive Site Plan

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UC	University of California
U.S.	United States
WBS	Work Breakdown Structure
WCRR	Waste Characterization Reduction and Repackaging
WEM	Weapons Engineering and Manufacturing Directorate
WETF	Weapons Engineering Tritium Facility
WMD	Weapons of Mass Destruction
WP	Weapons Physics Directorate

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INTRODUCTION

1.1 OVERVIEW

The Los Alamos National Laboratory (LANL) submits herein its fourth annual Ten-Year Comprehensive Site Plan (TYCSP) in response to February 2004 National Nuclear Security Administration (NNSA) guidance. This plan specifically provides strategic planning for the physical complex and includes direct and indirect NNSA funded facilities and infrastructure activities. It presents results of strategic planning processes employed at the Laboratory in support of NNSA's initiative to restore, revitalize, and rebuild the complex. Submission of this plan is one deliverable in the key goal to link physical asset long-range planning and proposed projects with fiscal budget submissions.

Included in this document are the following major topics.

> ***General Site Information*** presents current and future physical conditions with supporting background data.
>
> ***Deferred Maintenance Baselining*** activities are described as well as efforts supporting the NNSA corporate goals for deferred maintenance reduction.
>
> ***Facilities & Infrastructure (FI) Cost Projection Spreadsheets*** provide insight to budget realities and consider all funding sources, including Readiness in Technical Base and Facilities (RTBF), Line Item, Indirect, and Facilities and Infrastructure Recapitalization Program (FIRP). The Laboratory has also included a summary of projects that are Campaign/Directed Stockpile Work (DSW) (non-line item), non-Defense Programs (DP), and Institutional General Plant Projects (IGPP).

The development process for this plan integrates institutional planning efforts for mission and programs, workforce, facilities, security, utilities, environment, safety, health, and operations.

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1.2 ASSUMPTIONS

The following are key programmatic, budget, and planning assumptions the Laboratory used in developing the Fiscal Year (FY) 05 TYCSP.

- The Laboratory's primary responsibility is maintaining the safety, reliability, and performance of the nation's nuclear stockpile.

- Primary funding sources integrated in the TYCSP in support of the physical plant are the following:
  - RTBF,
  - FIRP,
  - Integrated Construction Program Plan (ICPP),
  - IGPP, and
  - Program specific funding not noted above.

- Funding targets for the RTBF Operations of Facilities and FIRP projects/activities Cost Projection Spreadsheets are based on those identified by the Future Years Nuclear Security Program (FYNSP).

- FIRP funding will end in FY11 per Congressional language.

- The Laboratory will meet the FY05 and FY09 NNSA corporate goals in deferred maintenance reduction.

- There are significant increases and emphasis in physical site security, which will impact current construction projects and those in various aspects of development. Impacts of evolving design basis threats will be integrated within ongoing planning processes.

- Aging facilities and infrastructure require renovation or replacement as part of consolidation strategies to close facilities and ultimately reduce the site's footprint.

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1.3 Current Situation

Los Alamos recently celebrated its 61st anniversary as one of the premier national laboratories for meeting today and tomorrow's national security challenges. Since 1943, the Laboratory has consistently applied state-of-the-art scientific approaches to solving problems of national importance. However, attention to the state of infrastructure and facilities has not kept pace, and the Laboratory's physical plant is deteriorating to the point of jeopardizing its long-term ability to fulfill stockpile stewardship objectives.

Los Alamos has the greatest number and the oldest facilities among the three weapons laboratories and the Nevada Test Site. The cost of operations and maintenance, integrated safeguards and security management, environmental compliance, and other operations for these aging facilities is significant and growing. While real progress, as noted in the Executive Summary, has been made in recent years to address this issue, serious concerns and challenges remain.

1.3.1 Work Suspension

On July 16, 2004, the Director and the Senior Executive Team (SET) suspended routine Laboratory operations pending completion of a formal review process to ensure that the Laboratory can operate safely, securely, and in a compliant manner while meeting national security obligations. There are three major parts to the resumption process (1) demonstrate operational competence and commitment; (2) verify the integrity of processes for using and handling accountable classified removable electronic media (CREM); and (3) verify functional and organizational readiness.

A two-phase approach has been developed for the resumption of work activities. In Phase I, conducted on July 17, Laboratory managers categorized all work activities in one of three risk levels based on the hazards of work activities and confidence that workers conducting the activities could do so in a safe, secure, and compliant manner. The three risk level categories include the following:

- Level 1: Little or acceptable risk,
- Level 2: Mid-range risk (e.g., activities that require integrated work documents, such as light laboratory work, routine industrial activities), and
- Level 3: Higher risk (e.g., all activities involving the handling of Classified Removable Electronic Media (CREM), higher-hazard non-nuclear, and nuclear activities).

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Phase II of the resumption process requires an assessment of Laboratory work activities to verify they can be conducted in a safe, secure, and compliant manner. Phase II must be completed before any activities other than those approved by the Director as essential may resume. The level of rigor for these assessments is graded to the risk level determined in Phase I of the resumption process. The Laboratory Director will approve all resumption of activities, except for activities involving accountable CREM.

This phase of the resumption process requires a management self-assessment (MSA) of all risk-level 2 and 3 work activities. An MSA is a review of a facility or activity conducted by the responsible line manager to assess preparedness for startup/restart of an activity. The MSAs for the resumption process address 15 core requirements matrixed against eight areas of emphasis, including management competency, people and behaviors, integrated safety management, training and qualifications, safeguards and security, environmental protection, adequacy of the tools necessary to perform the work, and authorization basis. In addition, risk-level 3 work activities must undergo independent Laboratory Readiness Reviews (LRRs). The NNSA/Los Alamos Site Office participates in the MSA and LRR processes and its signature constitutes the required NNSA involvement for resumption of risk-level 2 and 3 activities. Thus, an NNSA representative must sign all “recommendations for resumption” to the Laboratory Director.

It is anticipated that additional institutional facility and infrastructure issues will be identified as the MSA process continues. The Laboratory will summarize findings and discuss any recommendations in the FY06 TYCSP. However, the facility and infrastructure concerns and challenges discussed below are still valid and drive many of the concepts and plans included in this document.

1.3.2 Concerns and Challenges

Aging Obsolete and Inadequate Facilities

The average facility age at Los Alamos is currently 33 years, with over 40% older than 40. One-half of the Laboratory’s facilities are in fair, poor, or failing condition. A large percentage of the Laboratory’s workforce resides in facilities that are in marginal condition and frequently overcrowded, which is a problem that has increased dramatically in recent years. The average amount of office space per occupant has dropped from 133 square feet in FY01 to 116 square feet in FY03. Sixteen percent of the workforce is housed in “temporary” structures such as trailers and transportables, many of which are 20 to 30 years old. Over 1,400 employees are currently housed in dispersed, off-site leased space due to lack of adequate onsite facilities. Overall, these situations

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lead to diminished productivity and morale, present safety and security problems, and hinder recruiting and retaining highly qualified staff.

Deferred Maintenance

NNSA, along with its sites, has established aggressive corporate goals associated with stabilizing and reducing deferred maintenance. The Laboratory has completed the deferred maintenance baseline ($564M) and associated Replacement Plant Value (RPV) in order to establish the basis of the plan for stabilization by the end of 2005 and reduction to industry standards by 2009. To achieve these deferred maintenance goals, facility operations must invest in maintenance at greater levels than in the past.
A key component of the Laboratory's strategy to lower maintenance and operating costs and reduce deferred maintenance is to aggressively reduce its facilities footprint. About 250 structures comprising 1.9 million gross square feet have been identified as currently ready for disposal. While FIRP is expected to fund much of the disposition work, other sources of funding will be necessary, particularly for process-contaminated facilities.

1.3.3 Corrective Actions

Over the past three years, the Laboratory has developed a detailed analysis of the cost of operating and maintaining facilities and a defensible prioritization system to fund facilities and infrastructure. The Laboratory has been evaluating and implementing methods to reduce facility costs. Some of these initiatives, such as consolidation projects, require upfront funding to realize significant annual facility savings. With this investment, sustained use of the facilities can be achieved, thereby reducing risk to programmatic delivery.

A Technical Area 3 (TA-3) Revitalization Plan has been developed to upgrade our most-populated area. The Nicholas C. Metropolis Center for Modeling and Simulation, the Nonproliferation and International Security Center (NISC), the National Security Sciences Building (NSSB), and the Security Perimeter Project are a few of the new construction projects included in the TA-3 plan. In addition, RTBF, FIRP, and IGPP funds are being used to develop infrastructure, office, and parking projects within the TA-3 area. These projects are addressing deferred maintenance, reducing facility operations costs, and increasing safety, security, and supporting employee recruitment and retention.

Integrated Nuclear Planning (INP) activities were initiated in 1998 to address the consolidation of special nuclear materials facilities and reduction of security and

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operational costs. The Chemistry and Metallurgy Research Building (CMR) Replacement Project will allow Los Alamos to consolidate actinide chemistry and material characterization activities at TA-55 near the existing plutonium facility. The Laboratory is committed to vacating the existing CMR facility. Another project within INP is the Nuclear Materials Safeguards and Security Upgrades Project, Phase 2 (NMSSUP 2), which will provide an effective, robust physical security system to support current and future protection strategies and security requirements at TA-55. The TA-55 Infrastructure Reinvestment project is planned for an FY08 construction start, which will revitalize the existing plutonium facility for continued support of the Laboratory's mission. A TA-55 Radiography Facility is planned to be housed in building PF-41, which will reduce security risks and lower operating costs.
Los Alamos is also committed to vacating the existing TA-18 site. This over 50 year-old site has experienced increased operational and security costs and should be replaced. The TA-18 Mission Relocation Project is currently being re-scoped into the Criticality Experiments Facility. The Laboratory is concerned that current planning only addresses the relocation of a portion of the missions that are executed at this site.

Additional projects at Los Alamos address facility consolidation plans that reduce the overall footprint, reduce deferred maintenance, and reduce the average age of facilities, utilities and infrastructure throughout the site. There are numerous consolidation and strategic planning efforts underway at the Laboratory, and the consolidation plans incorporate a cost/benefit analysis and productivity analysis to support recommendations for new projects, related excess space requests, and migration strategies. Examples of planned projects that support these efforts are the High Explosives Characterization, Weapons Manufacturing Support Facility, and the Center for Stockpile Stewardship Research.

Upgrades to essential infrastructure must also be planned and implemented if the revitalization of the Laboratory is successful. Examples of these projects include the Power Grid Infrastructure Upgrade, the Radioactive Liquid Waste (RLW) Treatment Facility Upgrade, the RLW Collection System Maintenance, and LANSCE Refurbishment

In summary, three distinct areas must continue to be addressed to ensure future infrastructure sustainability to meet the mission.

1. Implement formal facilities consolidation efforts and cost reduction initiatives to reduce facility footprints, which in turn reduces operating costs and improves safety, security, environmental protection, scientific interactions, and productivity.

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2. Meet corporate deferred maintenance goals, address unfunded high-priority facility deferred maintenance before it become expensive emergency repairs and directly impact programmatic objectives.
3. Invest in new construction projects, where appropriate and economically feasible, to ensure that the Laboratory can meet programmatic mission needs over the next 20 to 40 years.

Each of the areas identified above requires commitments to achieve positive results. The return on investment can be realized through reduced operating costs (maintenance and energy) and increased technical productivity to achieve mission requirements. In addition, each area addresses safety, security, and compliance needs and allows Laboratory facilities to be sustainable over the long-term.

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1.4 National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires a process to consider environmental impacts during the planning of new activities or the modification of existing activities. It requires that the responsible Federal agency (NNSA) take a hard look at proposed activities that may potentially result in significant environmental impacts and disclose them to the public.

The Laboratory is committed to compliance with NEPA requirements and coordinates them with other environmental, health, safety, and security requirements, and the comprehensive site-planning program. Proposals developed by program and line organizations must be compliant with NEPA prior to decisions regarding implementation. Failure to ensure complete NEPA compliance could lead to adverse consequences for a project, ranging from delays to possible litigation and could result in negative environmental, safety, and health impacts.

When proposed Laboratory projects are at a sufficient stage of planning to allow for detailed NEPA analysis, they are subject to review by NNSA to determine the appropriate level of compliance analysis. The review could result in a determination that the proposed activity was sufficiently analyzed in the Site Wide Environmental Impact Statement (SWEIS) or other previous impact analyses (environmental assessment (EA), environmental impact statement (EIS)). NNSA also could determine that the proposed project is qualified to be categorically excluded (CX) from the requirement to prepare either an EA or an EIS, or it could determine preparation of an EA or an EIS is necessary.

The NEPA determination process is based on a number of criteria such as the potential for a project to have adverse environmental, safety, and health impacts, the type of mission the proposed project would perform, and public interest and concerns. The specifics of the determination process are discussed in greater detail in the Council on Environmental Quality Regulations for implementing NEPA (40 CFR 1500) and the DOE agency specific regulations for implementing NEPA (10 CFR 1021). The NEPA process, depicted in Figure 1-1, should be implemented during the project-planning phase when most of the project specific details are known and completed prior to Critical Decision-2, which is the equivalent of steps one and two of the Integrated Safety Management (ISM) process, plan the work and identify hazards.

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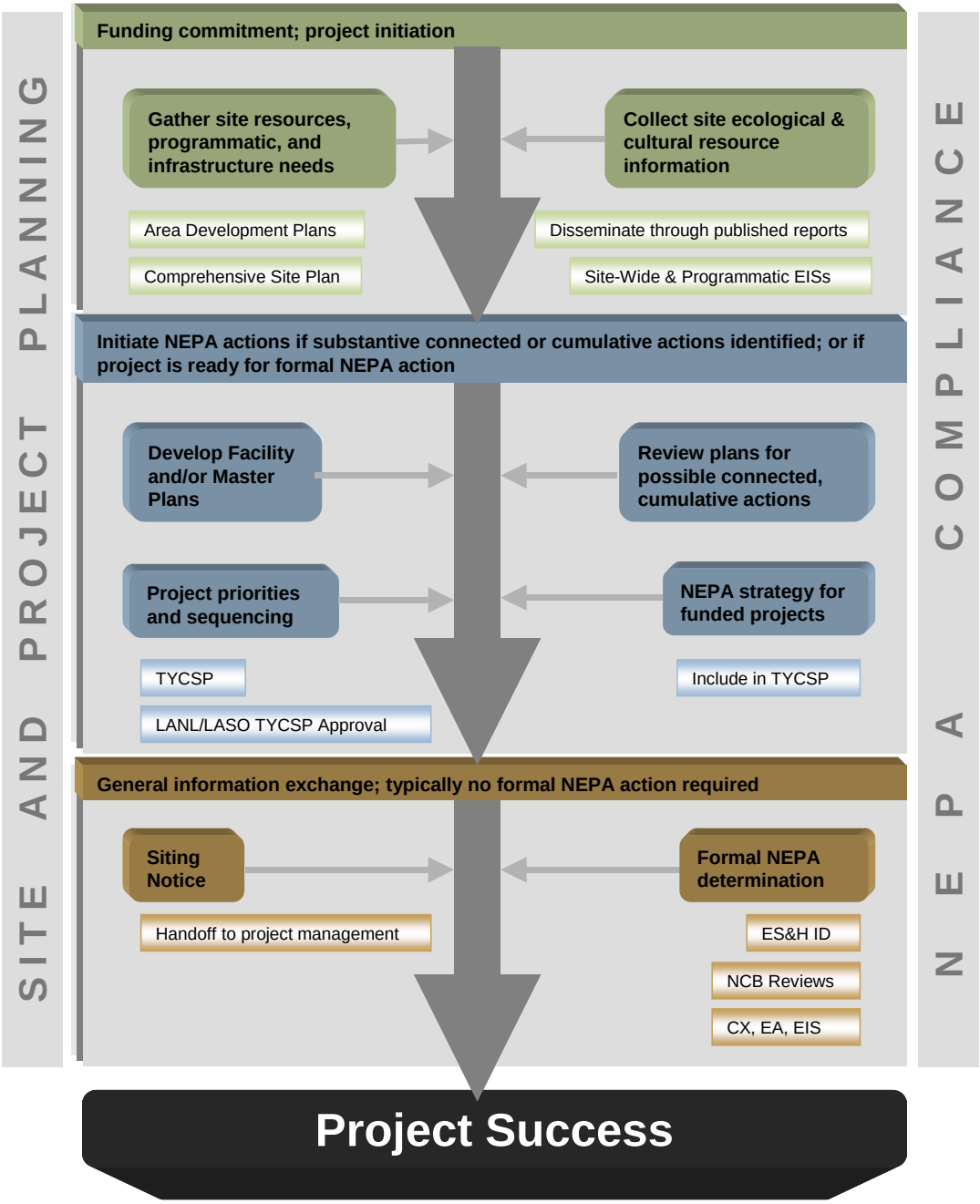
Figure 1-1: NEPA compliance and the site and project planning process.



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At the Laboratory, the NEPA process is generally initiated through the Permits and Requirements Identification System when the Laboratory's Ecology Group and /or an authorized reviewer conducts a NEPA, Cultural Resources, and Biological (NCB) review of a proposed project. The NCB review is implemented under the Laboratory's NCB Laboratory Implementation Requirements. The Laboratory performs several hundred NEPA reviews each year. A recommendation on the level of NEPA review (CX, EA, or EIS) is submitted to NNSA where a decision regarding the need for and the level of NEPA documentation is made. NEPA is completed and a project can proceed once NNSA notifies the Laboratory that a CX is completed, a Finding of No Significant Impact (FONSI) is signed for an EA, or a Record of Decision (ROD) is published for an EIS.

The TYCSP, in general, represents implementation of the level of operations described in the SWEIS and selected by the ROD. However, a NEPA review should be accomplished when a specific action (site or facility plan/project) is "ripe for decision" and is being considered for funding and implementation to determine whether the SWEIS fully covers the current proposal. Site and facility plans may include projections of the future. To the extent they are not commitments to pursue a specific project or set of projects or are not yet discussed in a TYCSP, such plans typically do not engage NEPA analysis. Once a plan is proposed and considered for implementation, the NNSA must engage in the NEPA compliance process, have a NEPA strategy established, and obtain appropriate NEPA reviews in accordance with regulatory and Laboratory requirements.

With the Laboratory's assistance, NNSA is currently in the process of preparing a Supplemental Analysis (SA) for the 1999 SWEIS. The SWEIS SA is being prepared to determine the adequacy of the NEPA compliance envelope provided by the 1999 SWEIS.

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1.5 CHANGES FROM PRIOR YEAR TYCSP

In order to provide plan-to-plan traceability, the summaries below describe the major changes in the document chapters from the prior year. If changes resulted from formal NNSA comments or concerns provided during the review of the FY04 TYCSP, the source is noted in parentheses.

Chapter 2 Site Description

- Facility status maps have been updated with new proposed construction projects and excess facilities.

Chapter 3 Mission Needs and Program Descriptions

- Discussion of the Laboratory's current and future missions and programs have been organized by elements of the Stockpile Stewardship Program (SSP) in a reformatted table. (NNSA comment)

- The "Role of Technology in the Complex of the Future" section has been expanded to include the impact of future applied technology integrating business practices, personnel, and equipment to facilities and infrastructure in the nuclear weapons complex of the future.

Chapter 4 The Plan

- Additional information that supports the Laboratory's achievement of NNSA's corporate deferred maintenance stabilization and reduction goals for FY05 and FY09 is included. An expanded narrative of the current situation and corrective actions that will achieve the goals is provided, as well as a graphical representation of the Laboratory's projected maintenance reduction. (NNSA comment)

- The "Utilization" section discusses Laboratory efforts to develop and utilize space allocation models. The section also describes an initiative to reduce the Laboratory's current footprint by 1 million gross square feet (GSF) of space during FY05. A discussion on efforts to maintain accurate data in the Facility

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Information Management System (FIMS) database is also included. (NNSA comment)

- Excess Facility Elimination/New Construction reporting is included and depicts the balance/difference between the Laboratory's projected gross square feet of NNSA excess facilities eliminated in comparison to the gross square feet of NNSA new construction.

- The Laboratory's long-term stewardship (LTS) activities and requirements are included.

- The "Planning Initiatives" section has been modified to included ongoing master planning activities at various technical areas.

- The Safeguards and Security section has been expanded to discuss activities to better integrate security planning with physical site planning. (NNSA-LASO comment)

Chapter 5 Facilities and Infrastructure Projects/Activities and Cost Profile

- A table showing significant project additions and deletions, organized by funding source, has been developed.

Attachment A – F&I Cost Projection Spreadsheets

- Cost Projection Spreadsheets are updated to reflect the most current information and respond to new requirements in the guidance. Changes include the following:
  - Amount of deferred maintenance reduction resulting from execution of project is reported,
  - Total new square footage constructed as a result of the project/activity is included,
  - Proposed Line Item Construction Project Information Sheets have been included per the guidance,
  - FIRP projects end in FY11 to reflect the end of FIRP funding per Congressional language,
  - Attachments A-1 and A-2 are consistent with the most recent ICPP, dated March 12, 2004 (NNSA comment), and
  - New project additions are shown in blue text.

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Attachment B – FIRP Prioritized List of Recapitalization Projects

- Attachment B-1 has been developed and included per the guidance. This table provides further information on the prioritized FIRP recapitalization projects for FY05 and FY06 shown in Attachment A-4, the FIRP Cost Projection Spreadsheet.

Attachment E – NNSA Excess Facilities Disposition

- A revised Excess Facility Elimination/New Construction reporting that separately depicts the balance/ difference between the site's projected gross square feet of multi-program excess facilities eliminated in comparison to the gross square feet of multi-program new construction has been included.

Attachment F – Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction

- Attachments F-3 through F-6 have been developed and included per the guidance. Attachments F-3 and F-4 shows the Laboratory's progress toward meeting the FY05 and FY09 deferred maintenance goals for Mission Essential facilities; Attachment F-5 shows the Laboratory's progress toward meeting the FY09 deferred maintenance goal for balance of plant facilities (non-Mission Essential facilities). Identification of replacement-in-kind (R-I-K) projects to prepare for the sunset of FIRP is included in Attachment F-6.

Attachment G – Mission Essential Facilities and Infrastructure

- Linkages to the corresponding weapons activities program budget categories and the DP "top ten" mission priorities are provided at the building level.

- Additions to the Mission Essential list are denoted in blue text and with an asterisk after the facility name. Deletions from the list are provided as a separate table with explanations for the changes. (NNSA Comment)

- Facility use has been added to better clarify the role of the facility in meeting SSP activities. (NNSA Comment)

- An additional table has been developed to show linkages between Mission Essential facilities and projects in Attachment A. (NNSA Comment)

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- An additional table has been developed to graphically summarize the linkages between the Mission Essential facilities and the Stockpile Stewardship Program.

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SITE DESCRIPTION

2.1 GEOGRAPHIC SETTING

The Laboratory and residential areas of Los Alamos and White Rock are located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. The 40-square mile Laboratory site is situated on the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep east-to-west oriented canyons cut by intermittent streams. Mesa tops range in elevation from approximately 7,800 feet on the flanks of the Jemez Mountains to about 6,200 feet at their eastern termination above White Rock Canyon and the Rio Grande. Plant communities on these mesas range from ponderosa pine forests on the flanks of the Jemez Mountains to piñon-juniper woodlands near the Rio Grande. The climate is moderate with relatively mild winters and summers.

Most Laboratory and community developments are confined to mesa tops. The surrounding land is largely undeveloped, and large tracts of land north, west, and south of the Laboratory are administered by the Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, General Services Administration, and Los Alamos County. The Pueblo of San Ildefonso borders the Laboratory to the east.

The Laboratory is divided into TAs that are used for building sites, experimental areas, waste disposal locations, etc. However, these uses account for only a small part of the total land area. Development is limited by steep slopes and by the need for security and safety buffers because of the work performed.

The Department Of Energy (DOE)/NNSA administers the area occupied by the Laboratory and has the option to completely restrict public access. However, the public is currently allowed limited access to certain areas of the Laboratory, along State Routes 4, 501, and 502.

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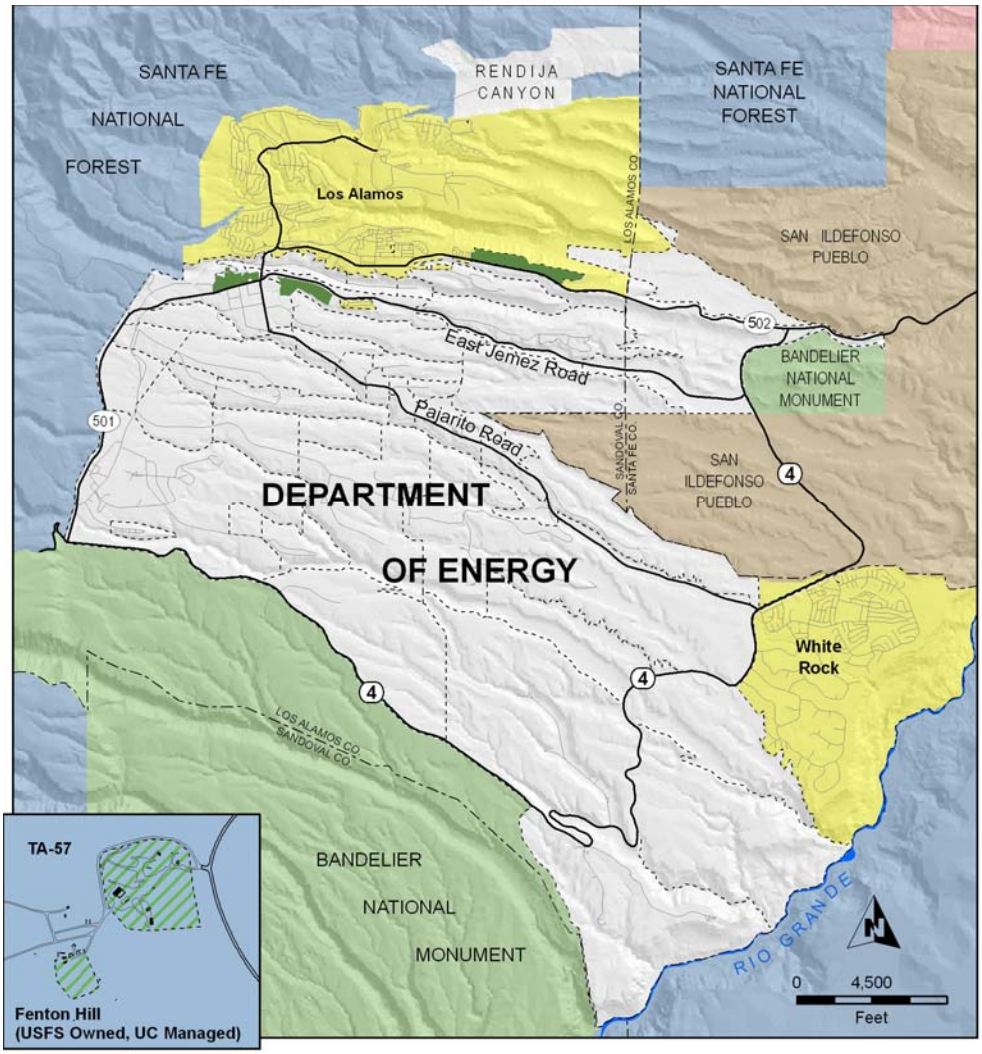

Land Management / Ownership

- Road
- County
- Technical Area Boundary
- Bandelier National Monument
- U. S. Forest Service
- Private Land
- BLM
- San Ildefonso Pueblo
- DOE Owned - 41 square miles * Accounts for Land Transferred in October 2002 and includes Rendija Canyon (Sportsmen Club)
- DOE Owned and Leased - .3 square miles * -Airport -Landfill and Concrete Plant -Research Park -ICON Facility Land at TA-46
- U. S. Forest Service Owned / U. C. Managed (Fenton Hill, TA-57)

*The intent of this analysis is to identify land and not buildings; therefore, leased office space in the townsite is NOT part of the listed acreage.

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2.2 LABORATORY RESOURCES

The following section discusses the regional ecosystem encompassing the Laboratory and resources specifically at the Laboratory. Information is drawn from the SWEIS and supporting documentation.

2.2.1 Regional Ecosystem

Administrative boundaries do not necessarily coincide with ecological boundaries. Laboratory facilities, infrastructure, operations, and impacts (positive, negative, neutral, and undetermined) are immersed in the patterns and processes of a complex regional landscape making up the Pajarito Plateau. Major habitat types and canyon systems are continuous across this plateau, which encompasses jurisdictional boundaries of the Laboratory, Bandelier National Monument, Santa Fe National Forest, Native American Pueblos, and other land management stewards. Seasonal migration routes for elk and deer and foraging or hunting ranges of black bears and mountain lions cross these jurisdictional boundaries.

Canyons

From their narrow, thickly forested beginnings on the flanks of the Jemez Mountains, to their confluence with the Rio Grande, major canyons are associated with the eight major watersheds. The plateau canyons range in depth from about 200 to 600 feet. The steeply sloping, north-facing canyon walls and canyon bottoms are shadier and cooler and have higher levels of humidity and soil moisture than the often nearly vertical, south-facing canyon walls, which are sunnier, hotter, and more arid. These differences in slope, aspect, sunlight, temperature, and moisture cause a dramatic localized shift in major vegetation zones on canyon walls and in canyon bottoms beyond their typical range of elevation. This “canyon-effect” is responsible for fingers of coniferous forest extending down regional canyons.

Watersheds

The regional Laboratory ecosystem has been defined to include eight major watersheds, each of which has significant tributaries. Watersheds draining the Jemez Mountains and Pajarito Plateau are tributaries of the Rio Grande, which is the fifth largest watershed in North America. Approximately 11 miles of the Laboratory’s eastern boundary borders on the rim of White Rock Canyon or descends to the Rio Grande. The riverine, lake, and canyon environment of the Rio Grande as it flows

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through White Rock Canyon makes a major contribution to the biological resources and significantly influences ecological processes of the Laboratory region.

Wetlands

The majority of the wetlands in the Laboratory region are associated with canyon stream channels or are present on mountains or mesas as isolated meadows containing ponds or marshes, often in association with springs or seeps.

A 1990 survey (based on interpretation of aerial photographs) identified a total of 39 acres of wetlands within Laboratory boundaries. A 1996 field survey by Laboratory personnel identified an estimated 50 acres of wetlands within Laboratory boundaries, based on the presence of wetland vegetation (hydrophytes).

Currently, about 13 acres of wetlands within Laboratory boundaries are caused or enhanced by process effluent wastewater from National Pollutant Discharge Elimination Systems (NPDES)-permitted outfalls. In 1999, the effluent from NPDES outfalls, both storm water and process water, was estimated to have contributed 317 million gallons to wetlands within Laboratory boundaries. Effluents are being reduced through a program of outfall reductions. It is expected that some wetlands will shrink and perhaps disappear entirely over time.

Major Vegetation Zones

Although watersheds traverse all or part of the elevational gradient, major vegetation zones are organized into elevation- and aspect-defined bands across this gradient. Increasing temperature and decreasing moisture along the 12-mile-wide and 5,000-foot-elevational gradient from peaks of the Jemez Mountains to the Rio Grande result in the formation of six vegetative zones. The six vegetation zones that characterize this regional ecosystem are montane grasslands, spruce-fir forest, mixed conifer forest (with aspen forest), ponderosa pine forest, piñon-juniper woodland, and juniper savannah.

The montane grassland, spruce-fir, and mixed conifer vegetation zones are located primarily west of the Laboratory with little representation on the Laboratory proper. The vegetation zones and associated ecotones provide habitat, including breeding and foraging territory, and migration routes for a diversity of permanent and seasonal wildlife.

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2.2.2 Resources for Integration

The resources included here are those that have high potential to be affected by or effect the Laboratory's operations and facilities. In either case, the potential impacts are discussed. Resources that have a lower potential to be affected by the Laboratory's operations, such as geology, are not included.

Air

The quality of ambient air is defined by federal and state regulations. The Environmental Protection Agency has set National Ambient Air Quality Standards for pollutants of nationwide concern. These pollutants, known as criteria pollutants, are carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, lead, and particulate matter. The area around the Laboratory is classified as an attainment area for all six criteria pollutants.

The State of New Mexico has also established ambient air quality standards. DOE/NNSA and Laboratory operations meet all state standards.

Water

Water is a limited resource in the semiarid climate of northern New Mexico. Canyon-bottom streams within Laboratory boundaries are mostly dry, and only portions of some streams contain water year round. Flash floods can occur following thunderstorms. Sediments moved by storm water events from upstream locations, hillsides, or mesa tops occur along the bottom of most Laboratory canyons, and flash floods move these sediments from the canyon bottoms into the Rio Grande.

Surface Water

Surface water in the Los Alamos area occurs primarily as short-lived or intermittent reaches of streams. Perennial springs on the flanks of the Jemez Mountains supply base flow into the upper reaches of some canyons, but volume is generally insufficient to maintain surface flows across the Laboratory site before they are depleted by evaporation, transpiration, and infiltration. Runoff from heavy thunderstorms or heavy snowmelt reaches the Rio Grande several times a year in some drainages. Effluents from sanitary sewage, industrial water treatment plants, and cooling-tower blowdown enter some canyons at rates sufficient to maintain surface flows for varying distances. Surface water within Laboratory boundaries is

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not a source of municipal, industrial, or irrigation water, but is used by wildlife that live within, or migrate through, the region.
Storm water and associated sediment transport are the major mechanisms by which contaminants are transported within and beyond Laboratory boundaries. Therefore, management efforts to reduce contaminant migration in the canyons at the Laboratory have historically focused on these transport mechanisms.

Ground Water

The Laboratory and the surrounding communities use ground water for drinking water supplies. Water levels in wells penetrating into the regional aquifer have declined in response to pumping, typically by several feet each year.

Like surface water, the presence of ground water is variable. The regional aquifer is the only body of ground water in the region sufficiently saturated and permeable to transmit economic quantities of water to wells for public use. All drinking water for Los Alamos County, the Laboratory, and Bandelier National Monument comes from the regional aquifer. Depth to water in the aquifer, from the ground surface, varies from approximately 1,200 feet along the western boundary of the Pajarito Plateau to approximately 600 feet along the eastern edge of the Pajarito Plateau.

Water in the regional aquifer is under artesian conditions under the eastern part of the Pajarito Plateau near the Rio Grande. The source of recharge to the aquifer is presently under investigation. Recent results of a major, multiyear hydrogeologic study have indicated that there is significant ground-water recharge along the flank of the Jemez Mountains, and there may be more ground water recharge from canyon bottom alluvial ground water than previously believed. Laboratory contaminants have been found in perched zones above the regional aquifer and in the regional aquifer as a result of characterization wells. Work continues to increase understanding of the hydrogeologic conditions.

Soils

Several distinct soils have developed in and around the Laboratory as a result of interactions between bedrock, topography, and local climate. Construction activities at the Laboratory can displace these soils, and runoff from parking lots and buildings can cause erosion. In addition, surface contamination can result from open detonations at the firing sites, or from the deposition of contaminants released to the atmosphere from building vents and other operations.

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Biological

Though operations at the Laboratory are not expected to result in significant impacts to biological resources, ecological processes, or biodiversity (including threatened and endangered species), operations will continue to release small quantities of contaminants, disrupt natural migration routes, or otherwise disturb local environs.

The lands within and around the Laboratory have diverse, unique biological communities having complex ecological relationships. Plant communities range from urban landscaping to grasslands, wetlands, shrublands, woodlands, and mountain forest, which provide habitat for a wealth of animal life. This richness of animal life includes elk and deer, bears, mountain lions, coyotes, rodents, bats, reptiles, amphibians, invertebrates, and a myriad of resident, seasonal, and migratory bird life. In addition, threatened and endangered species of concern and other sensitive species use Laboratory resources. Because of restricted access to Laboratory lands and management of contiguous Bandelier National Monument for natural biological systems, much of the region provides a refuge for wildlife.

Wildlife

The Laboratory's lands support a diversity of wildlife ranging from state- and federal-listed threatened and endangered species to large and small game populations. A number of regionally protected and sensitive species of concern have been documented on or near the Laboratory's lands. These consist of one federal-listed endangered species, two federal-listed threatened species, and 18 species of concern (species that may be of concern to the United States (U.S.) Fish and Wildlife Service but do not receive protection under the Endangered Species Act). Operations at the Laboratory may impact these species by removal of key habitat, disturbing these species during breeding seasons, altering hunting and foraging areas, etc. Conversely, these species may impact operations by requiring certain areas to remain undisturbed and restricting the locations for new facilities.

Forest

There are three forest types that occupy the majority of Laboratory acreage: piñon-juniper woodlands, ponderosa pine, and spruce fir forests. Each of these forest types has its own characteristics; however, they all three show effects of fire suppression over the last hundred years coupled with restrictions in grazing by domestic livestock. The most obvious effects have been an increase in overall tree stand densities, continuity, and fuel loading with a concomitant decrease in understory cover. The

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heavily forested areas have dense stands of unhealthy trees with excessive amounts of standing and fallen dead tree material.

In the last 50 years, this region has seen five major wildfires: the Water Canyon Fire in 1954, the La Mesa Fire in 1977, the Dome Fire in 1996, the Oso Fire in 1998, and the Cerro Grande Fire in 2000. In each case, fire occurred during the late spring or early summer fire season when fire danger was high or extreme. Weather conditions were hot and dry, fuel moisture content was low, and fuel loads were high. Even after these five fires, overall conditions across the Pajarito Plateau are still conducive to wildfire, and as fuel loads regenerate in the burned areas, the probability of the next fire event increases.

Cultural and Historical

Cultural resources are any prehistoric or historic sites, buildings, structures, districts, or other places or objects (including biota of importance) considered to be important to a culture, subculture, or community for scientific, traditional, or religious purposes, or for any other reason. They combine to form the human legacy for a particular place. The cultural resources present within the Laboratory region are complex because of great cultural diversity in the inhabitants of this region. As structure and physical environment of the Jemez Mountains and Pajarito Plateau changed over time, cultures changed in response, as reflected in settlement patterns and technology that evolved over time.

The cultural resources present within Laboratory boundaries and the region have been classified into three categories: prehistoric, historic, and traditional cultural properties (TCPs). These three categories of cultural resources are protected variously under state and federal laws, regulations, and executive orders.

Archeological surveys have been conducted of approximately 90% of the land within Laboratory boundaries (with 85% of the area surveyed receiving 100% coverage) to identify cultural resources. The majority of these surveys emphasized prehistoric American Indian cultural resources. Information on prehistoric cultural resources is maintained in the Laboratory cultural resources database, which is a listing of the cultural resources identified through surveys and excavations recorded over the last decade. The database is organized primarily by site type and records 1,295 prehistoric sites. Of the 1,295 prehistoric sites in the Laboratory database, 1,192 have been assessed for potential nomination to the National Register of Historic Places (NRHP). Of these, 770 sites are eligible, 322 sites are potentially eligible, and 100 sites are

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ineligible. The remaining 103 sites, which have not been assessed for NRHP eligibility, are assumed to be eligible until a determination can be made. Historic cultural resources include all material remains and any other physical alteration of the landscape that has occurred since the arrival of Europeans in the region. The historic resources present with Laboratory boundaries and on the Pajarito Plateau can be attributed to three phases: Spanish Colonial, Early U.S. Territorial/Statehood, and the Nuclear Energy Period.

A TCP is a significant place or object associated with historical and cultural practices or beliefs of a living community that is rooted in that community's history and is important in maintaining the continuing cultural identity of the community. TCPs are essential in preserving cultural identify through social, spiritual, political, and economic uses.

An area may have TCP significance depending on a variety of factors, i.e., the site is remembered in prayers or tribal stories, traditional ritual knowledge of the site is passed on to other members of the community, or traditional customs continue to be practiced by members of a community. TCPs that are considered culturally important by traditional communities include shrines, trails, springs, rivers, acequias, plant and mineral gathering areas (also referred to as ethnobotanical sites), traditional hunting areas, ancestral villages and gravesites, and petroglyphs. However, TCPs are not limited to ethnic minority groups. Americans of every ethnic origin have properties to which they ascribe traditional cultural value.

Within the Laboratory's boundaries, there are ancestral villages, shrines, petroglyphs, sacred springs, trails, and traditional use areas that could be identified by Pueblo and Athabascan communities as TCPs. DOE/NNSA and the Laboratory have a program in place to manage on-site cultural resources for compliance with the Native American Graves Protection and Repatriation Act and American Indian Religious Freedom Act. When an undertaking is proposed, DOE/NNSA and the Laboratory arrange site visits by tribal representatives from San Ildefonso, Santa Clara, Jemez, and Cochiti Pueblos to solicit their concerns and comply with applicable requirements and agreements. Provisions for coordination among these four Pueblos and DOE/NNSA is contained in formal agreements called accords that were entered into in 1992 for the purpose of improving communication and cooperation among federal and tribal governments. According to the DOE compliance procedure, American Indian tribes may request permission for visits to sacred sites within Laboratory boundaries for ceremonies.

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Because of the very well-defined changes in the function of the Laboratory, the Nuclear Energy Period is broken into three periods: World War II/Early Nuclear Weapon Development, Early Cold War, and Late Cold War. The World War II or Manhattan Project era (1943-1946) and the Early Cold War (1947-1963) are two periods of particular historic significance for Laboratory structures. Of the 570 buildings at the Laboratory that are eligible for listing on the National Register of Historic Places or will require eligibility evaluations, 501 were built between 1943 and 1963. There are some buildings and structures built after 1963 that have historic significance because of their relationship to the exceptional events or historic figures of the two periods.

In light of the two periods of historic significance, the TYCSP plays a significant role in the determination of future potential impacts to historic properties. The Guidance for the TYCSP (A Supplement to the FY 2003 Budget Call) requires DP sites to identify excess "facilities and land that no longer support mission(s), program(s) and/or workload." Buildings and structures with high maintenance backlogs and low replacement values are classified as being in poor condition and considered for decommissioning and demolition (D&D). Buildings not on the "excess list" will be retained for the long-term mission of the Laboratory.

Of the 501 buildings built between 1943 and 1963, 289 (58%) are currently identified as excess, to be removed over the next 10 years. Given the proposed removal of a disproportionately high number of early historic properties at the Laboratory, an overall plan for the consideration of the historic significance of these properties and opportunities for their preservation and/or interpretation is in development.

2.2.3 Established Natural Areas

DOE (and its predecessor organization) recognized the diversity of natural resources at the Laboratory and provided particular protection to portions of the Laboratory by taking specific actions.

National Environmental Research Park

In November 1976, the U.S. Energy Research and Development Administration, precursor to DOE, designated four installations as National Environmental Research Parks, one of which was the Laboratory. The National Environmental Research Park facilitates self-supported environmental research on the interactions between human-altered systems and adjacent natural systems and is available to individuals and

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organizations both within and outside the Laboratory, under approved arrangement with the park coordinator.

White Rock Canyon Reserve

The White Rock Canyon Reserve was dedicated by DOE on October 30, 1999. It contains approximately 1,000 acres on the southeastern portion of the Laboratory along the Rio Grande. The objective of the Reserve is to conserve, protect, and enhance the site's biological and cultural resources. Bandelier National Monument will co-manage it together with NNSA with input from the University of California (UC)/LANL, other state and federal agencies, nearby Pueblos, and the local community. A comprehensive resources management plan for the Reserve will be completed by 2005.

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2.3 LAND

The Laboratory occupies an area of approximately 25,383 acres (10,280 hectares), or approximately 40 square miles (104 square kilometers), of DOE land (excluding Rendija Canyon) of which the majority lies within Los Alamos County. The remaining portion of Laboratory acreage lies within Santa Fe County, which also borders portions of Laboratory boundaries along the east and southeast. In this western portion of Santa Fe County, development is very limited, occurring primarily on American Indian lands within the Rio Grande Valley. A small isolated portion of Sandoval County borders the Laboratory on the east and is composed entirely of undeveloped lands belonging to the Pueblo of San Ildefonso. Additionally, a small portion of Sandoval County borders the Laboratory on its southwest boundary, with the remainder of the county being located (noncontiguously) to the south, west, and north. In the Laboratory area, Sandoval County is generally undeveloped, being primarily U.S. Forest Service and U.S. National Park Service lands.

The total land area within DOE land ownership or management is broken down by whomever manages the land as shown in Table 2-1. The DOE Managed category includes the Rendija Canyon/Sportsmen Club while the Leased category includes the Los Alamos Research Park north of TA-3 and the Icon facility at TA-46. The Private category includes the Royal Crest Mobile Home Park. The remaining DOE-owned land is managed by UC and is where most of the Laboratory's operations are conducted. This table does not include any of the UC leased space in the communities of Los Alamos and White Rock.

Table 2-1: Area totals by land management type.

Category	Area in Square Miles*	Area in Acres*
DOE Managed	1	918
Leased	0.4	197
Private (within LANL Boundary)	0.1	27
UC Managed	40	25,383

*Amounts are rounded off.

The Laboratory is divided into 49 active and separate TAs with location and spacing that reflect the site's historical development patterns, regional topography, and functional relationships (see map on following page). There are over 80 miles of

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asphalt roads and parking areas, and unpaved roads are estimated to include up to an additional 200 acres (81 hectares).

Although at a cursory glance there appears to be sufficient land for further expansion at the Laboratory, the majority of it is very difficult to develop given significant physical and operations constraints. For example, over 25% of the Laboratory's acreage consists of slopes that exceed 20%. Adding to the scarcity of developable land is the type of work that the Laboratory performs. Security and safety buffers for defense-related work often require large reservations of land for these programs to continue without adversely affecting surrounding areas. These types of constraints severely limit developable land at the Laboratory.

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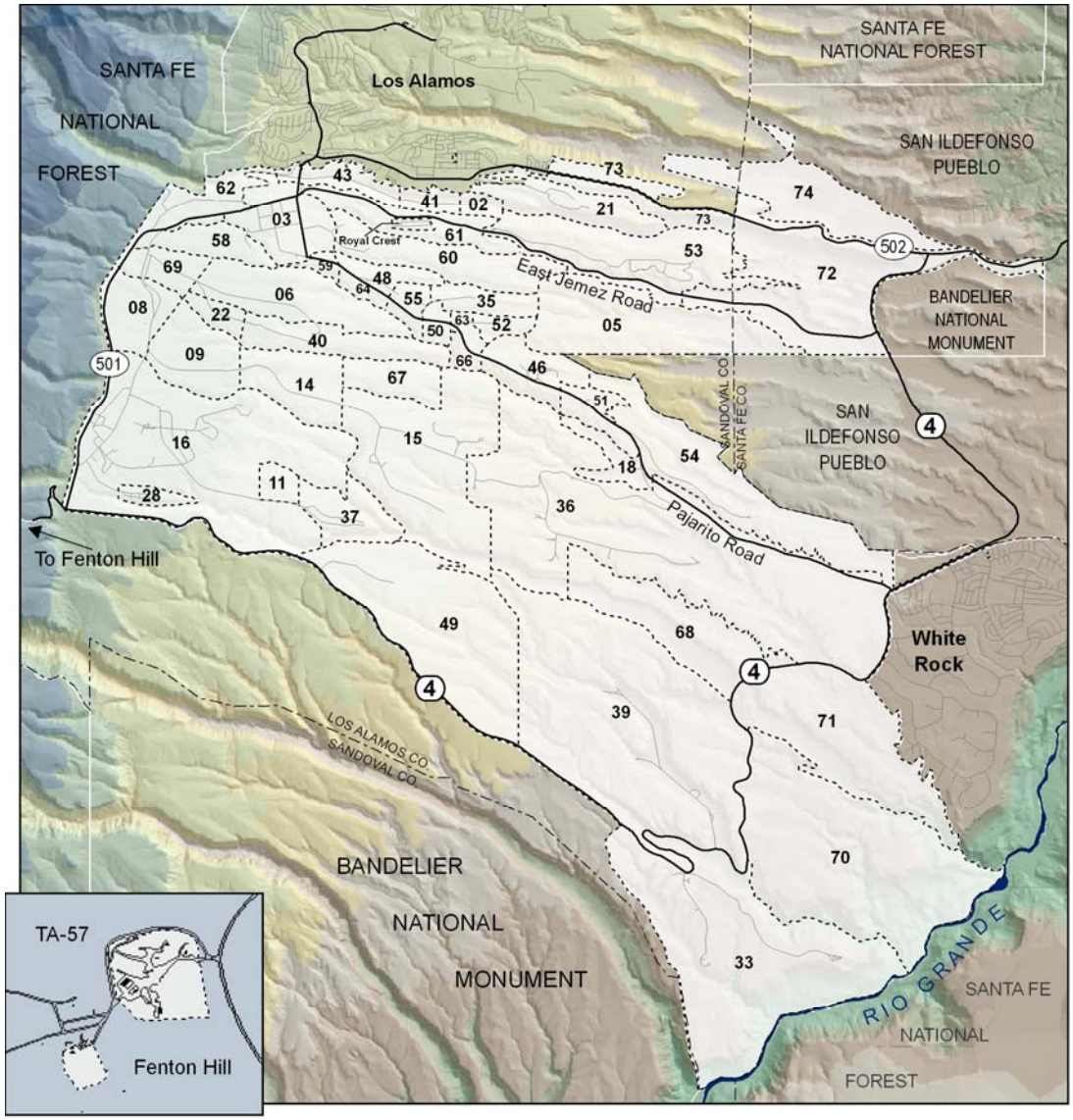

Technical Area Boundaries

LEGEND

- Technical Area Boundary
- Major Road
- Department of Energy

0 4,000 8,000 16,000
Feet

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2.3.1 Land Use Planning and Management

Land-use planning and management is a process based on the Laboratory-wide Comprehensive Site Plan (CSP) from which more detailed area development plans and master plans are developed. The CSP is a technical document presenting land-use issues, capabilities, and site opportunities and limitations upon which future land use decisions are made. Detailed background information regarding the site is included, such as geographic description, topography, soils, geological, cultural resources, natural resources, facilities, and transportation. The CSP is updated and revised periodically depending on significant changes in the Laboratory's mission, site conditions, or public policy.

The existing land-use map depicts the current status of land use at the Laboratory. The future land-use map depicts major land-use changes proposed for various locations where growth is anticipated. Proposed construction projects are evaluated against this land-use map and follow a formal siting process that, if projects are significant, may involve siting approval from the Laboratory's Site Planning and Construction Committee (SPCC). Most site issues are resolved through the PR-ID process that involves both planning and NEPA review. Generally, major land use changes involve ongoing efforts to consolidate Nuclear Materials Research and Development (R&D) areas and the expansion of Experimental Science. In addition, the overall site was reduced by the recent transfer of "Reserve" land to Los Alamos County and San Ildefonso Pueblo.

Table 2-2: Site-wide land use.

Existing Land Use		Future Land Use	
Land Use Category	**Acreage**	**Land Use Category**	**Acreage**
Service/Support	184	Service/Support	71
Experimental Science	705	Experimental Science	1,906
High-Explosives R&D	1,297	High-Explosives R&D	1,318
High-Explosives Testing	7,209	High-Explosives Testing	10,856
Nuclear Materials R&D	131	Nuclear Materials R&D	141
Physical/Technical Support	452	Physical/Technical Support	388
Public/Corporate Interface	31	Public/Corporate Interface	65
Theoretical/Computational Science	7	Theoretical/Computational Science	23
Waste Management	196	Waste Management	245
Reserve	15,355	Reserve	8,967
Total	**25,590**	**Total**	**24,005**

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The following 10 land-use categories describe the activities at the Laboratory and are shown on the following maps.

Service/Support—Nonprogrammatic technical expertise, support, and services for Laboratory management and employees.

Experimental Science—Applied research and development activities tied to major programs.

High-Explosives R&D—Research and development of new explosive materials. This land is isolated for security and safety.

High-Explosives Testing—Large, isolated, exclusive-use areas required to maintain safety and environmental compliance during testing of newly developed explosive materials and new uses for existing materials. This land also includes exclusion/buffer areas.

Nuclear Materials R&D—Isolated, secured areas for conducting research and development involving nuclear materials. This land use includes security and radiation hazard buffer zones. It does not include waste disposal sites.

Physical/Technical Support—Includes roads, parking lots, and associated maintenance facilities; infrastructure such as communications and utilities; facility maintenance shops; and maintenance equipment storage. This land use is generally free from chemical, radiological, or explosives hazards.

Public/Corporate Interface—Provides link with the general public and other outside entities conducting business at the Laboratory, including technology transfer activities.

Theoretical/Computational Science—Interdisciplinary activities involving mathematical and computational research and related support activities.

Waste Management—Provides for activities related to the handling, treatment, and disposal of all generated waste products, including solid, liquid, and hazardous materials (chemical, radiological, and explosive).

Reserve—Areas that are not otherwise included in one of the previous categories. It may include environmental core and buffer areas, vacant land, and proposed land transfer areas.

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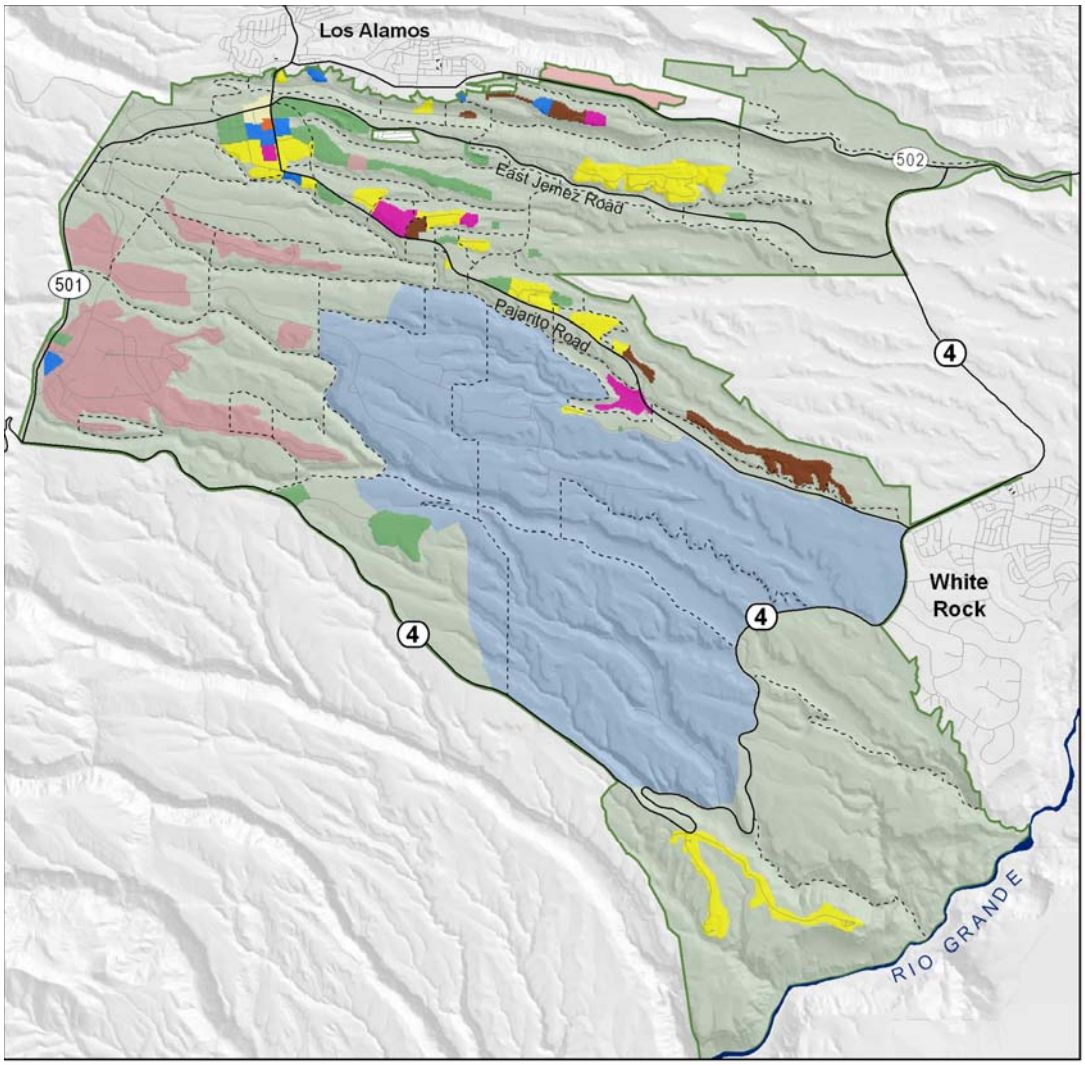

Existing Land Use

LEGEND

- Technical Area Boundary
- DOE Boundary
- Reserve
- High Explosive Testing
- High Explosive R&D
- Experimental Science
- Physical/Technical Support
- Nuclear Materials R&D
- Theoretical/Computational Science
- Waste Management
- Administration
- Public/Corporate Interface
- Airfield

N

0 4,000 8,000
Feet

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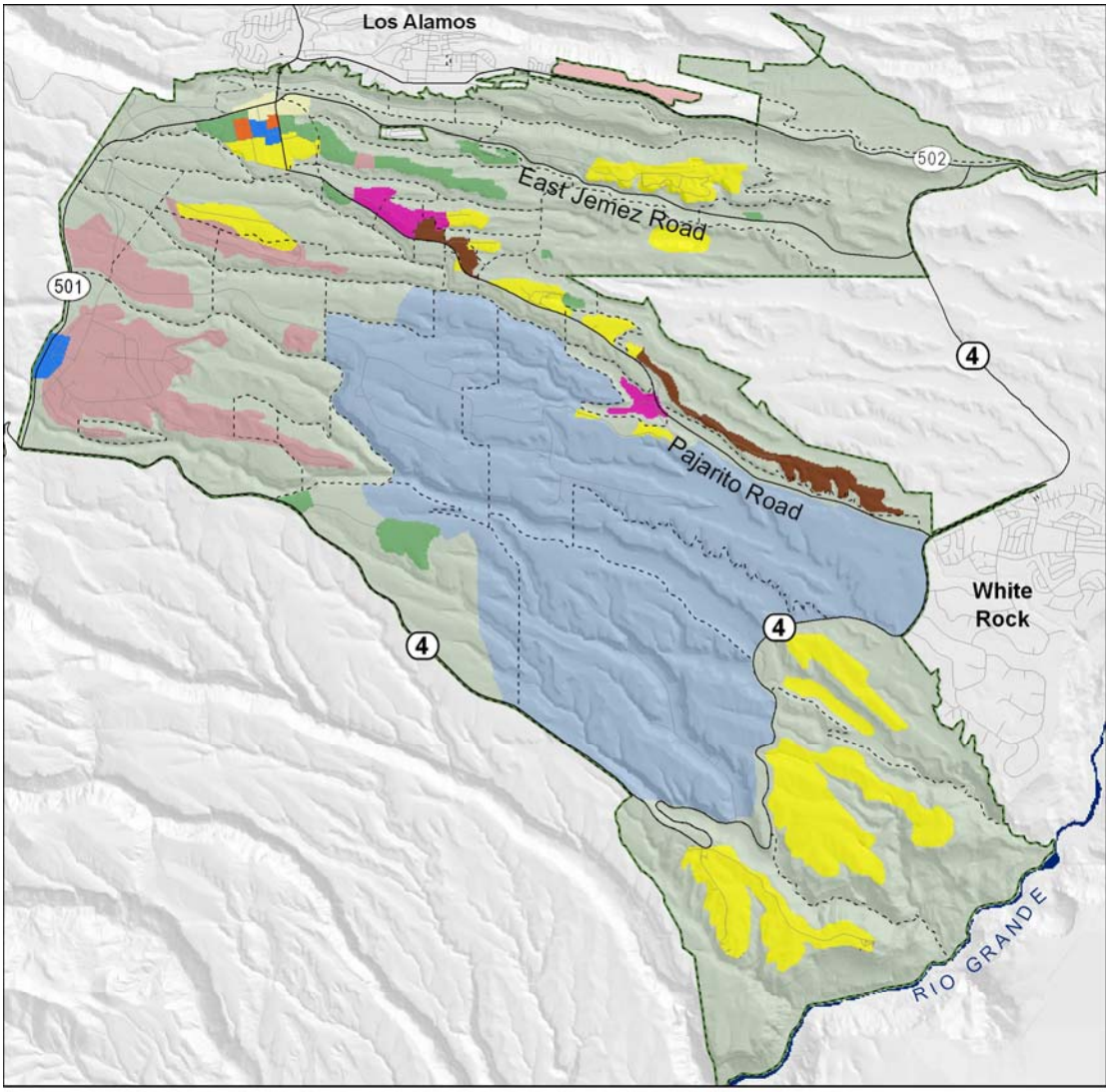

Future Land Use

LEGEND

- Technical Area Boundary
- DOE Boundary
- Reserve
- High Explosive Testing
- High Explosive R&D
- Experimental Science
- Physical/Technical Support
- Nuclear Materials R&D
- Theoretical/Computational Science
- Waste Management
- Administration
- Public/Corporate Interface
- Airfield

N

0 4,000 Feet

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2.3.2 Transfers of Land

Under the Atomic Energy Community Act of 1955, the federal government provided support for a period of time to towns that were strongly affected by their proximity to nuclear weapons complex sites. The intent of the act was to assist the towns in developing self-governance and self-sufficiency by, among other actions, transferring land.

During the 1990s, DOE's Los Alamos Site Operations Office (DOE-LASO), the Laboratory, and representatives of Los Alamos County began discussions regarding the potential transfer of government properties to assist the County in becoming economically self-sufficient. In October 1996, Congress passed legislation terminating the annual assistance payment to Los Alamos County by mid-1997, with a lump-sum termination payment of $22.5 million. Also, transfer of municipal functions and installations (water supply system, fire stations, and lease of the airport) began in 1997.

On November 26, 1997, Congress passed Public Law 105-119. Section 632 of the law directs the Secretary of Energy to convey land parcels to Los Alamos County or designee of the County. The legislation also calls for the transfer to the Secretary of the Interior, in trust for the San Ildefonso Pueblo, parcels of land under the administrative control of the Secretary of Energy at Los Alamos National Laboratory.

The tracts will be conveyed or transferred in accordance with the provisions of Public Law 105-119, the tract receipt agreement was between the County of Los Alamos and San Ildefonso Pueblo. The ROD was supported by 1999 EIS for conveyance and transfer of certain DOE land tracts located at the Laboratory.

The tracts must meet the suitability criteria established by the Act before they can be transferred or conveyed. That is, a parcel of land is suitable for transfer if not required for the national security mission before the end of November 2007; if it can be restored or remediated by November 2007; and if it is suitable for historic, cultural, or environmental preservation, economic diversification, or community self-sufficiency.

On October 30, 2002, eight parcels totaling 104 acres were deeded to Los Alamos County. These parcels are located in the Los Alamos townsite and White Rock community. Two parcels totaling 2,105 acres, primarily from TA-74, were transferred to San Ildefonso Pueblo. Six tracts of land remain for potential transfer to Los Alamos County or to the Department of the Interior for San Ildefonso Pueblo. The six tracts total approximately 1,850 acres.

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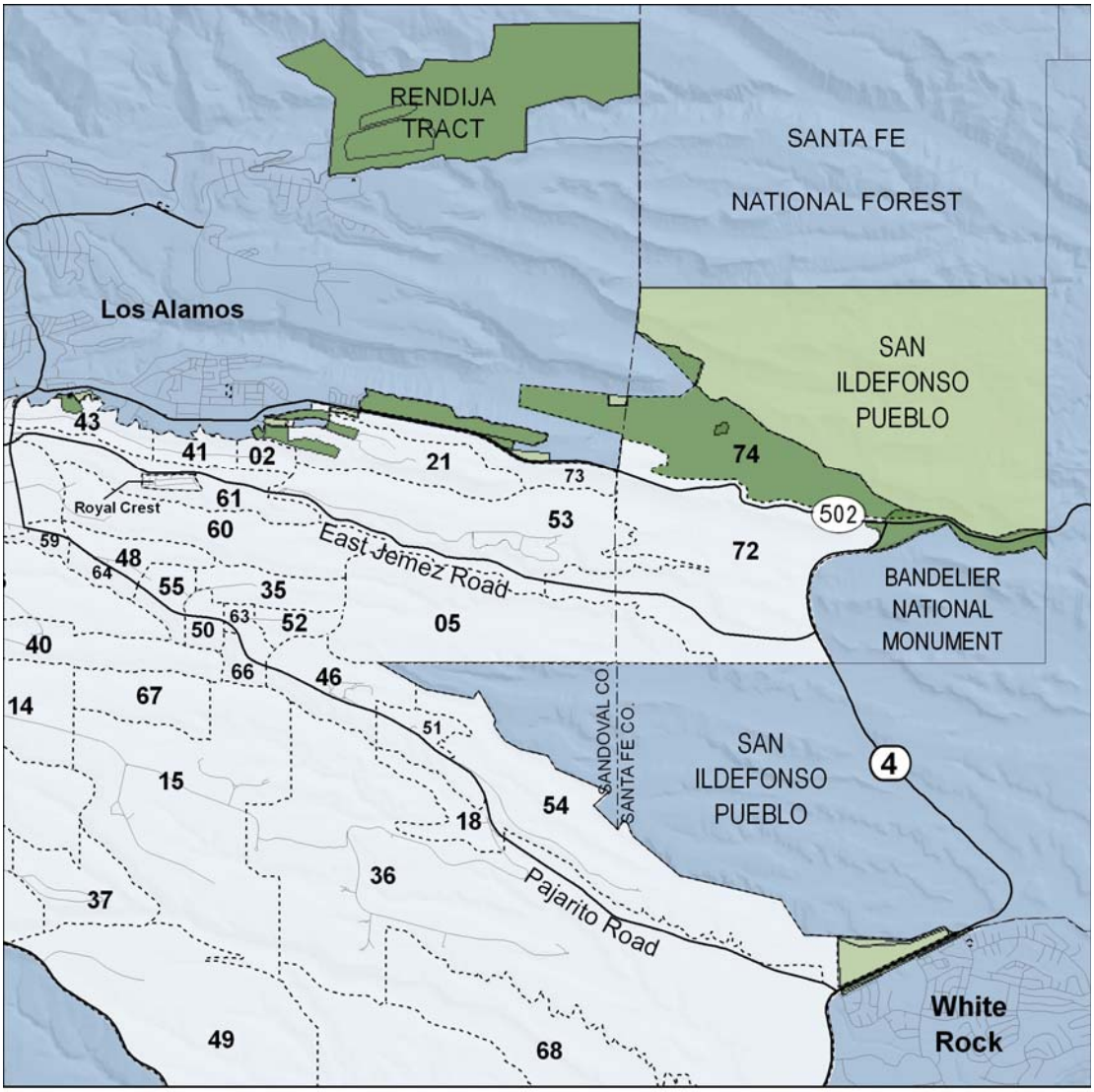

Land Transfer

LEGEND

- Technical Area Boundary
- Transferred in 2002
- Future Transfer
- Department of Energy

N

0 4,000 8,000
Feet

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2.4 BUILDINGS

In 1943, development of the Laboratory began with the construction of a little more than 93,000 gross square feet of space. As of July 2004, the Laboratory had over nine million gross square feet of space. While the number of structures changes slightly with time (there is frequent addition or removal of temporary structures and miscellaneous buildings), the current breakdown of structures is 916 permanent structures (including 34 plant and utility structures); 512 temporary structures (trailers, transportables, and transportainers); and 1,362 miscellaneous buildings (e.g., sheds) with approximately 5,800,000 square feet that can be occupied. However, only 1,572,877 square feet of space, in 610 buildings, is designed to house personnel in an office environment. In addition to on-site office space, 442,168 square feet of space is leased within the Los Alamos townsite and White Rock community to provide workspace for an additional 1,545 people.

Overall, 43% of the Laboratory's structures (not including leased or rented space) are more than 40 years old, and 52% are more than 30 years old. A recent condition assessment survey determined the condition of the Laboratory's facilities as 23% are in excellent condition; 14% are in good; 14% are in adequate; 16% are in fair; 20% are in poor; and 13% are in failing condition. Condition review requirements cover a wide range of criteria and standards (e.g., safety, severity, seismic, etc.).

The map on page 2-24 shows current active (operating) facilities, spare and excess facilities, facilities currently active but *proposed* for excess by 2014, and the location of selected new construction projects that will achieve beneficial occupancy by FY05. Many of these facilities will start construction in the near term. The map on page 2-25 shows the active, excess, and selected planned construction projects that will achieve beneficial occupancy from FY06 through FY14. Maps with greater detail may be found in Attachment I. Funding profiles for the projects may be found in Attachment A, and a summary of gross square feet (GSF) added by year is provided in Attachment E-2.

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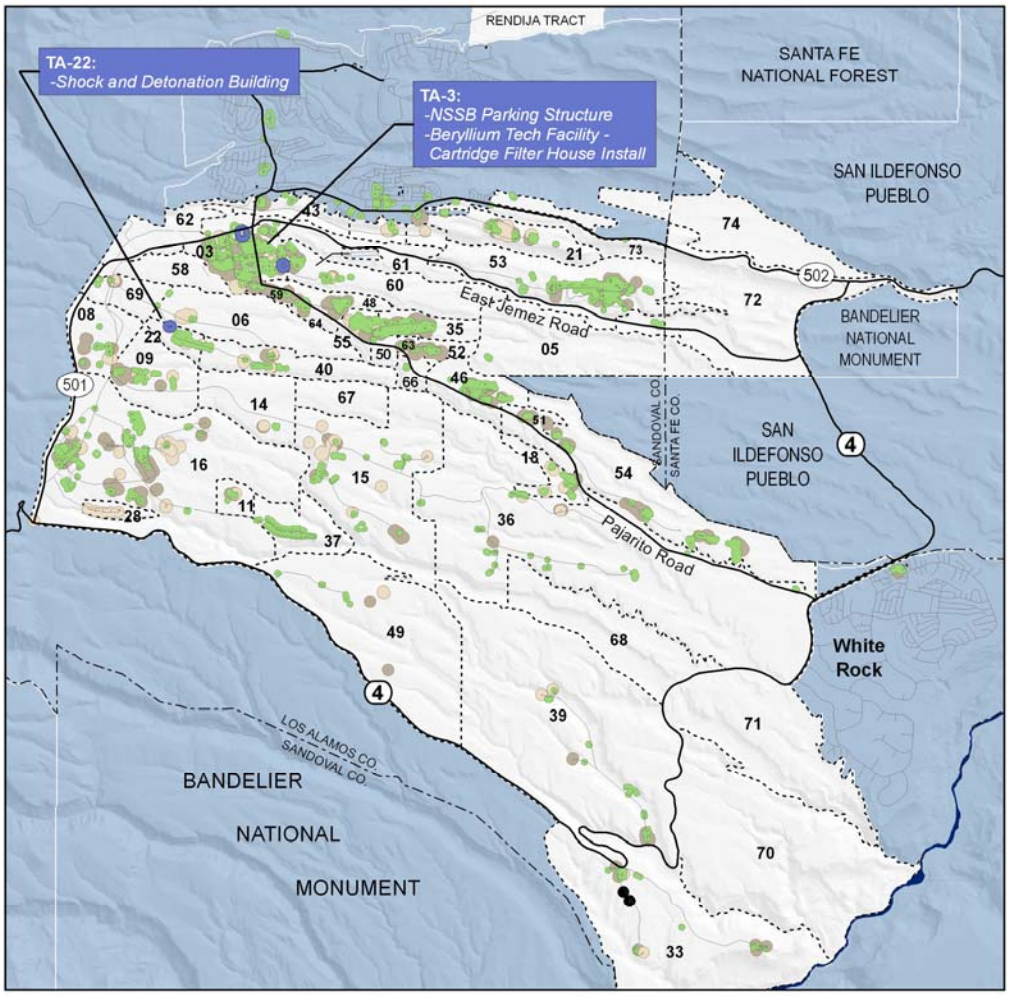
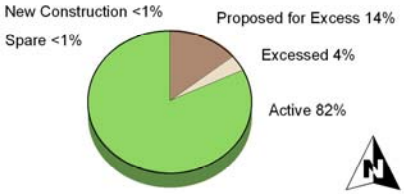


Facility Status, FY 2005, Overview with Currently Funded Construction

LEGEND

- Facility Construction Project Currently Funded
- Active Facility
- Active, Proposed for Excess by 2014
- Excessed Facility
- Spare Facility



(Facility footprints are exaggerated, or buffered, for readability from a site-wide perspective)

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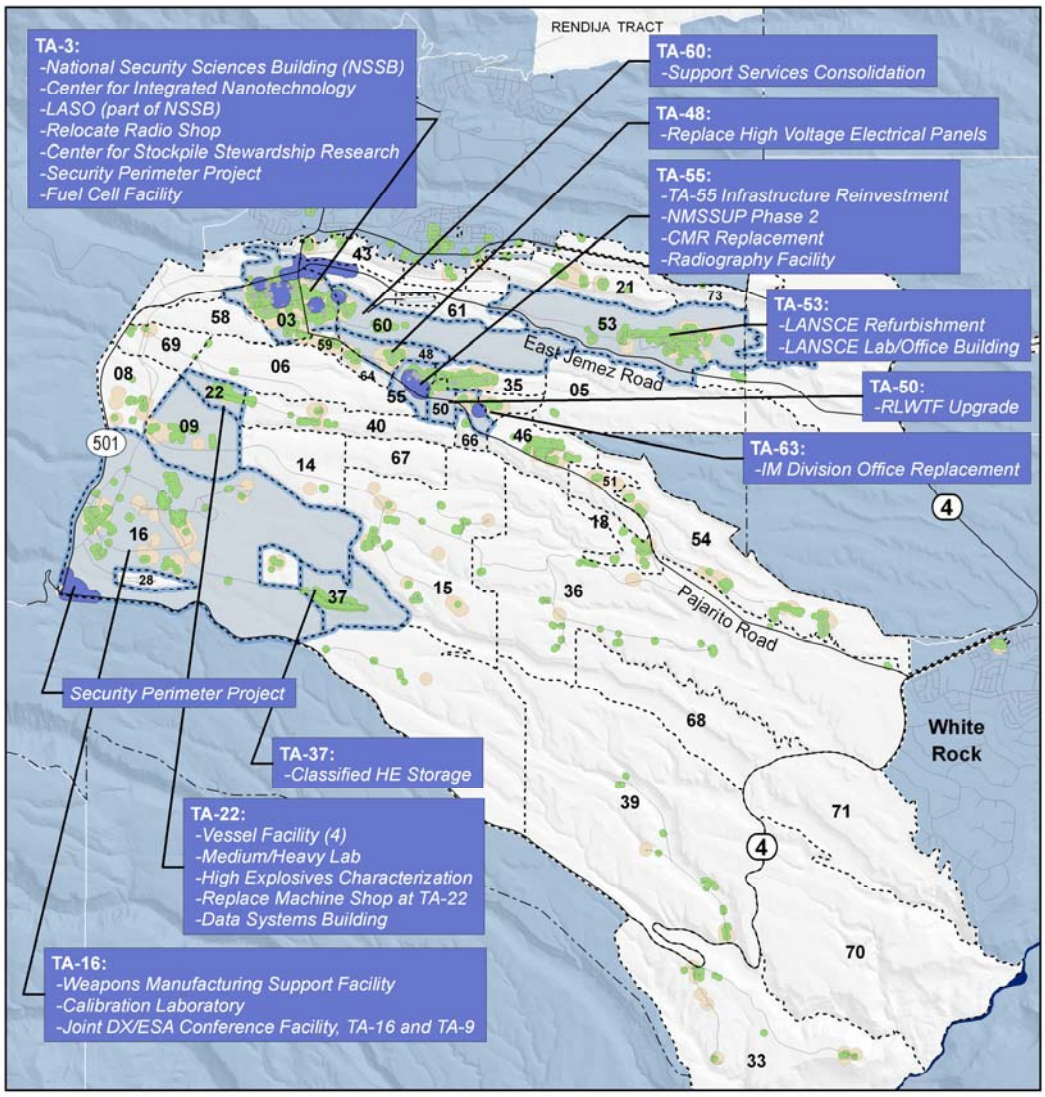
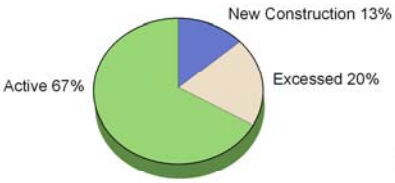


Facility Status, FY 2014, Overview with Proposed Future Construction

LEGEND

- Proposed Future Construction
- Technical Area with Proposed Future Construction Project
- Active Facility
- Excessed Facility



(Facility footprints are exaggerated, or buffered, for readability from a site-wide perspective)

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2.5 WORKFORCE

The Laboratory's affiliated workforce includes employees of the prime contractor, UC, and its subcontractors, of which the major employers are the Support Services Subcontractor—Kellogg, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates (KSL) and Protection Technology Los Alamos (PTLA). The Laboratory employs both technical and nontechnical supplemental labor, or staff augmentation contractors. These are limited term assignments (six months to two years) where the personnel are employed by subcontractors but are managed by UC line managers. Students from high school to graduate level are also employed in a variety of positions, and their numbers increase greatly during the summer months. Table 2-3 presents the breakdown of personnel by employer as of June 2004.

Table 2-3: Los Alamos National Laboratory workforce as of June 2004.

Employer	Personnel	Percent of Workforce
UC Employees	8,856	59%
UC Students	1,298	9%
Guests/Affiliates	1,298	9%
KSL	1,445	10%
PTLA	604	4%
Supplemental Labor*	1,429	9%
TOTAL	14,930	100%

* This number does not include task order contractors.

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MISSION NEEDS & PROGRAM DESCRIPTIONS

3.1 CURRENT MISSIONS, PROGRAMS, AND WORKLOAD

Los Alamos National Laboratory is a multi-program scientific laboratory within the NNSA, a semi-autonomous entity within DOE. The Laboratory has been managed and operated for DOE by UC for over 60 years.

The Laboratory's contribution to national security has evolved to encompass maintaining the U.S. nuclear deterrent, advanced conventional weapons research, and technical solutions that reduce threats from the proliferation of weapons of mass destruction and terrorism to ensure homeland security. In support of its missions, the Laboratory maintains, sustains, and pursues broad, multi-disciplinary programs in basic science. The key elements of the Laboratory's national security mission today are

- Ensure the safety and reliability of the U.S. nuclear deterrent,
- Reduce the threat of weapons of mass destruction, proliferation and terrorism, and
- Solve national problems in defense, energy, environment and infrastructure.

The Laboratory's mission and corresponding goals and priorities must respond to and anticipate national security requirements in a dramatically changing world. The programmatic and business strategies to carry out that mission are derived directly from the vision: *the trusted, competitive scientific solution for today and tomorrow's national security challenges*.

The Laboratory is committed to meeting its core mission: nuclear weapons stockpile stewardship. This commitment includes support for required stockpile life extensions, pit manufacturing and certification, reliability replacement warhead options, a technically sound basis for certification science, and the experimental campaigns necessary to meet stewardship requirements.

Los Alamos is working with NNSA to develop stockpile stewardship into the mature, sustainable, and agile program necessary to support the current stockpile and respond to any future nuclear requirement. It is through this comprehensive capability that the Laboratory will establish itself as a fully capable element of the nation's responsive defense infrastructure. Goals for this evolving program include ensuring a sustainable weapon certification capability, providing limited but flexible manufacturing capability in support of NNSA needs, establishing and demonstrating the capability to extend the life or modify existing weapons, and if requested, exploring new concepts.

The broad and flexible science and technology base at the Laboratory underpins the nuclear weapon infrastructure and can be applied to other national defense technology

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requirements. Responsive infrastructure relied on sustainable nuclear weapon certification and manufacturing capabilities, and the capability to meet new military requirements.

Los Alamos' outstanding science and technology base – the foundation for the nuclear weapons mission – can be applied to such related national needs as advanced fuel cycles, space nuclear power, nonproliferation, and fuel cell technology. The Laboratory gives special attention to these core science and engineering capabilities, which include the following:

- Nuclear weapons science and engineering,
- Materials science, including nuclear materials and high explosives,
- Information processing, computational science, modeling, and simulation,
- Measurement science and sensors,
- Bioscience,
- Systems analysis and assessment, and
- Complex systems design, engineering, testing, and evaluation, supported by theoretical and computational physics and materials science.

Five programmatic directorates are devoted to achieving the Laboratory's programmatic missions: Principal Associate Director for Nuclear Weapons Program, Weapons Engineering and Manufacturing, Weapons Physics, Threat Reduction, and Strategic Research.

3.1.1 Principal Associate Director for Nuclear Weapons Programs

The position of Principal Associate Director for Nuclear Weapons Programs (PADNWP) was created in early March 2004 and is the focus for planning, priority-setting, resource allocation, and execution of the Laboratory's $1.2 billion nuclear weapons portfolio. The PADNWP has responsibility for developing an integrated program of weapons activities; balancing program priorities through risk-based management; and ensuring execution and effective partnering with the associate directors for Weapons Physics, Weapons Engineering and Manufacturing, Strategic Research, and Operations. This directorate is the customer interface (DOE, NNSA, DoD) and maintains a "one voice" corporate posture at all times.

3.1.2 Weapons Engineering and Manufacturing Directorate

The Weapons Engineering and Manufacturing (WEM) Directorate is a multidisciplinary, integrated organization that sustains and advances engineering and manufacturing

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technologies required to support the stewardship of the nation's nuclear weapon stockpile. WEM is responsible for maintaining the certification basis for weapon systems in the enduring stockpile and for developing the design, engineering, testing, and manufacturing capabilities needed for stewardship of the stockpile.

The WEM Directorate supports the Laboratory mission by ensuring the safety and reliability of the U.S. nuclear weapons stockpile by reestablishing the nation's capability to manufacture weapon components and by applying the best engineering, design, development, and diagnostic tools available to maintenance and refurbishment of the stockpile.

Funding for the WEM Directorate comes from NNSA to conduct DSW and execute campaigns in support of stockpile stewardship and stockpile maintenance. DSW includes assessment, surveillance, maintenance, manufacturing, and the scientific and engineering development capabilities necessary for the refurbishment and certification of the weapon systems. Campaigns are tri-laboratory efforts to develop critical enabling capabilities with milestones and end dates to support confident certification of or manufacturing activities for the enduring stockpile.

3.1.3 Weapons Physics Directorate

The Weapons Physics (WP) Directorate is a multidisciplinary, integrated organization that sustains, advances, and applies science and technology to support sustainable stewardship of the nation's nuclear weapons stockpile.

WP has responsibilities within the Stockpile Stewardship Program to conduct several NNSA campaigns and contribute to key areas of DSW. WP is responsible for the Primary Certification Campaign, the Dynamic Materials Properties Campaign, the Advanced Radiography Campaign, the Secondary Certification and Nuclear Systems Margins Campaign, the Advanced Simulation and Computing Campaign, and the High Energy Density Physics Campaign. In addition, WP has key responsibility under DSW for Assessment and Certification, Baselining, Archiving, and Support Research and Development.

WP also manages a number of major facilities including the Dual-Axis Radiographic Hydrodynamic (DARHT) facility, LANSCE, and the Metropolis Center.
The WP Directorate supports the Laboratory's mission by ensuring confidence in the safety, reliability, and performance of the nuclear weapons in the nation's stockpile. This stewardship mission requires a science-based approach supported by a broad range of science and technology capabilities at the Laboratory. Decisions are based on sound

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technical and scientific understanding and expert judgment developed through theoretical studies, state-of-the-art computational simulations, and coordinated experimental activities.

3.1.4 Threat Reduction Directorate

The Threat Reduction (TR) Directorate supports the Laboratory's mission through the following work:

- Preventing, detecting, assessing, and responding to threats of proliferation and/or use of weapons of mass destruction by nations or subnational groups,
- Providing technical innovation and leadership for U.S. arms-control initiatives, and
- Providing analyses and advanced technologies to protect the nation's critical infrastructure.

The directorate's work includes programs to counter nuclear, biological, and chemical terrorism; programs to encourage cooperative threat reduction; activities to promote national and international nuclear safeguards and security; efforts toward threat monitoring and analysis; and related research. These programs contribute to dissuading and deterring possible threats, particularly threats from weapons of mass destruction (WMD). Research and development on behalf of the Department of Defense (DoD) and other agencies is aimed at defeating enemies. These activities range from developing technologies to detect and defeat terrorists to inventing cutting-edge science to support and equip conventional military forces. TR conducts research on methods to defeat or respond to attacks on the U.S. homeland from any source employing any type of weapon.

In early September 2002, the Laboratory created a new internal organization focused on counter-terrorism and homeland security. The Homeland Security organization, under the TR Directorate, will engage the Laboratory's broad capabilities in these areas. It provides a single point of contact for all external organizations that seek the assistance and involvement of Los Alamos' technical experts. The new organization will serve as the primary point of contact for external customers, such as the Department of Homeland Security, seeking to tap the Laboratory's expertise in homeland security science and technology. The organization's emphasis will be in the key areas of nuclear and radiological science and technology, critical infrastructure protection, and chemical and biological science and technology.

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3.1.5 Strategic Research Directorate

The Strategic Research (SR) Directorate, in partnership with other LANL organizations, provides much of the basic and applied science and technology needed to accomplish the national security mission of stockpile stewardship, threat reduction and homeland security, and energy security research. Focus is on long-term grand challenges and problems that can be best addressed with capabilities grown from the long-standing national security mission.

The SR Directorate advances knowledge across a broad range of scientific disciplines such has chemistry, earth and environmental sciences, materials science, and theory; leads the Laboratory's missions in energy security, environmental security, and critical infrastructure; and manages a number of science and engineering facilities including the National High Magnetic Field Laboratory, the High-Temperature Superconductivity Technology Center, and the Isotope Production Facility. As a broker of scientific knowledge and understanding, SR fosters innovation and creativity by the scientific staff by supporting and enhancing the scientific reputation of the Laboratory through a vigorous basic research program and by serving as a gateway from the scientific world to industry and academia through collaborations with government laboratories, universities, and industry.

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3.2 READINESS IN TECHNICAL BASE AND FACILITIES (RTBF)

The RTBF mission is to ensure that the right facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile and that the Laboratory is implementing the technologies and methods necessary to make construction, operation, and maintenance of DP facilities safe, secure, and cost effective. The RTBF program provides the physical and operations infrastructure required to conduct the scientific, technical, and manufacturing activities of the Stockpile Stewardship Program (SSP). The RTBF program will maintain facilities and technologies in an appropriate condition so that they are not limiting factors in the accomplishment of the NNSA/DP missions.

In order to attain the RTBF program goals, cost-effective investments in the infrastructure, workforce, facilities, and technologies must be made through effective program management of activities. The Laboratory must continue to deliver and maintain safe and secure facilities that provide the means to perform and deliver the requisite levels of science and technology associated with maintaining the safety and reliability of the nuclear weapons stockpile. The Laboratory must also provide the balance of the physical and intellectual infrastructure underpinnings necessary to support the goals and mission of DP.

The majority of the RTBF direct funds support facility “warm standby” operations for the major DP experimental and manufacturing facilities. The “warm standby” condition is defined as the state of readiness for programmatic operations. This includes the safety, security, and compliance envelope required for all facilities. With over 8 million square feet (including non-RTBF facilities) of facility space, the job of maintaining safety, security, and compliance at the Laboratory is a significant challenge considering the age of the structures.

RTBF has been in place since FY00. The creation of RTBF allows the Laboratory to embark on a set of improvements focusing on facilities management techniques. These improvements include the following:

- Improved cost reporting by individual facilities,
- Greater accountability for maintenance and operations, and
- Business decisions based on cost of operations and mission priorities.

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Other activities within the RTBF funding include the following:

- Material Recycle and Recovery that is targeted at reducing the special nuclear material (SNM) holdings at the Laboratory,
- Surveillance and maintenance (S&M) of excess facilities awaiting D&D, and
- Waste management.

NNSA, along with each site within the complex, has established corporate goals directed at deferred maintenance reductions. The corporate goals were established to mitigate the risk to missions associated with aging facilities and ultimately the failure of systems and facilities. These goals include stabilizing deferred maintenance by the end of FY05 and aggressively reducing deferred maintenance to within industry standards by the end of FY09, with an emphasis on enduring Mission Essential facilities.

In order to meet the deferred maintenance goals, RTBF facility operations is investing in maintenance at greater levels than in the past. In FY04, the Laboratory was able to increase investment in real property maintenance by a total of $4.85M over the FY03 level due to a Congressional plus-up received in NA-12 facilities. In FY05, approximately $6M over the FY03 level will be invested.

The most recently revised FYNSP limits the average RTBF funding increase to only 2.1% per year from FY05 through FY09. While NNSA has mandated an increase in maintenance funding to overcome years of under-funding facilities, the actual annual buying power is being reduced. In other words, funding levels are contradictory with mandates because scope is being increased and buying power is being reduced. This means missions are at risk if programmatic expectations are not reduced accordingly. The best means to address the reduced buying power are to work for more efficiencies and systematically reduce scope with implications of ultimately closing facilities.

An area of ongoing concern is facility disposition after programmatic operations have concluded. Historically, this has lacked consistent funding support because few facilities were being vacated. At the Laboratory, there are currently two facilities (the Tritium Science and Fabrication Facility (TSFF) at TA-21 and the PHERMEX facility at TA-15) that require funding to transition from active to excess status. In FY04, RTBF provided initial funding for stabilization of TSFF and $1M for PHERMEX. In FY05, RTBF will provide funding for stabilizing PHERMEX. Supporting these activities is critical to reduce risk and ultimately allow for D&D.

Compliance issues such as groundwater monitoring reduced funding in other areas, such as construction, in recent years. The Laboratory is investing $10M of FY04 funding and

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$12.8M of FY05 funding for the installation of monitoring wells. In FY05, funding of this function will be split between NA-11 and NA-12 to meet scope obligations.

Current FY05 funding plans include only limited GPP construction funded within RTBF. The implication is significant as the Laboratory is forced to delay consolidation plans to achieve a smaller set of robust facilities. As summarized in Attachment H, these consolidation efforts will ultimately provide for more efficient operations, lower operating costs, and footprint reductions. However, these plans and the associated savings are being deferred for FY05. With the reduction in obligation to fund the installation of monitoring wells in FY06, the Laboratory will ramp up GPP investment with $10M in FY06 and $13.8M in FY07. This begins an increasing investment wedge to ultimately address the end of FIRP in FY11.

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3.3 SUMMARY OF MISSIONS AND REQUIREMENTS

The table on the following pages (Table 3-1) summarizes the Laboratory's Appendix F Performance Objectives and Performance Measures related to the Weapons Program. These measures constitute the basis for contractual performance appraisal for the Laboratory. These objectives have been set by a top-down process, which included establishing strategic direction and priorities by the senior executives at NNSA, the University of California, and the Laboratory.

The columns included in the table are defined as follows:

- **Performance Objectives** detail the high-level end-state to be achieved by completing the programmatic activities.
- **Context and Scope** provides background information on what the Performance Objectives and Measures will achieve.
- **Measures** are the programmatic activities to be performed (the "work").
- **Evaluation Basis** outlines the approach UC and the Laboratory will take for the evaluation of performance on the Measure. These are linked to NNSA Level 1 and Level 2 Milestones.
- **Issues/Concerns** identify the special needs to ensure the Measures will be achieved.
- **Programmatic Linkages** identify which elements of DSW and the Campaigns are supported.

The Laboratory recently formed a Program Integration Board (PIB) to provide guidance for and integrated program management oversight of the Nuclear Weapons Program (NWP) across other directorates having responsibilities for execution of elements of the program. The PIB is chartered by the PADNWP. The PIB provides advice to the PADNWP regarding the development, prioritization, and management of the comprehensive and integrated, resource loaded, multi-year Nuclear Weapons Program. The SMART will also be expanded to better align with current programmatic planning efforts and the Nuclear Weapons Integrated Baseline.

Future summary tables will be refined to capture more detail from results gathered by the PIB. This would include required facilities, issues and/or concerns with those facilities, and maintenance and construction projects not included in Attachment A.

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Performance Objective #1: Conduct warhead certification and assessment actions using a common UC Design Laboratory Strategy				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Certification of performance and safety is required for new or significantly modified warheads. A rigorous approach to quantifying confidence in performance of the nuclear components is essential for this certification process. The Annual Certification Process requires an annually updated evaluation of all stockpile systems based in part on new information gathered during the year. Clear standards for assessing the significance of this new information are needed. LANL will further develop a certification methodology based on quantification of margins and uncertainties (QMU). Ongoing progress and status of the QMU methodology as it relates to certification will be briefed to NNSA officials and to senior advisory panels as requested.	1.1 Use progress toward quantifying margins and reducting uncertainties, and experience in application, to further refine the certification methodology	Perform preliminary prioritization of physical phenomena contributing to boost.	Acceptance by NNSA, DoD, and independent technical experts that the common design lab methodology is an efffective approach for warhead certification	C1: Primary Assesment Technology
		Validate and integrate necessary physics, materials, and engineering models into primary design codes		C1: Primary Assesment Technology
Wherever practical, QMU systematically will be used in major warhead assessments to ensure that stockpile warhead issues are assessed in a rigorous, objective, and comprehensive manner. "Major warhead assessments" will include formal certification actions, assessments of significant changes to warheads or the effect of new requirements (e.g. new Stockpile-to-Target Sequences), and resolution of issues that arise from surveillance or ongoing R&D. Where practicable, QMU methodology will be applied to physics design, engineering, and materials issues. QMU will be applied where appropriate to resolution of Significant Finding Investigations (SFIs) or other surveillance observations and to additional aspects of warhead performance identified for priority. At LANL, QMU will be applied to guide planning and certification-related activities associated with the W76 LEP, the B61 LEP, and the W88 Pit Certification programs.	1.2 Demonstrate application of a common assessment methodology using Quantification of Margins and Uncertainty (QMU), in a major warhead assessments.	Develop QMU certification logic to support the W76 program	Utility of QMU in major warhead assessments	C1: Primary Assesment Technology
		Develop QMU certification logic to support the W88 program		C1: Primary Assesment Technology
		Identify primary performance gates and begin a QMU analysis of primary performance using ASCI code baselines		C1: Primary Assesment Technology
		Identify W88 secondary performance gates and begin a QMU analysis of secondary performance using updated legacy code baselines		C1: Primary Assesment Technology

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Performance Objective #2: Develop with NNSA and implement long-term balanced, integrated stewardship				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Improve understanding of the functioning of nuclear weapons, incorporate that knowledge in predictive tools (especially legacy and ASCI codes), and make that predictive capability available to weapons design community to enable improved decision-making capability for annual assessments and certifications. Provide data needed to validate that predictive capability through integral experiments and comparison with archival underground nuclear test data. Perform the experiments, theory, and analysis to understand EOSs and constitutive properties of nuclear and other weapons materials, including high explosives under relevant conditions. Make that understanding available to legacy and ASCI code developers in the form of physics models. Measure needed cross-sections and other fundamental physical data. Develop understanding of the hydrodynamics occurring under weapons conditions. Perform integrated experiments to validate the accuracy of predictive tools. Perform targeted experiments to understand specific stockpile issues and incorporate the knowledge gained into predictive tools.	2.1 Support the needs of warhead assessment and certification by executing coordinated programs of targeted small- and large-scale experiments and mining of archival UGT data to improve predictive capability. Develop and execute a program of hydrotests that addresses certification needs.	Deliver selected data set on thermally damaged PBX 9501	Quality and utility of scientific and technical data obtained from experiments, archival underground tests (UGT), and hydrotests that contribute to improving predictive tools.	C2: Dynamic Material Properties
		Deliver a plutonium alloy EOS data set		C2: Dynamic Material Properties
		Complete case dynamics and radiation flow tests for special issues		C2: Dynamic Material Properties
		Complete EOS, strength, and failure characterization of relevant material		C2: Dynamic Material Properties
		Complete first phase of complex hydro experiments that validate treatment of special effects		C10: Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC)
		Identify primary performance gates and begin a QMU analysis of primary performance using ASCI code baselines		C1: Primary Assesment Technology
		Identify W88 secondary performance gates and begin a QMU analysis of secondary performance using updated legacy code baselines		C12: Pit Manufacturing and Certification
		W76-0 - Complete hydrotest 3596 and 3605 per W76 baseline schedule		NA-11: DSW-Stockpile R&D
		Complete yearly Hydrotest Plan for FY05		C1: Primary Assesment Technology; NA-11: DSW-Stockpile R&D
		W76-0 - Complete hydrotest 3623 per SFI schedule		NA-11: DSW-Stockpile R&D
Review integration of current manufacturing, certification, weapons code approaches, and QMU methodologies to support design and analysis of nuclear weapons to address future needs of the U.S. deterrent.	2.2 Conduct design and analysis of nuclear weapons that address the future needs of the U.S. nuclear deterrent	Annual report on nuclear test priorities and capabilities	Acceptance by NNSA DoD, and weapons design experts that the integration of design and analysis elements is an effective approach for future warhead development.	C1: Primary Assesment Technology
		Assessment by DDNS of STRATCOM and post-NPR national directions		
		Constitute a conceptual design team for Reliablity Replacement Warhead and begin articulating certification plan and business case. Begin implementation of Laboratory Institutional		
		Review by X-Division DRC and Weapons PRC		

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Performance Objective #2: Develop with NNSA and implement long-term balanced, integrated stewardship				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Current radiography goals are: begin implementation of recovery plan for DARHT facility 2nd axis; optimize DARHT operation; explore the needs for an advanced radiographic facility; develop technologies to generate time-dependent, 3-D tomographic reconstructions of primary implosions; better understand the capability of proton radiography; and develop supporting technologies.	2.3 Demonstrate advances in radiography technology and develop joint options and recommendations for future x-ray and proton radiographic capability that support the quantitative certification methodology.	Develop roadmap for compact downhole radiography at NTS	Technical soundness, programmatic relevance, and timeliness of recommendations for advanced radiography.	
		Review by P and X DRXs and Weapons PRC		
		Conduct a successful pRad program in support of weapons program		
		Prepare radiographic capability requirements and tradeoffs associated with DARHT-II path		
The ASC Program is charged with providing validated predictive capability to increase confidence in the performance, safety, and reliability of the U.S. nuclear stockpile. This predictive capability, founded on advanced material and physics modeling and validated by a robust experimental program, will focus on advanced three-dimensional simulations that include both primary and secondary performance and nuclear safety objectives.	2.4 Demonstrate ASC simulation and modeling capabilities that support the ongoing needs of stockpile assessment and certification.	W88 primary simulations with improved physics fidelity	ASC codes are increasingly being validated and used to simulate and address stockpile needs.	C11: Advanced Simulation and Computation (ASCC)
		Hybrid Monte Carlo-deterministic transport		C11: Advanced Simulation and Computation (ASCC)
		EOSPAC Version 6 production release (interface and EOS table manipulation package for all code		C11: Advanced Simulation and Computation (ASCC)
		Commodity visualization deployment		C11: Advanced Simulation and Computation (ASCC)
		Shavano Baselines		C11: Advanced Simulation and Computation (ASCC)
		Pu EOS release		C11: Advanced Simulation and Computation (ASCC)
		Delivery of validated foam decomposition model		C11: Advanced Simulation and Computation (ASCC)
		X-Div DRC review of V&V Plan modifications that more explicitly link experimental and modeling efforts		
		Review of Evaluation Basis elements by appropriate DRCs and Weapons PRC		

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Performance Objective #2: Develop with NNSA and implement long-term balanced, integrated stewardship				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Provide new predictive capabilities to strengthen the DSW surveillance programs to meet the challenges of an aging stockpile in an era of no nuclear testing as well as to provide aging and lifetime assessment for life extension programs (LEPs) and the annual certification process. Assess material and component aging as a basis for the annual certification process. Provide component lifetime predictions to identify LEP scope and timing and to facilitate nuclear weapon complex facilities planning. Enable screening of weapons to identify units that must be refurbished as well as for early detection of defects. Develop and deploy advanced diagnostic tools to the Stockpile Evaluation Program to predict, detect, and assess stockpile problems. Develop predictive aging models for use in weapon performance codes. Deliver information to LEP designers and manufacturers to support age-aware materials selection and process development.	2.5 Improve and apply tools and models for prediction of systems and/or component lifetimes.	Complete validation of pit accelerated aging alloys	Experimental data from the science campaigns are being delivered and are being usefully applied to primary and secondary simulation capability inlcuding lifetime predictions.	C8: Enhanced Surveillance
		Coordinate with LLNL on pit lifetime assessments.		C8: Enhanced Surveillance
		Review by NMT and MST DRCs plus Weapons PRC.		
Provide critical HED experimental capabilities and data that support NNSA efforts to certify the stockpile through an aggressive science-based Stockpile Stewardship Program without underground nuclear testing. Improve existing facilities, develop advanced diagnostics and target fabrication capabilities, and coordinate their effective utilization to create and study conditions similar to those in and around a detonated weapon. Provide and utilize advanced x-ray sources for nuclear effects testing. Provide critical data to develop and validate multi-dimensional simulation models used in weapons assessment. Develop advanced laser and pulsed-power technologies to exploit the full potential of current facilities and to provide options for a next-generation, high-yield facility. Recruit, train, and retain the next generation of scientists, engineers, technicians, and program managers to maintain and advance the technology to support SSP efforts.	2.6 Develop and implement a collaborative and complementary program of experiments at High Energy Density (HED) facilities that supports the quantitative certification.	Complete first stage of experiments to validate mix models for Primary Assessment Technology Campaign milestones using OMEGA	Experimental data from the HEDP Campaign are being applied to develop and validate theory, models, and codes that are applied to stockpile issues and to bring NIF to testing.	C10: Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC)
		Validate use of tritium with NIF ignition target components		C10: Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC)
		Provide data to develop validated multi-scale constitutive models for Campaign-10 (ICF/Ignition) work using OMEGA and Z		C10: Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC)
		Complete first stewardship experiment on NIF		C10: Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC)
		Progress in establishing on-site presence at NIF, including evidence of institutional integration and leadership in Hohlraum IET; assessment by P DRC		
LANL and LLNL will jointly work to develop a “Strategic Plutonium Plan” that optimizes the capabilities of both sites and provides the most cost effective method to meet overall national security requirements.	2.7 Develop and initiate an integrated program for plutonium capabilities at LANL and LLNL to support the overall NNSA strategic requirements.	Provide integrated materials plan as an element of sustainable DynEx experimental program	Effectiveness of plutonium resource utilization in meeting NNSA strategic requirements.	C1: Primary Assessment Technology
		Integration with Livermore of R&D requirements in manufacturing workload planning		
		Implementation planning with Livermore following Pu Experiments workshop		
		Link radiographic design requirements to sustainable DynEx program		
		Assessment by Weapons PRC		

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Performance Objective #3: Develop with NNSA and implement near-term balanced weapon programs that are coordinated with the other NNSA M&O contractors.				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
LANL will implement processes and procedures to meet the National Defense Authorization Act assessment requirements, coordinating with NNSA, Sandia National Laboratories, and LLNL as required. Major LANL products of this process are identified in the Evaluation Basis section of this Measure.	3.1 Complete the annual assessments of the safety, reliability and performance of all warhead types in the stockpile to include whether nuclear testing is required for resolution of any issue; and support NNSA as required during interagency and community coordination of the Annual Assessment Process.	Complete the LANL input to the B61-11 Final Weapon Development Report	Submission of products required to support the annual assessment reporting process that lead to a clear path forward for resolving issues that affect U.S. Strategic Command (STRATCOM) confidence.	NA-12: DSW-Stockpile Maintenance
		Develop and present briefings on the safety, reliability and performance of the nuclear warheads for which LANL and SNL are jointly responsible to the Strategic Advisory Group Stockpile Assessment Team (SAGSAT) at the annual U.S. STRATCOM Stockpile Assessment Conference		
		Submit an assessment from the Director's Red Team to the Director		
		Develop and issue the annual assessment report (AAR) on the safety, reliability and performance of each nuclear warhead for which LANL and SNL are jointly responsible		NA-12: DSW-Stockpile Evaluation
		Submit the Director's Annual Assessment Letter to the Secretary of Energy and the Nuclear Weapons Council		NA-11: DSW-Stockpile R&D
LANL provides Design Agency oversight to and compiles assessments for the part of the core surveillance program that inspects and evaluates the nuclear explosive package, sub-elements, and gas transfer systems of LANL-designed weapons. The core surveillance program inspects systems and components from randomly selected stockpiled weapons and considers the potential impact of design, manufacturing, or aging issues that indicates a change from the original design intent. Ultimately, the Design Agency evaluates data from Production Agency surveillance support activities that lead to the publication of reliability reports at required frequencies and the annual assessment for each LANL warhead as well as the development and execution of SFI closure plans.	3.2 Conduct stockpile surveillance activities, investigate on a priority basis significant findings and issues identified in technical assessment reports, and establish closure plans for all SFIs+B19	M6.5 Meet NA-12 site specific requirements to perform surveillance for the W78 in accordance with PCDs	On-schedule completion of surveillance assessments for all components/systems received and tested and the development of quality and timely SFI closure plans and monthly SFI Closure Reports for assessing stockpile reliability.	NA-12: DSW-Stockpile Evaluation
		M8.2 Meet NA-12 site specific requirements to perform surveillance for the W80-0/1 flight in accordance with PCDs		NA-12: DSW-Stockpile Evaluation
		M14.1 Meet NA-12 site specific requirements to perform surveillance for the W88 in accordance with PCDs		NA-12: DSW-Stockpile Evaluation
For the purposes noted above, selected components from weapons disassembled and inspected at Pantex are evaluated. During this process, LANL conducts evaluations of specified items and provides technical oversight/support to other sites conducting stockpile surveillance inspections and tests. LANL works to PCD schedule requirements and assesses observations that may warrant the opening of SFIs. SFIs will be prioritized and monthly reports summarizing open and resolved issues will be issued. The annual assessment reports will include an overview of these surveillance activities and an analysis of new, continuing unresolved, and closed SFIs.		M2.2 Meet NA-12 site specific requirements to perform surveillance for the B61 family in accordance with PCDs		NA-12: DSW-Stockpile Evaluation
		M5.1 NA-12 site specific requirements to perform surveillance for the W76-0 in accordance with PCDs		NA-12: DSW-Stockpile Evaluation
		Close out high-priority SFIs per yearly closure		NA-11: DSW-Stockpile R&D
		ESA, NMT, X, DX, and MST DRC Reports		
		Combined LANL Weapons PRC Report		

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Performance Objective #3: Develop with NNSA and implement near-term balanced weapon programs that are coordinated with the other NNSA M&O contractors.				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Goals for the weapon system Life Extension Programs (LEPs) include: (1) an aggressive hydrotesting program to develop data for eventual certification of the W76-1; (2) authorization to proceed with full Phase 6.4 activities for the B61 (conditional 6.4 authorization was granted in October 2003); and (3) continuing support for the LLNL W80-2/3 LEP through information transfer and GTS design assistance.	3.3 Deliver on the major milestones for the Life Extension Programs for the W76, the B61-7/11, and the W80-3 in accordance with the joint DOE/DoD phase 6.X process.	Conduct W76-1 Component Baseline Design Review	Timely completion of planned refurbishment activities for the W76, B61-7/11, and effectiveness of support to LLNL on W80-2/3 LEP.	NA-11: DSW-Stockpile R&D
		Complete W76-1 ACRR testing		NA-11: DSW-Stockpile R&D
		Conduct W76-1 System Baseline Design Review		NA-11: DSW-Stockpile R&D
		Complete Hydrotests 3596 and 3605 per W76 baseline schedule		NA-11: DSW-Stockpile R&D
		Complete Hydrotest 3623 per SFI schedule		NA-11: DSW-Stockpile R&D
The scope of LEP program work entails the replacement of aging or defective components to extend the life of the enduring stockpile. These components are found through ongoing surveillance and assessment processes, SFIs, and JTA flight tests. Some specific objectives of this work are to improve our models of the W80-0/1 and W80-2/3 designs, to quantify system margins and uncertainties, and to prepare for a peer review in support of W80-2/3 design certification.		Issue W78 JTA6 CSA CER		NA-11: DSW-Stockpile R&D
		B61 ALT 357 LEP - Conduct IPR and refurbishment, NWC, DoD, POG, and NA-10 activities per B61 NPP		NA-12: DSW-Stockpile Maintenance
		M3.1 Complete NDE Retrofit builds for B61-11		NA-12: DSW-Stockpile Maintenance
		Conduct inter-laboratory peer review for transition of W80-3 LEP from Phase 6.3 to 6.4 per W80 baseline plan		NA-11: DSW-Stockpile R&D
		Combined LANL Weapons PRC Report		
This work supports the further development of processes and capabilities established with the successful completion of QUAL-1 in FY03 and thus, expansion of U.S. pit manufacturing capabilities. The focus of this project is the replenishment of certifiable pits for U.S. Navy W88 warheads that are removed from the stockpile for surveillance activities.	3.4 Deliver on W88 Pit Manufacturing and Certification Project major milestones.	W88 3T/4T decision	Delivery of pits for performance of certification experiments in support of sustaining the reestablished national pit manufacturing capability	
		Manufacture four certifiable pits		C12: Pit Manufacturing and Certification
		Develop QMU certification logic to support the W88 program (X Division)		C1: Primary Assessment Technology

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Performance Objective #3: Develop with NNSA and implement near-term balanced weapon programs that are coordinated with the other NNSA M&O contractors.				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
Requirements for non-nuclear manufacturing work as specified in the NNSA Program Control Documents and integrated contract orders are used to establish the site "Master Schedule." Purpose of the monthly Master Schedule is to confirm latest schedule of dates and quantities of parts needed to support flight and lab tests, rebuilds, LEPs, etc., and to share this information with the NWC. These activities require coordination between the Lab and production facilities to perform the required work within budget. Examples of items manufactured at LANL are tritium loaded neutron target tubes, detonators and beryllium components, and packaging for energetic materials. LANL is responsible for performing all alterations, modifications, new builds, dismantlements and component evaluation in accordance with the Production and Planning Directive (P&PD 2004-0), Quality Assurance Production Plans, and Quality Evaluation Tracking (QET) schedules, supported by baseline change control. In component evaluation (surveillance), LANL is responsible for testing nonintegral valves from gas boosting systems, surveillance of all plu	3.5 Meet directive schedule.	M6.5 Meet NA-12 site-specific requirements to manufacture components for the W78, W80-0/1, W88, B61 Family, and W76-0 weapon systems in accordance with the Master Schedule and support other manufacturing sites performing related work (D1)	Quality and timeliness of products and services comprising both production and surveillance testing of components specified	
		Coordinate and oversee certain weapons component evaluation activities and JTA support (mock pits) (D2)		
The goal of IWAP is to place weapons assembly facilities under an appropriate authorization basis that is compliant with 10 CFR 830. Work in this area includes upgrading the processes, procedures, and tooling for weapon system operations in support of a more comprehensive safety posture. In addition to the general work noted above, LANL will provide W78 weapon response information to Pantex for the hazards that are identified during weapons operations. The weapon response will be provided first in a FINAL/preliminary form and then provided as an official released response that may be institutionally peer reviewed.LANL plans to provide Pantex with the unmitigated W88 weapon response for bay activities and an engineering release of the W88 vacuum potting process.	3.6 Provide technical support to production complex operations, including the Integrated Weapons Activity Plan (IWAP) and other weapons response analyses.	Complete the W78 SS-21 NESS for Disassembly and Inspection	Quality of support for enhanced safety of operations across the complex on LANL-designed weapons systems.	
		Achieve Milestone 0 in the SS-21 process for the W80		
		M14.2 Meet IWAP for W88 Bay SS-21 NESS		NA-12 DSW Stockpile Maintenance
		ESA DRC Report		
LANL will also review authorization basis documents for Pantex. This review will help to determine whether the safety basis being proposed by Pantex is appropriate for specific weapon operations. Finally, LANL will supply technical experts and Nuclear Explosive Safety Studies (NESS) members to DOE in support of weapon operations and facility safety requirements.		Combined LANL Weapons PRC Report		

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Performance Objective #3: Develop with NNSA and implement near-term balanced weapon programs that are coordinated with the other NNSA M&O contractors.				
Context and Scope	**Measures**	**Evaluation Basis**	**Issues / Concerns**	**Programmatic Linkages**
The goal of implementing the criteria of QC-1 is to maintain high quality standards in products that support nuclear weapons design, manufacturing, and assessment activities. These activities include the qualification of personnel, procedures, and tools (including design codes) necessary to perform this work.	3.7 Establish and implement a weapons design and manufacturing quality assurance program consistent with NNSA requirements	Develop a Quality Assurance Plan for Weapons Engineering and Manufacturing consistent with the requirements of QC-1 Rev 10, by the end of Q1	Implementation of an effective quality assurance program based on QC-1 Rev 10 requirements for nuclear weapons design, manufacturing, and assessment activities.	
		Develop a Software Quality Assurance Implementation Plan for Weapons Engineering		
		Develop a PAAA non-compliance identification implementation plan for the Weapons Engineering and Manufacturing Directorate		
		Combined LANL Weapons PRC Report		

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3.4 MISSION ESSENTIAL FACILITIES AND INFRASTRUCTURE

By identifying mission essential facilities and infrastructure, NNSA Headquarters will be able to prioritize maintenance, restoration, and recapitalization activities towards meeting the Deferred Maintenance Reduction commitment. The mission essential facilities and infrastructure will be assigned priority in RTBF and FIRP funding decisions. A definition of mission essential was developed at the Deferred Maintenance Reduction Summit II on December 3-4, 2002 and agreed to by NNSA Headquarters, the sites, and Management and Operations (M&O) contractors.

> **NNSA Definition of Mission Essential**: Those facilities and infrastructure that are necessary to perform the primary NNSA missions assigned to the Site. This would encompass any facility or infrastructure where the majority of the structure or utility, or its predominant use, is to support scientific research, production, or testing to conduct the Stockpile Stewardship Program.

The Laboratory has determined the set of NNSA Mission Essential Facilities and Infrastructure to include all facilities that are direct funded within the DP budget. Each of these facilities has a direct link to specific mission components with a NNSA/DP program sponsor. All NNSA facilities not included in this category, while still important to NNSA missions as a whole, are indirect funded. Table 3-2 shows the mission essential facilities broken out by individual mission component. Overall, there are 485 mission essential facilities totaling approximately 3,600,000 GSF. More information on the mission essential facilities may be found in Attachment G, and a map of their locations is on the following page.

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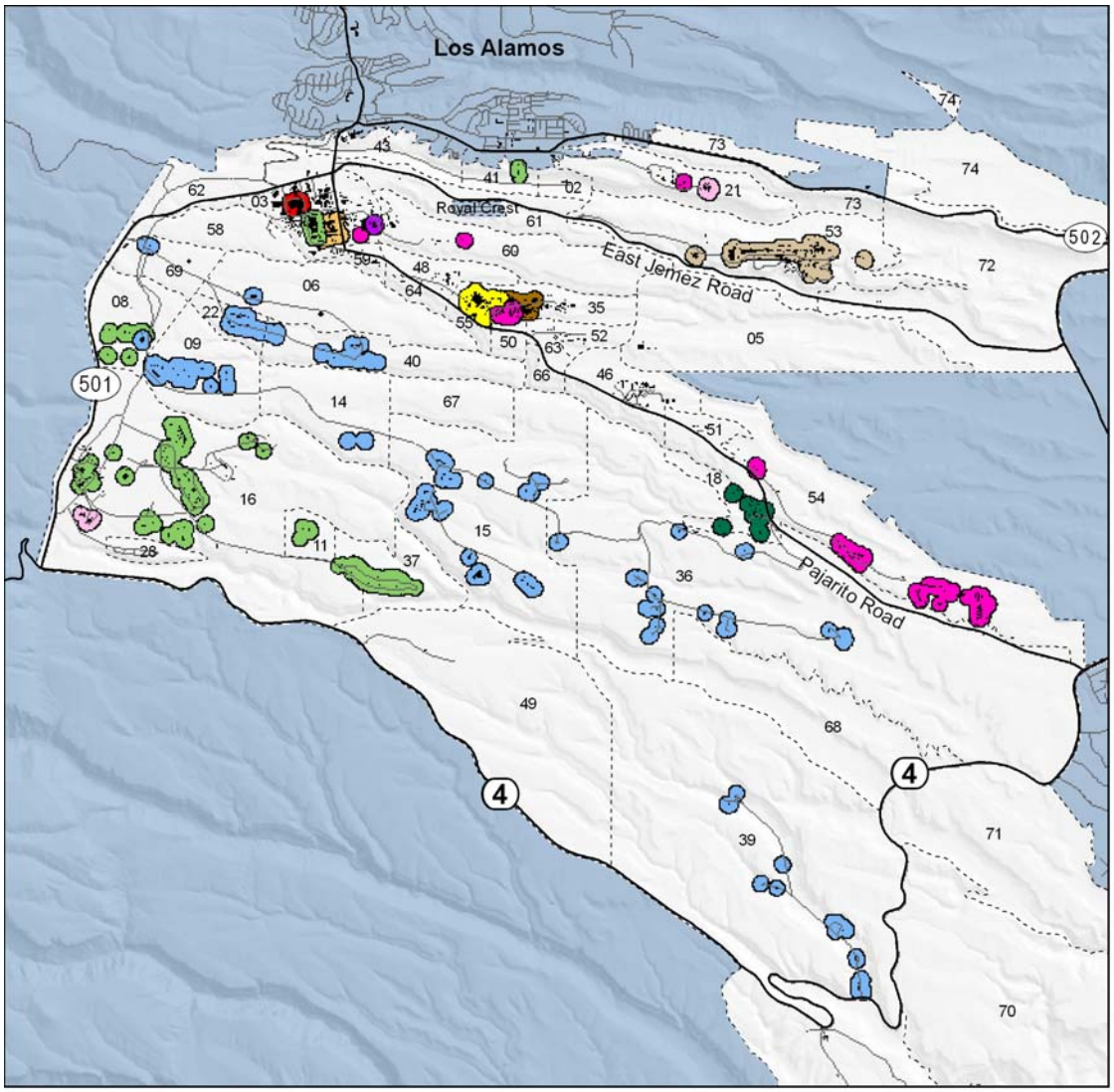

Mission Essential Facilities

LEGEND

- Technical Area Boundary
- NMT Facilities, TA-55 - NA-12
- Waste Management Facilities - NA-11
- NMT Facilities, CMR - NA-12
- Beryllium Technology Facility - NA-12
- Dynamic Experimentation Facilities - NA-11
- Engineering Facilities - NA-11
- Tritium Facilities - NA-12
- LANSCE Facilities - NA-11
- TA-18 Facilities - NA-12
- ASCI Facility - NA-11
- ICF Facilities - NA-11

(Facility footprints are exaggerated, or buffered, for readability at a sitewide perspective)

0 4,000 8,000
Feet

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Table 3-2: Mission essential facilities by mission component.

Mission Essential Facilities	NA-11	**Engineering Facilities 87 buildings 537,100 GSF**			
		High Explosives (HE) Facilities Machine Shops	Assembly & Storage Testing Facilities	Enduring 61 buildings 237,700 GSF	Non-Enduring 26 buildings 299,400 GSF
		Dynamic Experimentation Facilities 205 buildings 474,900 GSF			
		Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) HE Science	Firing Sites Detonator Facilities	Enduring 109 buildings 287,700 GSF	Non-Enduring 96 buildings 187,200 GSF
		Los Alamos Neutron Science Center (LANSCE) 48 buildings 591,400 GSF			
		Accelerator Facilities Lujan Center	Weapons Neutron Research	Enduring 37 buildings 586,000 GSF	Non-Enduring 11 buildings 5,400 GSF
		Waste Management Facilities 76 buildings 313,700 GSF			
		Radioactive Liquid Waste Treatment Facility (RLWTF) Radioassay and Non-Destructive Test (RANT) Facility	Waste Characterization, Reduction, and Repackaging (WCCR) Facility TA-54 Solid Waste	Enduring 31 buildings 232,300 GSF	Non-Enduring 45 buildings 81,400 GSF
	NA-12	**Nuclear Materials Technology (NMT) Division Facilities 40 buildings 1,066,400 GSF**			
		TA-55 CMR		Enduring 26 buildings 492,300 GSF	Non-Enduring 14 buildings 574,100 GSF
		Tritium Facilities 9 buildings 98,100 GSF			
		TA-16 TA-21		Enduring 5 buildings 48,700 GSF	Non-Enduring 4 buildings 49,400 GSF
		Beryllium Technology Facility (BTF)			
		TA-3-141		Enduring 33,300 GSF	
		TA-18 Facilities			
		TA-18		Non-Enduring 22 buildings 74,200 GSF	
	Campaigns	**Advanced Strategic Computing Initiative (ASCI)**			
		TA-3-2237		Enduring 367,700 GSF	
		Inertial Confinement Fusion (ICF)			
		Target Fabrication Trident		Enduring 4 buildings 162,400 GSF	
Balance of Plant 1,735 buildings 5.7M GSF					

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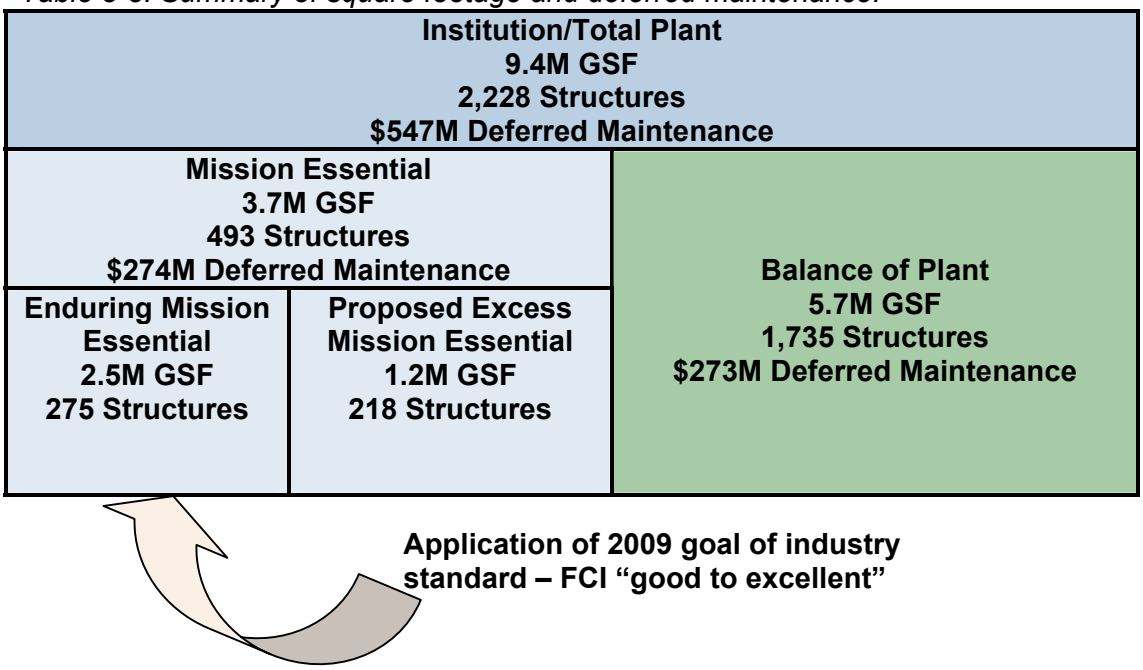
All of the Laboratory's facilities are being evaluated for the projected longevity of mission need. *Enduring* facilities are those facilities with mission needs extending beyond 10 years while *proposed excess* facilities have a mission need of less than 10 years or are temporary structures in "poor" or "failing" condition. Consequently, investment in the reduction of deferred maintenance will be prioritized with the length of mission need as a factor. As appropriate, facilities with a defined "end of mission need" will be identified for exclusion from the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards).

Table 3-3: Summary of square footage and deferred maintenance.



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3.5 FACILITIES AND INFRASTRUCTURE IMPACTS FROM NON-NNSA PROGRAMS

3.5.1 Non-DP Program Contributions

While the Laboratory is primarily an NNSA site, non-NNSA programs do provide financial support for facility operations. This support enables a financial synergy that is beneficial for all programs where they coexist. Refer to Table 3-5 for non-RTBF investment (including non-NNSA) to facility operations. In addition, non-DP programs contribute to institutional initiatives in direct proportion to the magnitude of the program. One such institutional area is the payment of utility costs, which includes a level of utility reinvestment as noted in the F&I Cost Projection Spreadsheet. Without the inclusion of non-NNSA programs, a higher level of NNSA investment would be required to sustain the facilities and infrastructure.

In addition to facility operations investments, there is also planned construction investment from sources other than what is included in the ICPP, RTBF, and FIRP. Refer to the Non-RTBF/FIRP Cost Projection Spreadsheet in Attachment A, which also includes some non-NNSA construction investment.

3.5.2 Los Alamos Science Complex

The Los Alamos Science Complex, to be constructed at TA-58 Two Mile Mesa North, will relocate and co-locate approximately 1,300 scientific staff from within various Laboratory TAs. Approximately 402,000 GSF of new multi-disciplinary, modern, competitive, high-quality space will be constructed. The Science Complex will provide non-directly funded, non-mission essential, NNSA and non-NNSA scientific facilities in a state-of-the-art multi-purpose and multi-disciplinary environment. The facilities vacated by organizations moving to the Science Complex will be returned to the institution for either backfilling with personnel from poor and failing space or demolished. See Section 4.7.5 for more information.

3.5.3 Los Alamos Research Park

The Los Alamos Research Park is located on 40 acres immediately adjacent to TA-3, the Laboratory's main technical area. The site will eventually accommodate five buildings and two parking structures. One 83,000 square foot facility was completed in 2001, and it houses high quality office and light laboratory space. Further development of the research park may have an impact on the infrastructure and security requirements for TA-3 by bringing additional personnel onsite.

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3.6 ROLE OF TECHNOLOGY IN THE COMPLEX OF THE FUTURE

Prior to 1992, confidence in the certification of weapons was established through nuclear such, there was no overarching certification methodology, and the Laboratory had an overly simplistic view about what was known and what could be delivered. This caused the Laboratory to "overcommit" itself; there was no planning for weapons work, additional work was readily accepted, and the scientific effort was not integrated. In response to the overcommitment, the Laboratory often delayed milestones and continuously "re-baselined" the work. Resources were used to meet near-term deliverables, investments were deferred, and facilities were allowed to decay.

Today, in the current era of science-base stockpile stewardship, the enormous complexity of certification is finally emerging. The Laboratory has realized that past practices will not enable it to meet the requirements of the future and is starting to develop the requisite project/program management skills and tools to assess and manage certification commitments. More focus is being paid to deliverables and milestones through the following actions:

- Allocating resources to priorities,
- Holding people accountable for program and project milestones,
- Reducing scope/options and assuming more risk to meet milestones,
- Retaining scope and moving milestones out,
- Focusing the workforce on the priorities,
- Developing a formal baseline to manage the program, and
- Improving business practices.

The key commitment for the Laboratory's new integrated weapons program is *building and maintaining an effective U.S. deterrent*. The following graphic provides a summary description of the capability requirements involved in this commitment.

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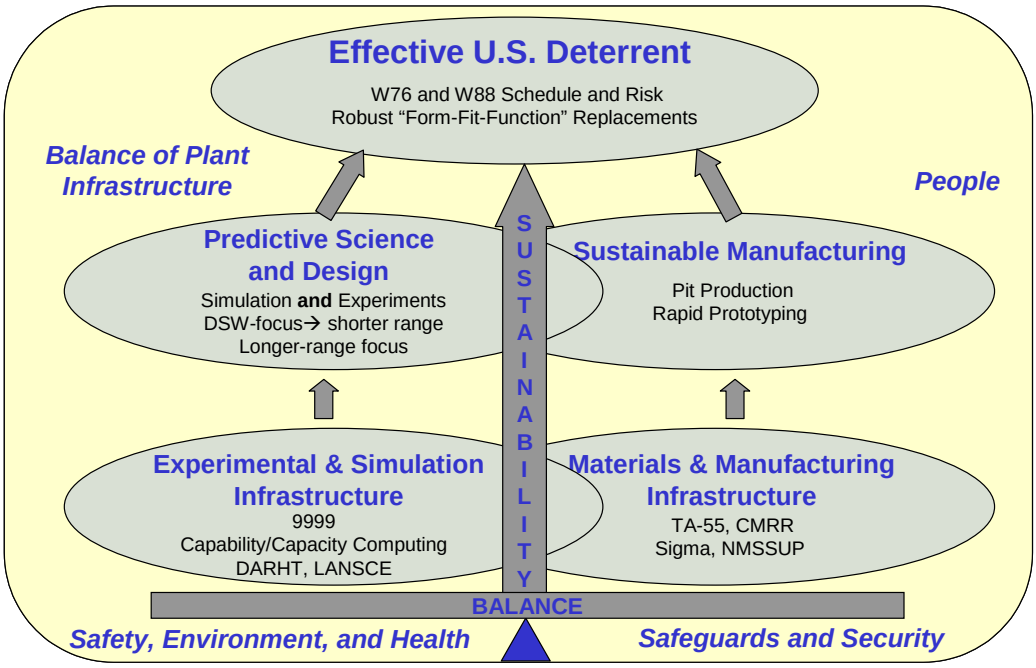
Figure 3-1: Building and maintaining an effective deterrent comprises many elements.



In order to meet this commitment, the Laboratory is embarking on two new technologies: sustainable manufacturing and predictive science and design. As shown in the graphic above, sustainable manufacturing will be used for pit production and rapid prototyping. It is product driven rather than process driven and will increase the scientific basis for manufacturing. Other benefits of sustainable manufacturing include the following:

- Concurrent design-manufacturing exploits the Laboratory's capabilities,
- Small lots with very high acceptance rates,
- Sustainable, state-of-the-industry technologies,
- Flexible manufacturing from one design to another, and
- Robust in-situ and non-destructive inspection technologies.

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Predictive science and design will be used to closely integrate simulation and experimental programs. It will provide science-based understanding of uncertainties and exploit margins to avoid risk. Other benefits of predictive science and design include the following:

- Use quantifications of margins and uncertainties as a technical decision basis,
- Enhance test readiness as insurance and resource, and
- Legacy of predictive ability to address evolving requirements.

As discussed earlier in this chapter, the recently formed PIB will be overseeing the development of Five-Year Program Element Plans, Five-Year Project Plans, and activity worksheets for the Laboratory's nuclear weapons program. As these plans are developed, infrastructure, facility, and technological needs will be more clear and become an integral part of developing the TYCSP.

3.6.1 New Capability Requirements

3.6.1.1 Manufacturing Technology

The Laboratory will need to adopt new machining platforms that embody solid technical performance, state-of-industry control architectures, and compatibility with on-machine probing and in-process quality assessment. For inspection technology, the Laboratory needs to adopt inspection platforms which are preferably non-contact, have rapid data acquisition, and can be flexible in terms of types of parts being inspected. Additional needs include a model based engineering approach that embodies all aspects of product life cycle, namely design, performance simulation, manufacturing., initial inspection, and field inspection.

Currently, there is a Infrastructure Responsiveness Study underway that will re-examine requirements and prioritize development as well as integrate manufacturing efforts into broader enterprise-wide planning and strategy. The study will combine a space plan for key facilities together with investment requirements to achieve new capabilities and meet capacity needs. This study will be complete by 2Q FY05 with an aim to meet key mfg. readiness objectives in the FY07 timeframe. This study will be closely coordinated with the NNSA Applied Science and Technology Roadmap to ensure that the Laboratory can meet the objectives described therein, but will also incorporate specific programmatic needs and requirements from a variety of weapons life extension programs.

One key facility construction that must be launched and executed over the next ten years is an integrated radiography facility for nuclear operations that would obviate the need for material transport and shipment. Such a facility will incorporate low energy, high

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energy, digital, and computed tomography aspects of radiography to create a forward-looking capability that will be compatible with a models-based approach (all digital).

There is a Laboratory initiative funded under the NNSA Advanced Design and Production Technologies (ADAPT) program to incorporate models-based approaches into manufacturing. In FY05 for example, there will be efforts aimed at machining operations in which on-machine inspection data will be utilized in a models-based context to provide near real-time comparisons between required shape and as-built shape for various components.

Several non-contact metrology projects are being pursued currently at the Laboratory with the aim of assessing these technologies in a Stage-Gate Technology selection process. The criteria to be used in the final down-select will include ability to meet measurement specifications, compatibility with various operating environments such as the nuclear manufacturing environment, and maintainability and ease of use.

The Laboratory has under the auspices of the ADAPT program launched and effort to validate and deploy an in-process quality approach on several key manufacturing operations. This two-year plan will develop a series of software and sensor tools that can unobtrusively sense and diagnose process quality on-machine and in real time. The project is a partnership with the Kansas City Plant, Savannah River Site, and Sandia-Livermore, so there will be NNSA-wide benefits to this work.

Inspection technology and machining technology are two key areas in which significant strides can be made by migrating to next-generation control platforms for machining and to non-contact inspection for dimensional metrology. Current scrap rates can be reduced by up to 30% by migrating to next-generation machine tool technology. For nuclear operations, in-line chemical analysis could reduce the current manufacturing critical path by 30% if in-line chemical analysis can be validated and deployed. Advanced digital radiography and computed tomography would again reduce the critical path for inspection.

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3.6.1.2 Business Practices and the Enterprise Project

Current quality systems are too cumbersome, manually time-intensive, and do not provide actionable metrics for continuous improvement. All these areas must be rectified to have a forward-looking, continuous improvement based quality management strategy. Los Alamos National Laboratory strives to put its business practices at the same level of excellence as its scientific and technical expertise: The World's Greatest Science Protecting America. The Enterprise Project will help the Laboratory meet this goal. The Enterprise Project is the Laboratory's name for an enterprise resource planning (ERP) system. The Enterprise Project will utilize an integrated hardware and software architecture to ensure excellence in Los Alamos' business and manufacturing operations and is a key component of ongoing business process improvements at the Laboratory.

The Enterprise Project will guide the Laboratory in re-engineering key processes, capabilities and systems, including:

- Financial management,
- Human resources,
- Facilities maintenance,
- Supply chain management,
- Information management,
- Project management, and
- Manufacturing.

Enterprise Project Mission

The Enterprise Project's mission is to build Laboratory-wide world-class systems and related processes that will significantly improve specific business operations and program/project management to support the Laboratory's mission. Under the Enterprise Project, the Laboratory will replace various, disconnected business software systems across the institution with a single, integrated system that will allow better management of Laboratory resources. When completed and fully implemented, the Enterprise Project will:

- Enable rapid, cost-effective delivery of the Laboratory's research and development product,
- Move the Laboratory toward best business practices,
- Increase the Laboratory's compatibility with other DOE/NNSA-University of California laboratories,
- Allow managers to make decisions based upon complete, accurate and timely data, and
- Lower the long-term cost of doing business.

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In April 2004 Los Alamos formally adopted the Enterprise Project's Phase 1 scope, schedule and budget baseline. The baseline includes the project's mission statement, project management plan, program requirements and functional requirements, which together define tasks through April 2005, including more than 7,300 scheduled activities. The Enterprise Project operates under formal project-management principles, including:

- An experienced management team;
- Formal processes for managing risk;
- Systems for reporting and tracking project controls; and,
- Internal and external oversight mechanisms.

The Enterprise Project will involve everyone across the Laboratory, from the Director to workers on daily tasks. Because the project provides mechanisms for employees to perform a wide variety of functions — from controlling direct deposits to managing large, complex projects — it is beneficial across the institution. The Enterprise Project truly gives Los Alamos a better way of doing business. The current "budgetary" estimate for the Enterprise Project is about $160M. The term "budgetary" is important because the cost estimates for FY05 and FY06 have not been validated yet. This budgetary estimate is being refined as part of the Phase 2 planning and implementation.

Hardware and Software

The Enterprise Project has chosen Oracle Corporation to provide software, while IBM will provide hardware for the project to replace the Laboratory's entire computing infrastructure.

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THE PLAN

4.1 PLANNING PROCESS

The FY04 TYCSP focuses on physical assets that support the Laboratory's missions and operations. It is one element of Laboratory strategic planning that includes NNSA and Laboratory requirements (in specific areas) and takes input from other plans to define facilities needed to accomplish the Laboratory's mission. Figure 4-1 diagrams the relationship of the TYCSP to other plans. Laboratory strategic planning processes evaluate four levels that build upon each other to achieve scientific and operational excellence. These levels are represented as *mission objectives, permit to operate, operational plans, and supporting plans*.

The *mission objectives* level defines the Laboratory's scope of work. It is developed through a top down strategic planning process, which includes development by the Laboratory Senior Executive Team of annual strategic goals in each program area.

Figure 4-1: The Laboratory's institutional planning.

Environmental protection, health and safety, and technical limits are defined at the *permit to operate* level. The SWEIS and supporting plans that address individual projects (e.g., environmental assessments) and site-wide management plans (e.g., Integrated Resource Management Plan) define operating envelopes. Health and safety of personnel and the public and technical requirements for the operation of specific facilities are evaluated in the Authorization Basis (AB) process. These plans provide key operating limits that may affect facility planning.

The *operational plans* depicted in Figure 4-1 are site-wide in nature. They are interrelated in that each plan relies on information from and provides information to the other plans.

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Operational plans provide guidance and information from which facility investment plans are drawn or refined and included in the TYCSP process. The Environmental, Safety, and Health (ES&H) Management Plan identifies vulnerabilities that should be addressed in site and facility plans. The Site Safeguards and Security Plan provides vulnerability analyses results that support Safeguards and Security management and planning actions for the protection of DOE/NNSA assets. Program plans and budgets provide insights into prioritization and growth sectors. The workforce plan includes critical skills requirements and broad estimates of changes in the workforce population based on budget projections that in turn drive space requirements to house the population.

Supporting plans further define and assist Laboratory implementation of operational plans and mission programs. They generally present physical development recommendations and proposals from site-wide to site-specific levels. Only supporting plans that address facility investment are depicted for this TYCSP.

The TYCSP is also aligned with Laboratory Performance Requirements (LPRs) and Laboratory Implementing Requirements (LIRs) that provide Laboratory expectations for operations.

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TYCSP Planning

Planning for the TYCSP includes a thorough review of the various Operational and Supporting Plans (Figure 4-1) to gather relevant information and to assure consistency with the Laboratory's stated expectations. These plans provide goals and assumptions (see summary below) that this TYCSP must maintain.

Goals

Comprehensive Site Plan
- Identify vision, principles, and strategies for physical systems

Area Development Plans
- Recommend best land-use for specific geographical areas

Facility Planning
- Identify more cost efficient approaches to perform future missions
- Propose structures (new or modified), land-use, and site selection to meet organizational strategic needs

Master Planning
- Propose structures (new or modified), land-use, and site selection to support area development.

Assumptions

- Strong mission focus will drive increases in workforce and need for additional space.
- Budgets for facilities (new construction and improvements) initially will be strong and will decline toward the end of the planning horizon.
- Security requirements will drive transportation and site selection considerations.
- Environmental concerns will continue to impact project approaches and cost.
- Transition points for NEPA review, space management, and project launch will be improved.
- Flexibility in implementation of Facility or Master Plans will enhance success.

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The TYCSP development process is collaborative and engages organizational owners of various Laboratory operational plans, Laboratory facility managers, line managers, and subject matter experts from various disciplines across the Laboratory (e.g., utilities, condition assessments, budgets, programs, and human resources). The DOE Facility Information Management System (FIMS) data is reviewed and analyzed and provides the basis for evaluation of facilities. Figure 4-2 represents the planning process specific to the TYCSP.

The TYCSP planning process (Figure 4-2) is a linear approach that evaluates cumulative facility requirements, including budget and future missions. Facility requirements result from various planning efforts, including area development planning, site specific master planning, and program specific facility planning, that rely on the Comprehensive Site Plan 2000 and 2001 to define key planning assumptions and direction.

Figure 4-2: The TYCSP planning process.

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The facility needs identified during these efforts are further developed into proposed construction projects by the Laboratory's operating organizations and submitted during an institutional call. Submissions provide definition, estimated cost, and prioritization within the requesting organization. The call includes all categories of funding (Line-item, GPP, IGPP, and Expense) and all sources of funds (NNSA and non-NNSA). Proposed projects are grouped for review and prioritization by the Laboratory's senior management. These projects then become part of TYCSP and are include in Attachment A. Subject matter experts throughout the Laboratory are involved in a parallel review of all projects in a separate Permits and Requirements Identification (PR-ID) system, which ensures consistency with other operational and supporting plans.

Progress on Meeting Performance Measures and Indicators

NNSA Strategic Plan Indicators

The NNSA Strategic Plan establishes the mission, vision, and issues that the NNSA faces as an organization, as well as the challenges, goals, strategies, and strategic indicators for the organization as a whole. The NNSA indicators related to facilities and infrastructure and the Laboratory's implementation status are as follows:

- Ensure necessary facilities are available to perform our mission (RTBF—daily operations and maintenance)

  This measure has been included in the Laboratory's Appendix F performance measures negotiated with the Los Alamos Site office, and the results are reported quarterly.

- Complete construction activities on schedule and within budget (Line Items—capital acquisition)

  The Laboratory has a mature project management process that closely monitors scope, schedule, and cost. Monthly project reviews are held with the Los Alamos Site Office to report progress and resolve issues.

- Implement NNSA's Facilities and Infrastructure Recapitalization Program (FIRP—capital renewal and sustainability)

  This program has been implemented at the Laboratory. Attachment A-4 shows current and future FIRP projects and their projected funding profiles. Attachment

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B shows a prioritized list of FIRP projects for FY05 and FY06, and Attachment E-1 shows the planned FIRP demolition projects.

- Meet or exceed environmental, safety, and health requirements

  Section 4.3 of this plan, ES&H/Regulatory Issues, provides a description of current activities to meet ES&H related regulations, orders, and policies.

- Implement the Integrated Safety Management Program

  The Laboratory has implemented the Integrated Safety Management Program through the Integrated Work Management (IWM) process. IWM establishes the Laboratory requirements for implementing the five-step process associated with Integrated Safety Management at the activity work level. IWM ensures that work is performed in a safe, secure, and environmentally sustainable manner.

FIRP

The FIRP has defined performance indicators for its three subprograms, Recapitalization, Facility Disposition, and Infrastructure Planning. The three indicators and the Laboratory's implementation status are as follows:

- Annual dollar amount of deferred maintenance reduced from the sites' FY03 baseline based upon projects that have been issued authorizations to start work (and cumulative percentage for the estimated total complex-wide deferred maintenance of $1.2 billion to be reduced).

  In FY02, projects that were authorized reduced deferred maintenance by $9.9M.
  In FY03, projects that were authorized reduced deferred maintenance by $20M.
  In FY04, projects that were authorized reduced deferred maintenance by $34.2M.
  In total, projects have been authorized that reduce deferred maintenance by $62.5M or 5.2% of the $1.2B complex goal.

- Annual gross square feet of excess facilities space reduced based upon projects that have been issued authorizations to start work (and cumulative percentage of gross square feet reduced) to achieve a total of three million gross square feet of excess facilities space reduced by FY 2009 in support of overall footprint reduction efforts.

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In FY02, FY03 and FY04, the Laboratory has been authorized to dispose 52,684, 109,795, and 90,465 square feet, respectively. The total area reduced by the FIRP from FY02 to FY04 is 252,944 square feet or 8.4% of the 3,000,000 square feet goal for the NNSA complex.

- Percentage of "next year" (Budget Year plus One) FIRP recapitalization projects that are planned with current year planning funds.

  One hundred percent of next year's FIRP recapitalization projects that will receive funding have had some amount of planning with previous year planning funds. Some of these had planning funds in years prior to FY04, have received recap funding in FY04, and expect additional funding in FY05. In those cases, planning funds have resulted in detailed designs being complete. For new start recapitalization projects in FY04, 73% will be ready for construction funds at the start of FY05 and all others will be in Title II design.

RTBF/Operations of Facilities

The applicable RTBF/Operations of Facilities Performance indicators for FY05 and the Laboratory's implementation status are as follows:

- Percentage of scheduled days that mission essential facilities are actually available to support work.
- Number of Reportable Incidents/200,000 hours of work.

These two performance indicators have been included as part of the Appendix F performance measures that are agreed upon between the Laboratory and the Los Alamos Site Office. They are reported to LASO on a quarterly basis.

- By FY09, achieve a complex-wide aggregate Facility Condition Index (FCI) for mission essential facilities and infrastructure of good or better (less than 5%).

Progress in achieving this indicator is discussed in Section 4.1.6 of this plan and illustrated in Attachment F.

NNSA Corporate Goals for Deferred Maintenance Reduction

- By the end of FY05 NNSA will stabilize its deferred maintenance

- By the end of FY 2009 NNSA will:

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- Aggressively reduce deferred maintenance to within industry standards
- Return facility conditions, for our mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance divided by the replacement plant value is equal to or less than 5%)
- Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards

Section 4.1.5 of this plan, Deferred Maintenance, discusses the Laboratory's plan to meet the NNSA corporate goals while Attachment F shows current and projected progress in improving facility condition and reducing deferred maintenance.

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4.1.1 Facilities and Infrastructure Overview

More than half of Laboratory facilities are currently greater than 30 years old, including nuclear and non-nuclear facilities. Over the next 10 years, facilities aged 30 or more years old will increase to 7 million GSF. A dedicated revitalization effort is important for the long-term viability of this Laboratory.

The Laboratory has adopted the Facility Assessment and Ranking System (FAaRS) from Lawrence Livermore National Laboratory with some minor modifications. FAaRS is a Laboratory-wide method to group and assess the suitability of facilities to meet current and future mission needs. Each facility is scored on viability ("health") and mission importance, and the two scores are combined to create a recommended disposition category. Facility assessments have been completed for the majority of the Laboratory's facilities, and the results are shown in Figure 4-3. Current FAaRS scores indicate 58% of the Laboratory's structures need some upgrade to meet mission needs, while 9% need major modification. Fourteen percent of the Laboratory's gross square footage is planned for excess within the next 10 years because of its inadequacy to meet future long-term missions.

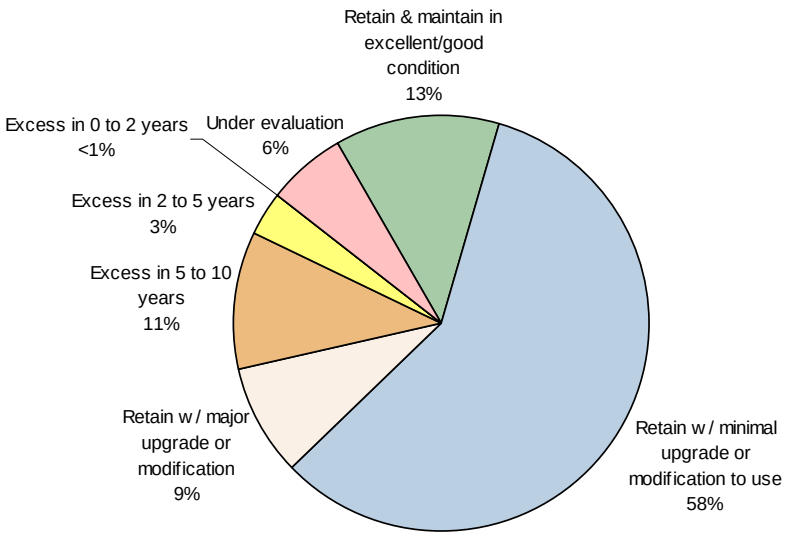

Figure 4-3: Summary of FAaRS disposition scores by gross square feet.

An important element in ensuring that facilities can meet mission requirements is adequate maintenance. NNSA has recognized that many sites throughout the complex, including Los Alamos, have not performed all maintenance activities in a timely manner. This has resulted in a *deferred maintenance*, which directly impacts facility condition and performance. The first step in NNSA's initiative to restore, revitalize, and rebuild the complex is to reduce deferred maintenance, thus ensuring that existing facilities can meet

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current and future mission requirements. NNSA has established complex-wide corporate goals for deferred maintenance reduction, and the Laboratory has committed to achieving these goals.

NNSA Corporate Goals for Deferred Maintenance Reduction
• By the end of FY 2005 NNSA will stabilize its deferred maintenance • By the end of FY 2009 NNSA will: (1) Aggressively reduce deferred maintenance to within industry standards (2) Return facility conditions, for our mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance divided by the replacement plant value is equal to or less than 5%) (3) Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards

In three following sections, 4.1.5—Deferred Maintenance, 4.1.6—Site Plan to Meet NNSA Corporate Goals, and 4.1.7—Maintenance, the Laboratory's efforts to identify the current deferred maintenance, determine the overall condition of facilities, and steps to achieve the corporate goals are described.

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4.1.2 Condition Assessment Survey

The Laboratory relies on the DOE Condition Assessment Survey (CAS)/ Condition Assessment Information System (CAIS) process to assess the condition of physical facilities and supporting infrastructure. The program is deficiency based, meaning that inspections and associated interviews with facility management staff and cognizant system engineers focus on deficient systems, recapitalization needs (replace in kind), and modernization requirements. The program supports the mission(s) of each facility asset and supporting infrastructure at the site. Before a request for funding is submitted, deficiencies are aggregated into project-level definitions and reported to the FIRP Program Manager and responsible Facility Managers (FMs) for validation. This process provides a suitable basis for asset-management decisions.

Every three years, trained inspectors in the primary disciplines (mechanical, electrical, architectural, and civil/structural) conduct field assessments of all fixed assets. These non-intrusive assessments capture the visually evident deficiencies associated with the asset work breakdown structure (WBS). Approved Hazard Control Plans pertinent to field assessments authorize each inspector to work in a safe and secure manner.

Inspections are coordinated with ADO through the responsible FM and his or her planning staff. CAS inspectors interview the responsible FM, system engineer, and other facility management staff to collect facility and system condition data. These interviews capture the “corporate knowledge” (such as maintenance, recapitalization, and modernization needs) that otherwise would not be evident to the inspector. Results from these interviews are formatted and entered into the CAIS2000 database under the structure, system, and component categories.

4.1.2.1 Data Management

CAS data resides in the DOE CAIS2000 database. Laboratory and contract CAS inspectors may access data as it is implemented into the database. The CAS Program administrator also functions as the database administrator. Supporting the administrator is the Facility and Waste Operations Division (FWO’s) Integrated Information Management Group. Each database user has a profile that defines his or her level of access to data and system capabilities. All CAIS data is backed up nightly to prevent a possible loss to data entered over one eight-hour day. Field notes and interview documentation are assembled into hard-copy records for each building and/or asset and are maintained as record files and source documentation.

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Before being entered into the CAIS database, CAS inspection data must undergo review, correction, and validation. Inspectors perform a peer review during each inspection. After draft entry into the database, the CAS Program Administrator reviews the inspection data using queries and report reviews developed at the Laboratory. Once FMs and their staff review the reports for accuracy and completeness, the data are entered into the CAIS database as final, validated inspection data.

Comparisons between escalated values for the assets are derived from R.S. Means escalation factors, which are based on initial acquisition dates and costs and the DOE FIMS model RPV. These comparisons yield disparities in several asset types and usage categories. Correction factors (Table 4-1) align the RPV values in FIMS and CAIS with the results of the analysis. The factors are then applied to the RPV values in the FIMS database. As a basis for the analysis, engineered replacement values for projects currently in the design process are used as a “reality check” against the two sources of RPV data.

Table 4-1: Corrective factor results by FIMS usage code.

Building Types	Descriptions	Loader*	Low Range	High Range
Cat 2 Nuclear	Hazard Category "02" in FIMS	3.684	2.145	6.325
Modulars	Building Type "T" in FIMS and Haz Cat not "02"	1.749	1.298	2.356
Offices	Building Type "B", Haz Cat not "02" and Use Code 100 series	1.749	0.789	3.876
Support	Building Type "B", Haz Cat not "02" and Use Code 200 series	1.655	0.882	3.104
Storage	Building Type "B", Haz Cat not "02" and Use Code 400 and 800 series	1.825	0.886	3.757
Process	Building Type "B", Haz Cat not "02" and Use Code 500 series	3.371	1.716	5.419
Services	Building Type "B", Haz Cat not "02" and Use Code 600 series	3.120	1.023	9.517
Labs	Building Type "B", Haz Cat not "02" and Use Code 700 series	0.921	0.432	1.964

*Loader is the corrective factor used to adjust RPV and deferred maintenance costs.

Samples selected from the FIMS database include all active Laboratory buildings constructed within the past 10 years. RPVs calculated with the FIMS model process are compared to RPVs calculated via escalation from original date and cost of construction. Comparisons incorporate all three values to develop the RPV in cases where known estimates for replacement of Laboratory facilities are available. This data analysis helped personnel develop RPV correction factors that better reflected current dollar replacement values by the building usage category for assets. The same process was applied to the major property types. To develop the FY04 TYCSP, all adjusted RPVs were uploaded due to the unique building-level factors required to correct the values.

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To manage deferred maintenance and the reduction plan, personnel report condition assessment data to the FMs. Custom reports are crafted to meet the needs of FMs and FWO personnel who are responsible for providing input to this planning document. Reports and data extracts from the FIMS database provide feedback to DOE for tracking deferred maintenance by asset. To better facilitate management of deferred maintenance, the Laboratory is creating a web-based tool to access a basic set of reports and CAIS2000 data downloads.

4.1.2.2 CAS Data Validation

A CAS data-validation process was implemented in October 2003—subsequent to completing the baseline condition assessment. Each responsible FM reviewed all deficiency records in the CAIS database using the eight criteria discussed below.

1. All applicable Work Breakdown Structure (WBS) elements were assessed. The WBS chart reflects how data are recorded by system, component and type in the Condition Assessment Information System (CAIS) database.

   Criteria: Review the CAS data to ensure that all applicable WBS elements for the facility of interest were evaluated.

2. Deficiencies in CAS reflect actual conditions

   CAS Listings—The CAS listings of assets are derived from the FIMS database. The list changes slightly during the course of the year. Inspection or deferred maintenance data collected from buildings and OSFs are also entered into CAIS during the course of the year.

   Criteria: Compare the CAS list of assets inspected with respect to the FIMS listing of assets.

   RPV—The DOE model assigned to an asset with local site adjusters included. There are currently no developed OSF models.

   Criteria: Review the RPVs for asset in the FIMS database for reasonableness and ensure that all assets are listed in FIMS.

   FCI—The FIMS score for an asset. To derive the score, divide the total deferred maintenance in the CAIS database by the RPV.

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Criteria: Review the CAS FCI for reasonableness and ensure that all asset FCI adjectival scores are contained in the FIMS data set.

3. Costs are reasonable if supplied by the FM

   Substantiated estimates or Total Estimated Costs (TECs) need to be submitted to the CAS office for hardcopy filing—such data are the "first stop" in an audit and reflect how an estimated project cost was formulated.

   Criteria: Provide justification documentation for CAS data submitted by the FMUs and through the FWO-IP project managers.

4. Primary usage of FIMS assets is accurate

   FIMS has established rules that govern assignment of asset models and primary usage of the asset. Each building and trailer had its construction type and usage in the FIMS database verified and corrected during the course of the FY03 CAS inspections. DOE models assigned to asset from the FIMS database were also examined and verified or corrected during the inspections.

   Criteria: Review the primary usage and model type assignment in the FIMS database for reasonableness and completeness.

5. All FM data in the CAIS 2000 database must be reviewed

   To accomplish this task, review CAS data reports to identify other criteria and document errors, omissions, and concerns with the content of the database.

   Criteria: Review the CAS Summary Condition Report and the Complete Survey Detail Report for each asset.

6. Reviews performed for buildings, utility systems, or OSFs

   The level of review required to certify CAS data must be performed at the asset level.

   Criteria: Perform reviews at the asset level for all criteria listed in the process.

7. Project splits for deferred maintenance/modernization are reasonable.

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Many original modernization records for individual buildings showed complete system replacements identified as modernization. Some deficiency information recorded in the CAIS database indicated that related components were beyond their engineered design life. As a result, these inspection units were further split and adjusted into deferred maintenance inspection units. The rationale that was followed indicated that the component parts of the systems required replacement-in-kind. Concurrence from the FMU's is required to validate the separation of the original inspection units with their respective costs into deferred maintenance and modernization inspection units.

Criteria: Review the data contained in the Complete Survey Detail Report to verify that the defined deferred maintenance and modernization records, which are a result of the project splits accurately reflects the deferred maintenance reported.

8. Deferred maintenance credits

The Laboratory has committed to stabilize deferred maintenance by the end of FY05 and reduce the deferred maintenance to industry levels of "good to excellent" by the end of FY09. To achieve these aggressive goals, the "work-off" of deficiencies must be captured.

Criteria: Identify the completed items, including the year completed, work order number if applicable, and actual cost to complete the items.

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4.1.2.3 Certification Results

The following table summarizes the records in the CAIS database were edited during the validation process.

Table 4-2: CAIS database edits.

FMU	Total Record Count *(Any Changes / Additions Since July 2003)*	Added Records Since July FY03 *(Record Count)*	Modified / Completed Records Since July FY03	Deleted Records Since July FY03
FMU-1: Experimental Science East	166	5	161	0
FMU-2: Experimental Science West	96	1	95	0
FMU-3: Distributed Facilities	95	7	88	0
FMU-3S: Support Services Cont. Managed	24	0	24	0
FMU-4: LANSCE	80	1	79	0
FMU-5: ESA & DX	258	10	248	0
FMU-6: Waste Facilities Management (WFM)	68	7	61	0
FMU-6D: Excess	47	3	44	0
FMU-7: TA-55	23	2	21	0
FMU-8: Utilities	30	3	27	0
FMU-9: CMR	6	0	6	0
Unassigned	39	4	35	0
TOTAL	**932**	**43**	**889**	**0**

Following the completion of the CAS validation process, the Laboratory's deferred maintenance has decreased by 3.09%, from $564M to $547M. Table 4-3 shows the deferred maintenance changes for each FMU.

The major change in FMU-6D (the FMU responsible for pending D&D assets) was that all deferred maintenance costs *except* for those that address worker, public health, or safety concerns were removed. The guidance to achieve this effort was taken from DOE Headquarters' CAS Program Monitor, which was issued in November 2003:

> "The only deferred maintenance estimates to report are for deficiencies (that if left uncorrected) would result in situations where worker, public health, or safety concerns would result. This guidance was issued in September 2001. If the building is cold and dark and locked up, a visual inspection would indicate $0 for deferred maintenance."

The Laboratory originally had followed the requirements from the Facility Transfer Order. This order required a full condition assessment before an asset was transferred for

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D&D and all noted deficiencies were recorded. Subsequent guidance (quoted above) required that much of the deferred maintenance captured be removed from the reportable deferred maintenance. All records in the database affected by this change have been preserved.

The second change of note (FMU-9 CMR) involved a data-entry error identified during the validation process. The roof square footage for the CMR building was mistakenly entered as the total gross square footage of the asset, thus generating an approximately $32M baseline error. The correct data was entered and deferred maintenance re-calculated.

The FMU-8 change is almost entirely related to changes in deferred maintenance cost estimates for the Los Alamos Canyon Bridge. Initial assessments indicated there were deficiencies with the bridge that subsequent structural engineering evaluations discounted as invalid or over-estimated. The correct data were entered and deferred maintenance re-calculated.

Reduced FMU-4 deferred maintenance resulted from the NNSA decision to disqualify the sub-station and power feeds to the injector building. Originally defined as deferred maintenance in the FY03 baseline, this project was declared as a modernization by NNSA Headquarters. This change reduced the reportable deferred maintenance in FMU-4 by $18M.

When an asset in FMU-5 was reassigned from “excess” to “Mission Essential,” the move precipitated a need to inspect the asset fully to determine the deferred maintenance liability. Although the baseline inspection for this asset was performed in accordance with the requirements for an excess asset, the process was minimized to include only those deficiencies that if not corrected could pose a risk to workers or the environment.

Changes to "unassigned" assets resulted from corrected cost estimates, unit of measure (square feet, each, etc.) corrections, and completion reports in which deficiencies had been corrected.

Finally, the remainder of the changes directly resulted from the re-inspection of the Mission Essential assets during FY04. Deferred maintenance reduction evolutions were carried out, resulting in the completion of corrective activities.

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Table 4-3: Deferred maintenance baseline changes by FMU.

FMU	FY03 Baseline	FY04 DM (End of FY04) Production CAIS Database	Change	Percentage Change
FMU-1: Experimental Science East	$40,327,459	$44,160,459	$3,833,000	9.50%
FMU-2: Experimental Science West	$31,997,315	$44,939,672	$12,942,357	40.45%
FMU-3: Distributed Facilities	$73,512,535	$92,088,843	$18,576,308	25.27%
FMU-3S: Support Services Contractor Managed	$13,572,802	$11,585,290	($1,987,512)	-14.64%
FMU-4: LANSCE	$61,501,827	$57,928,410	($3,573,417)	-5.81%
FMU-5: ESA & DX	$61,974,141	$82,741,727	$20,767,586	33.51%
FMU-6: WFM	$38,796,101	$54,979,182	$16,183,081	41.71%
FMU-6D: Excess	$23,138,034	$1,790,803	($21,347,231)	-92.26%
FMU-7: TA-55	$37,115,164	$46,646,094	$9,530,930	25.68%
FMU-8: Utilities	$39,280,830	$59,643,082	$20,362,252	51.84%
FMU-9: CMR	$82,706,239	$50,475,370	($32,230,869)	-38.97%
Unassigned	$60,479,708	$0	($60,479,708)	-100.00%
TOTAL	$564,402,155	$546,978,932	($17,423,223)	-3.09%

NOTES:

1. Growth was due in part to the assignment of unassigned DM from the baseline and cost adjustments based on CAIS cost-table updates and revised estimates for FMU-1 through -3 and FMU-7.
2. FMU-3S reductions due to completion of DM projects.
3. FMU-4 reduction was due in part to NNSA HQ determining the high-voltage project is modernization (-$18M), CAIS cost table updates, and revised cost estimates.
4. FMU-5 increases were due primarily to the re-assignment of assets on the excess list to mission essential to support mission.
5. FMU-6 increase resulted from the addition of contaminated waste line infrastructure to the DM listing.
6. FMU-6D reduction was due to the removal of reported DM as per the NNSA HQ guidance for reporting DM for excess facilities.
7. FMU-8 increases were due to the inclusion of most records identified as "unassigned" in the FY03 baseline.
8. FMU-9 The majority of the reduction is due to adjustments for the CMR roof DM.
9. Unassigned records are assigned to appropriate FMs.
10. The FY04 baseline shown in Attachment F-1 is the predicted baseline at the end of FY04.

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The CAIS database serves as the primary source of information for defining FIRP projects to manage and reduce deferred maintenance in accordance with NNSA corporate goals. To be considered valid, maintenance project requests must be identified in the CAIS database. As part of the project approval process, facility-related projects use CAIS data to identify deferred maintenance that may be associated with project execution.

Projects are identified in the CAIS database in one of two lists. The first list catalogs individual record entries in which execution costs to correct the deficiency indicates that aggregation with other line items may make the total cost prohibitive. The second list provides an aggregation of identified needs/deficiencies into a project that makes sound engineering sense, thus making the total identified cost for the project reasonable. No fixed definition for the level of cost per project has been defined; however, the current approach is to keep total project cost at or below the GPP funding threshold where possible.

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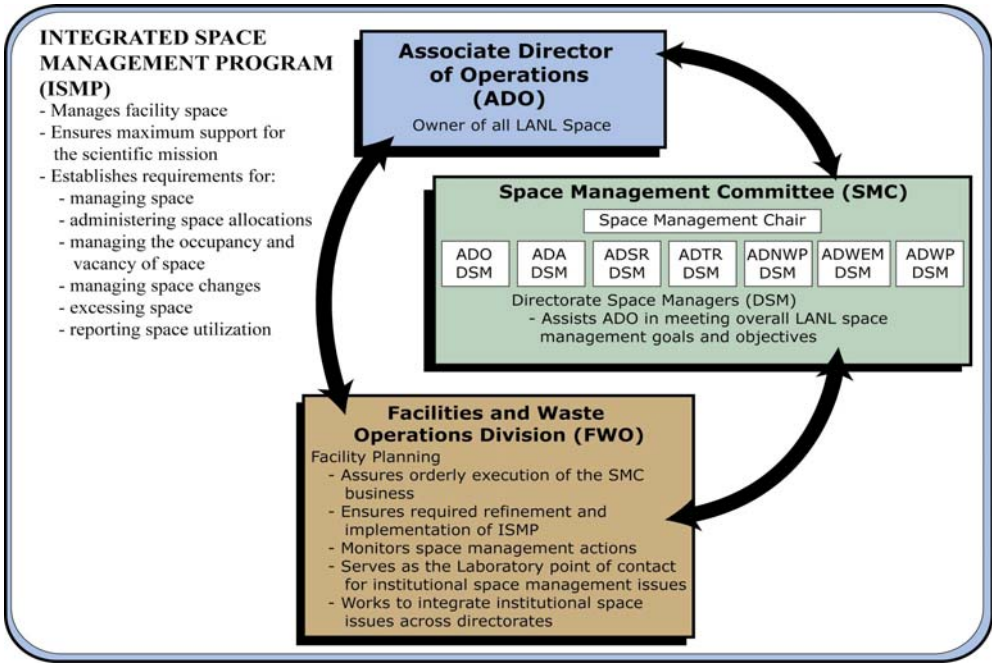
4.1.3 Utilization

4.1.3.1 Space Management Process

Laboratory space management encompasses all real property owned and/or leased by UC on behalf of DOE/NNSA. The Integrated Space Management Program (ISMP) manages the Laboratory's space as an asset and ensures maximum support for its scientific mission. The ISMP establishes requirements that are implemented for managing space, administering space allocations, managing the occupancy and vacancy of space, managing space changes, excessing space, and reporting space utilization.

The Associate Director for Operations (ADO) exercises overall space management responsibility on behalf of the Laboratory and is the institutional owner of all space. ADO utilizes a Space Management Committee (SMC) that represents each directorate. Directorate Space Managers (DSMs) manage the space within their directorate and assist ADO in meeting the overall space management goals and objectives at the institutional level via participation in the SMC. Facilities & Waste Operations – Facility Planning (FWO-FP) works in a staff capacity to ADO and the DSMs in assuring the orderly execution of the business of the SMC.

Figure 4-4: The Integrated Space Management Program ensures efficient management of the Laboratory's space.



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Additionally, FWO-FP ensures required refinement and implementation of the ISMP, monitors space management actions across the Laboratory, serves as the Laboratory point of contact for institutional space management issues, and works to integrate institutional space issues across directorates.

The ISMP calls for an annual review of space allocation for each directorate. This review is to be lead by ADO. Target allocations are developed based on Laboratory space standards, best practices in space management, budget and programmatic objectives, and other criteria established within ADO. In 2004, the SMC agreed to basic modeling standards for office and office support spaces, including the method for totaling employees housed by each directorate and the modeling of an average of 125 square feet of office and 30 square feet of office support space for each employee. This portion of the allocation model was then used to develop target reductions by directorate for the One Million Square Foot Reduction Effort that is described in a later utilization paragraph. Further development of the allocation model is needed to estimate other categories of space needs such as laboratory facilities, central support facilities (cafeterias, shops, etc.), general use facilities (meeting rooms, training rooms, etc.), and others.

Once space is allocated by the ADO, each AD is responsible for the ongoing management of their space allocation. All space activities, including assignments and/or reassignments, changes in space use, adding new space, excessing space, and siting structures are managed by the directorate and coordinated with FWO-FP.

4.1.3.2 Recent Activities in Space Management

Several key activities are underway that will improve space management processes and practices. These include an effort to reduce the Laboratory's space resources by one million square feet; an initiative to assign facility data element owners and reassess the processes to capture, maintain, and remove facilities from FIMS; and improvements to the validation of facility sizes for D&D reporting.

Space Reduction Initiative

Laboratory management has committed to reducing the size of the facility portfolio by one million gross square feet in FY05. The effort will primarily concentrate on reducing non-enduring space while ensuring programmatic and mission capability. Additional goals include reducing the deferred maintenance liability, reducing operating and maintenance costs, and improving the overall institutional approach to space management. The project is divided into two phases with a 500,000 gross square foot reduction expected in each phase. The one-year project cannot complete the actual removal of the facilities from the site; however, the expectation is that the facilities will

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be vacated and ready for D&D. The reduction in size will include facilities reported in FIMS as Type Five - Personal Real Property (i.e. transportainers), so while the institutional space should reduce by one million gross square feet, the total reduction may not be reflected in the real property reporting of FIMS.

The reduction goals are based on space allocation models developed for each directorate targeting office and storage space and equally pro-rating the remaining space. The space reduction must be done with an institutional view of all existing space, allowing for the movement of some activities into space previously occupied by other directorates and vacating the poorest facilities at the site. Additions to the space portfolio between July and December will require directorates to identify additional space reductions. The project's guiding principle is that *facilities are owned by the Laboratory and are assigned to organizations to meet mission needs*. Additionally, the project will provide an opportunity to strengthen the space management practices for the Laboratory.

Data Management and Reporting

Having accurate, timely, and accessible facilities data is critical to the successful management of space resources. While data must be used in conjunction with actual observation and consultation, failings in the data certainly limit effective management of the resources. Over the past two years the Laboratory has made significant improvements to data accuracy and the tools that create information from the data. Five million square feet of the site was surveyed in the first and second quarter of FY04 in an effort to validate the use of the interior space as well as the tenants of that space. Additionally, a new facilities information system was made available through the Laboratory's internal web site. Process improvements are underway to distribute data element ownership, including input and quality review, to those business units that gain the most from the availability of the data elements. In addition to distributing the data ownership, a review of facility definitions and the processes for getting facilities in and out of the database is also underway in hopes of improving both the site's internal data reporting and the information reported through FIMS.

In addition to the overall data improvements, specific attention has been given to the D&D reporting process. Past discrepancies have existed between facility sizes reported in the FIMS and D&D reports. These discrepancies occurred for various reasons but primarily due to the fact that facility measurements taken by sub-contractors hired for D&D were not consistent with measurement rules outlined by the site following DOE guidance. To avoid further reporting errors, the Laboratory has implemented a new process. Once the list of facilities to be demolished has been developed for the forthcoming fiscal year, a Laboratory employee trained to measure and calculate facility area totals is deployed to validate the FIMS reported areas prior to letting the D&D

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contract. Contractual language will use the measurements reported in FIMS unless cause is presented for a re-measurement at the time of the contract negotiations. It is anticipated that discrepancies will be greatly reduced, if not eliminated all together.

4.1.3.3 Space Needs

In the coming years, the Laboratory will be working to reduce the number of substandard facilities across the site and relocate staff and activities into more efficient and safe facilities. Many staff currently occupy trailers and other temporary structures that have exceeded their normal life span. The Laboratory currently leases approximately 45 properties encompassing 412,945 total square feet. Base rental costs are averaging $15.32 per square foot for these properties, and the Laboratory has made a commitment to reduce the dollars paid per square foot for commercial lease property. This action may reduce opportunities to occupy office space in the town site. These efforts, coupled with the congressional mandate to remove facilities at the same rate of new construction, provide the Laboratory with a tremendous space management challenge for the next few years. The approach currently being explored is to reduce non-office and inefficient office space, focusing on increased utilization and/or replacement of inefficient facilities.

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4.1.3.4 Summary Results of Space Studies

Table 4-4 summarizes total occupiable square footage and personnel assigned by building type. Data were obtained from the Laboratory's space database.

Table 4-4: Summary of existing space (data as of June 2004).

Building Type	Occupiable Square Feet	% of Total Occupiable Square Feet	Number of Personnel*	% of Total Personnel
Permanent	4,557,223	79%	12,301	76%
Trailer	112,683	2%	700	4%
Transportable	269,302	5%	1,627	10%
Commercial/Leased	337,784	6%	1,543	10%
Other	490,203	8%	17	<1%
TOTAL	5,767,195	100%	16,188	100%

**Personnel figure includes staff, contractors, students, post-docs, collaborators, and badged visitors.*

Table 4-5 summarizes the number of facilities by utilization status across the site. Data were obtained from the FIMS database.

Table 4-5: Summary of facilities by utilization status (data as of June 2004).

FIMS Status Code	Status Description	Number of Facilities	% of Facilities
1	Operating	1,275	92%
2	Operational Standby	3	<1%
3	Shutdown Pending Transfer	11	1%
4	Shutdown Pending D&D	89	6%
5	D&D in Progress	2	<1%
Total		**1,380**	**100%**

Table 4-6 summarizes total space per person with actual data from 2002 to 2004 and a five-year projection based on identified facility changes and expected population growth.

Table 4-6: Summary of total space utilization (FY04 data as of June 2004).

	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09
Total GSF (in K)	8,675.5	8,539.1	8,415.3	8,376.8	8,298.1	8,286.8	8,208.9	8,291.7
Total Population	15,100	15,600	15,500	15,500	15,500	15,500	15,500	15,500
GSF/Population	574.5	547.4	542.9	540.4	535.4	535.6	529.6	534.9

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4.1.4 Excess Facilities Elimination/Disposition and New Construction

The quantity of excess facilities had been escalating at the Laboratory for a number of years. Fundamentally, this situation existed because a significant portion of facilities were constructed in the 1950s for a Cold War mission driver. With the evolution of building codes, ES&H requirements, and safety standards, the adaptation of many of these facilities was often not economically feasible to meet today's mission needs. Although the institution seeks other adaptive uses, ultimately D&D often becomes the most effective solution. Execution of the FIRP Disposition program, which started in FY02, has begun to reduce the total number of excess facilities.

During the early 1990s, some buildings were transferred from DP to EM for demolition, which was accomplished. However, in spite of a number of submittals of candidate buildings, no further buildings were transferred to EM. In 1998, several buildings were proposed for removal under a proposed DOE funding initiative that never actually received any funding.

In 1999, DP-10, through RTBF, provided $2M in funding, which was split between S&M of excess facilities and the D&D of 27 small structures. With the same level of funding in FY00, a few more structures were removed, including two contaminated bag houses in the core of TA-03. After the Cerro Grande Fire in May 2000, the Laboratory requested and received approximately $20M to remove debris from damaged and destroyed buildings, in addition to the removal of excess buildings in flood or fire risk areas. The DP-10 RTBF funding for D&D and S&M had budget increases to $3.8M in FY01, with $3M in FY02.The FY01 funding accomplished the demolition of the Sherwood complex in the core of TA-3.

Beginning in FY03, RTBF only funded surveillance and maintenance with FIRP funding D&D. To date, approximately 155,000 GSF of excess space has been demolished with FIRP funds. FIRP-funded demolition has included such high profile projects as the TA-16-220 Complex and the TA-3 Syllac project. For the period 1999 through FY04, the Laboratory will have demolished approximately 400,000 gross square feet of space.

The progression of D&D activities since 1999 is significant in that it is a start in establishing not only a level of success, but also in establishing expectations for further removal of excess structures. The Laboratory is continuing work to access any possible funding source to remove buildings with no further use. Planned funding sources are as follows:

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- FIRP has emerged as the most aggressive short-term sponsor in removal of obsolete facilities at the Laboratory.
- Individual project funded. Examples include removal of the TA-53 cooling towers in FY02 and the SM-43 (315,000 square feet) demolition in FY06.
- Transfer of Process Contaminated Buildings from DP to EM. The Laboratory has worked in FY04 and will continue to work with NNSA to support strategic planning for EM transition. At this time the Laboratory is not aware of ultimate commitments within DOE/NNSA regarding schedules.

Supporting Information:

- In general, buildings are being excessed because of consolidation plans, which require smaller footprints to carry out the current and anticipated mission requirements. Refer to the condition assessment tables for the timeframe in which facilities will no longer be needed within each mission grouping.
- Annual S&M costs required for pending disposition are not collected on individual structures.
- In most cases, disposition means are through actual demolition with recycling of materials where appropriate. Some trailers and transportables are sold or excessed with the contractors responsible for removal from the Laboratory site. The Laboratory contracts with a number of companies for the majority of all D&D work.
- Specific D&D plans (including cost, scope, and schedules) for each project grouping are typically developed in the preceding FY.
- Refer to Attachment A-4 for FIRP D&D cost/budget planning.
- A variety of waste types are anticipated in most structures. Asbestos is considered routine considering the age of each structure. In addition, known contamination and special considerations (such as radiological or historical) are noted in the table.

Attachment E-1 provides the current list of buildings which have been demolished since FY02; those structures that have been transferred from owning divisions to the institution; and facilities that are still active but planned for future demolition. Attachment E-2 captures the gross square footage of NNSA proposed construction at the Laboratory, along with the year of beneficial occupancy, for Line Item, GPP, IGPP and other projects from FY02-FY13. New facilities are counted only when they are completed and occupied (year of beneficial occupancy), and construction projects started prior to FY03 are not counted against the Congressional requirement for comparing new construction to demolition (one for one requirement). Attachment E-3 is a chart of the Laboratory's gross square footage of excess facility elimination compared to new construction.

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4.1.4.1 Long Term Stewardship

In accordance with DOE Order 430.1B, Long Term Stewardship (LTS) includes the physical controls, institutions, information, and other mechanisms needed to ensure protection of people and the environment where DOE (including NNSA) has completed, or plans to complete disposition or cleanup (e.g., landfill closures, remedial actions, removal actions, and facility stabilization). This concept includes land-use controls, monitoring, maintenance, and information management. (DOE O 430.lB, Real Property Asset Management).

Los Alamos National Laboratory does not have a formally declared LTS Program per DOE O 430.1B. The Laboratory is, however, developing an institutional Environmental Management System (EMS) per DOE Order 450.1–*Environmental Protection*. DOE Order 450.1, issued Jan. 15, 2003, requires the laboratory to implement an Environmental Management System by December 2005 that:

1. Provides for the systematic planning, integrated execution and evaluation of programs for public health and environmental protection, pollution prevention and compliance with applicable environmental protection requirements;

2. Includes policies, procedures and training to identify activities with significant environmental impacts to manage, control and mitigate the impacts of these activities, and to assess performance and implement corrective actions where needed; and,

3. Includes measurable environmental goals, objectives and targets that are reviewed annually and updated.

DOE Order 450.1 mandates that the EMS be integrated with existing Integrated Safety Management System already established pursuant to DOE Policy 450.4. An EMS implementation plan has been completed for the Laboratory. While several EMS frameworks are available, the Laboratory has chosen to implement the one described by the International Organization for Standardization (ISO) 14001. This choice was made on the basis of the widespread use of the ISO 14001 standard in government and private sector and the availability of resources and training materials. The current EMS schedule calls for self-declaration according to DOE protocols by December 2004 and that the Laboratory be prepared to submit for independent third-party certification according to ISO 14001 protocols by December 2005.

The EMS is being developed, and will be implemented, in coordination with other existing programs and procedures that functionally address the intent of a LTS within the

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policy framework of DOE O 430.1B. The LTS drivers are also addressed through the Laboratory's Integrated Safety Management System and associated Environment, Safety and Health programs, policies and operations.

The majority of funding for managing, decontaminating and decommissioning contaminated facilities is provided through NNSA Programs (via FIRP and RTBF Programs). Clean up and remediation of contaminated sites (e.g., MDAs and PRSs) is funded through DOE EM Programs (see ES&H section). The following summaries provide a description of Laboratory activities that are most relevant to implementing a LTS Program as described in DOE O 430.1B.

Environmental Restoration

The scope of the Environmental Restoration (ER) project is to investigate whether hazardous chemicals and/or radioactive contamination are present as a result of past laboratory operations and to clean up sites where such contamination is present to levels protective of human health and the environment. The ER project consists of 2,124 potential release sites (PRSs), of which 824 remain to be assessed. Project activities are located in eight watersheds and include investigating Material Disposal Areas, canyons and sediments, as well as groundwater characterization and protection activities. The ER Project is scheduled for completion in FY 2015. The present projected cost of this project is $ 533,171,000, spread over the years FY2006 to 2015. An additional $125,526,000 in FY 2006-2015 over target funding has been requested from DOE/EM to address anticipated additional remediation costs that were not included in the original baseline or Performance Management Plan.

D&D

Many ER corrective actions at TA-21 and TA-54 cannot be completed without the D&D of excess, highly contaminated buildings. At TA-21 there are approximately 100,000 square feet of these excess, highly contaminated facilities in DP West (the former plutonium processing facilities). These facilities are currently in surveillance and maintenance (S&M). Most of these facilities have PRSs beneath them that cannot be investigated, and if necessary remediated, until these facilities have been removed. There are known contaminated lines and historic releases beneath many of the facilities.

Neither EM nor NNSA has any funding programmed for the D&D of these structures. The projected cost for conducting the D&D for the highly contaminated facilities between FY 2006 and 2010 is $102,829,000. Additional funding for the D&D of contaminated facilities will be required in 2011 and 2012, but the exact amount is still being determined.

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Contaminated Structures Left in Place

Many areas with legacy contamination cannot be remediated by 2015 because they are still in use. Examples include the Laboratory's active firing sites, the existing system of buried radioactive liquid waste collection lines, as well as many sanitary waste lines that were contaminated during past operation. These will be managed in place so long as they are needed for active operations. When no longer needed, they will be remediated by NNSA. Since these structures are contaminated, there will be additional cost associated with maintenance or new construction.

Industrial Zone Restrictions

Many contaminated sites will be remediated only to industrial use standards (in part because cleaning-up to residential or unrestricted use standards is prohibitively expensive). Future construction, maintenance and other activities will be more expensive in any case where these "brownfields" require additional environmental controls or monitoring.

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4.1.5 Deferred Maintenance

A primary indicator of the overall health of a facility is the amount of maintenance that has been deferred (maintenance that was not performed when it should have been and delayed till a future period or maintenance requirements that are discovered during CAS inspections). Reducing deferred maintenance associated with NNSA's facilities and infrastructure is a visible and measurable improvement to the nuclear weapons complex. NNSA committed to Congress in testimony that deferred maintenance will be stabilized by FY05 and that deferred maintenance for mission-essential facilities will be reduced to within industry standards for mission essential facilities and infrastructure by FY09. These commitments are NNSA's demonstration of accountability for the significant resources the OMB and Congress are providing.

The NNSA established corporate goals for deferred maintenance reduction at the first Deferred Maintenance Reduction Summit on July 25, 2002 (two other summits were held December 3-4, 2002 and May 20-21, 2003). The Deferred Maintenance Reduction Summits established a clear commitment by NNSA Headquarters, each Field Site Office and Management and Operating (M&O) contractor, to the NNSA corporate goals of deferred maintenance reduction and agreement on a path forward. The NNSA will report specific Deferred Maintenance Reduction targets (expressed as burdened dollars and percentage reductions from the baseline) in the Congressional Budget Request. This information will also be used in making funding decisions.

No NNSA commitment to Congress is made for Balance of Plant (BOP) facilities, however, the Laboratory recognizes that much of the BOP facilities and infrastructure components are essential to the site activities and the full functioning of Mission Essential facilities. Therefore, the Laboratory will return BOP facility conditions to an assessment level of fair to good (deferred maintenance/replacement plant value less than 10%).

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4.1.6 Site Plan to Meet NNSA Corporate Goals

This section discusses the Laboratory's plan to achieve NNSA corporate goals for deferred maintenance reduction. The strategies to achieve the NNSA corporate goals include the following:

1. Develop a refined resource-loaded schedule to reduce baseline deferred maintenance (identified in the FY03 baseline) for FY05 through FY09 that is based on deferred maintenance and replacement plant values anticipated for the beginning of FY05. This schedule includes removing DM (Deferred Maintenance) disposition actions that will be completed before the start of FY05, as well as facility assets deactivated before that time.

2. Use a prioritization process to identify the minimum set of DM disposition actions needed to achieve NNSA corporate goals. In addition, ensure a high level of mission reliability and asset preservation during the performance period between FY05 and FY09.

3. Use a systematic process to identify the resource-loaded schedule of annual deferred maintenance disposition actions required to maximize the likelihood of meeting FY09 FCI goals consistent with anticipated limitations on FIRP funding during the performance period.

Figure 4-5 shows the deferred maintenance prioritization and scheduling process that will be used to meet NNSA corporate goals. A two-level prioritization process will be used to consider the impact of identified deferred maintenance disposition actions on the facility FCI, as well as the facility FCI reduction on overall site FCI reduction goals. Minimum sets of deferred maintenance disposition actions are identified to meet FCI reduction goals for enduring mission essential facilities, non-enduring mission essential facilities, balance of plant facilities, and the aggregate of all facilities.

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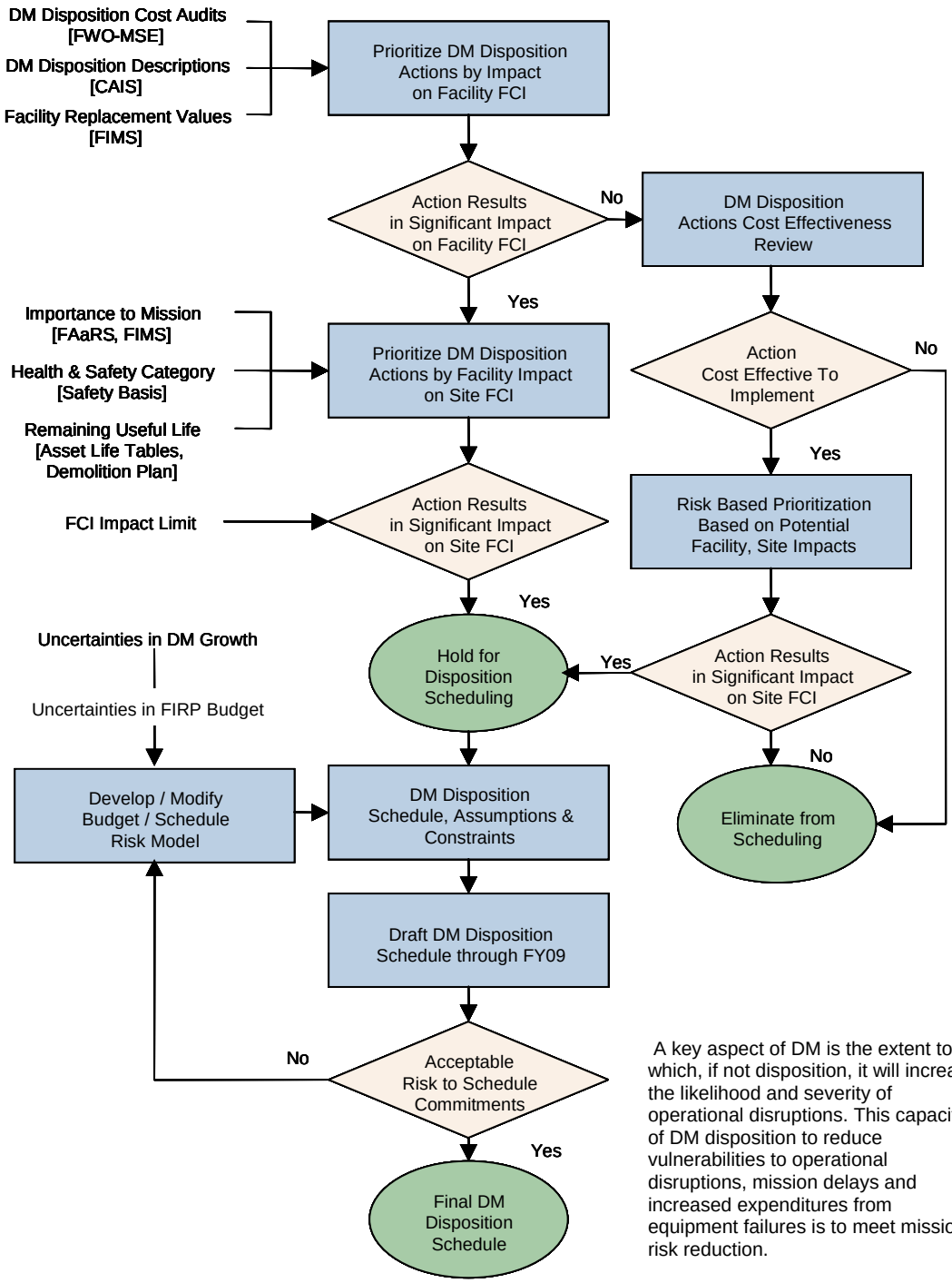
Figure 4-5: Deferred maintenance action prioritization and disposition.



A key aspect of DM is the extent to which, if not disposition, it will increase the likelihood and severity of operational disruptions. This capacity of DM disposition to reduce vulnerabilities to operational disruptions, mission delays and increased expenditures from equipment failures is to meet mission risk reduction.

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Identifying the set of deferred maintenance actions that meet an FCI reduction goal does not provide a complete measure of value for deferred maintenance actions. Whereas some actions have little impact on the reliability of efficiency of site operations, others reduce the potential for operational disruptions, mission delays and increased corrective maintenance costs. Moreover, some deferred maintenance actions with a limited impact on the FCI may have a significant impact on facility operations.

To address such issues, the Laboratory will define a second measure of DM disposition action value, known as mission risk. The mission risk for each DM disposition action is evaluated with a mission risk prioritization matrix (Figure 4-6). The mission risk prioritization matrix considers the how deferred maintenance disposition would reduce the likelihood and severity of mission interruptions, delays, and increased corrective maintenance costs, as well as the long-term importance of facility activities to site management objectives. The mission risk prioritization process identifies additional deferred maintenance actions that should be implemented during the deferred maintenance reduction period to ensure that optimum years for deferred maintenance disposition actions are considered.

The prioritization and scheduling process shown in Figure 4-5 is used to identify the sets of required deferred maintenance disposition actions for the deferred maintenance reduction performance period. The required disposition actions are compared with the available funding profile to generate a deferred maintenance “buy-down model,” such as the one illustrated in Attachment F-3. As shown in Attachment F-3, the buy-down model includes the aggregate impact of deferred maintenance disposition actions over the performance period, as well as the aggregate impact of deferred maintenance disposition actions on various levels of facility assets (i.e., enduring mission essential, non-enduring mission essential, and balance of plant systems) and the projected new deferred maintenance growth over the same time period.

As agreed to during the Third Deferred Maintenance Reduction Summit of May 20-21, 2003, the Laboratory’s deferred maintenance baseline will consist of the FY03 deferred maintenance and replacement plant values. Originally presented in the final FY04 TYCSP, these values were modified to consider deferred maintenance disposition actions completed before the FY05 start and the facility assets inactivated before that time. Revised FIMS models for calculating RPV have been used to refine estimates of facility and site FCI for the deferred maintenance prioritization and scheduling process.

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Figure 4-6: Mission risk prioritization matrix, DM risk rank.

Prioritization Basis	Severity of Impact				
Likelihood of Impact	No Significant Impact	Minor Mission Impact	Moderate Short-Term Mission Impact	Significant Long-Term Mission Impact	Complete Facility Shutdown
Failed – Equipment Not Operational	4	3	2	1	1
High – Equipment Failure in Less Than 1 Year	5	4	3	2	1
Medium – Equipment Failure in Less Than 3 Years	5	5	4	3	2
Low – Equipment Failure in Greater Than 3 Years	5	5	5	4	3

DM Risk Rank	
High Likelihood of Severe Mission Impact	1
Moderate Likelihood of Severe Mission Impact; High Likelihood of Significant Mission Impact	2
Low Likelihood of Severe Mission Impact; Moderate Likelihood of Significant Mission Impact; High Likelihood of Limited Mission Impact	3
Low Likelihood of Significant Mission Impact; Moderate Likelihood of Limited Mission Impact	4
No Mission Impact; Deferred Indefinitely	5

Figure 4-7: Mission risk prioritization matrix, scheduling priority.

Prioritization Basis	Risk Rank				
	5	4	3	2	1
Mission Essential Enduring Facilities	D	C	B	A	A
Mission Essential Non-Enduring	E	D	C	B	A
BOP	E	E	D	C	B

Disposition Priority of DM Activities	DM Disposition Timing
Priority A	0-1 Year
Priority B	1-2 Years
Priority C	2-3 Years
Priority D	3-5 Years
Priority E	> 5 Years

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4.1.6.1 RPV Calculation Methodology

The Laboratory calculated the FY04 RPV to make it consistent with the baseline RPV for FY03. Redone FIMS cost models prepared using new standards now reflect a significant change in RPV for the site. To avoid the change in baseline, the Laboratory is maintaining the original cost models and adjusting for cost escalation by using R.S. Means Historical Cost Index (HCI). The methodology is broken into three forms: buildings, trailers, and OSFs.

Buildings and Trailers (FIMS Property Type "B" and "T")

1. Obtain geocost factor, gross square footage, RPV model and hazard category from FIMS.
2. Obtain the site factor from Table 4-1.
3. Obtain the old square footage cost for the model used for the FY03 snapshot and listed in Table 4-7. This table contains industry standard RPV model costs for structures that are similar in construction technique to unique structures at the Laboratory. If the asset is a building and is a Category 2 Nuclear Facility, use the CMRR model cost from Table 4-1.
4. Obtain the HCI for the current year (FY04 = 133.0) and divide by the baseline year HCI (FY03 = 129.7) to obtain the cost escalation factor.
5. Obtain RPV by multiplying the geocost factor, gross square footage, square footage cost, cost escalation factor, and site factor.

OSFs (FIMS Property Type "S")

1. Obtain acquisition cost and acquisition year from FIMS.
2. Enter an RPV of $0 if an acquisition cost is not available.
3. Use the acquisition cost for RPV if an acquisition year is not available.
4. Use the R.S. Means Square Footage Cost tables for HCI if the acquisition cost and acquisition year are available. The HCI for 2004 was 133.0. The HCI for 2004 is divided by the HCI for the acquisition year to obtain a cost escalation factor. This factor is multiplied by the acquisition cost to obtain the RPV.

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Table 4-7: 2003 RPV model costs.

Model	Description	Square Foot Cost
E1	Housing - Small	$91.67
E10	Indoor Firing Range	$62.85
E11	Office/Lab	$95.95
E12	Laundry	$129.17
E13	Library	$91.41
E14	Medical Facility/Clinic	$120.73
E15	Office-Small	$74.99
E16	Office-Medium	$72.50
E17	Office-Large	$68.51
E18	Parking - Above Ground	$25.85
E19	Parking - Below Ground	$37.45
E2	Housing - Large	$85.02
E20	Swimming Pool	$127.80
E21	Post Office/Mail Handling	$67.12
E22	Recreation Center/Gym	$77.32
E23	Retail Store	$61.59
E24	Security/Badging	$89.12
E25	Warehouse/Storage(pre-engineered)	$47.18
E26	Bank/Credit Union	$118.83
E27	Visitor Center	$64.51
E3	Auditorium/Meeting	$113.18
E4	Cafeteria/Dining	$108.16
E5	Classroom-Small	$73.12
E6	Classroom-Medium	$76.84
E7	Fire Station	$78.75
E8	Garage, Repair	$65.79
E9	Hangar	$56.94
N1	Bunkers/Magazines	$410.61
N10	Labs-Chemistry (80/20)	$252.91
N11	Labs-Physics/Comp (80/20)	$258.94
N12	Labs-Test/Blast (80/20)	$329.89
N13	Machine Shop	$133.92
N14	Maintenance Shops	$125.23
N15	Paint Shop	$130.28

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4.1.6.2 Meeting the Corporate Goals

Attachment F projects funding required to meet the NNSA corporate goals for deferred maintenance reduction. Based on the FIRP funding profile shown in Figure 4-8, the buy-down model in Attachment F indicates that projected levels of FIRP funding during the performance period (FY04 through FY05) will be sufficient to meet DM buy-down requirements for ME facilities, even when the potential for higher DM disposition costs are considered.

The Attachment F model also indicates that projected FIRP funding, in combination with other funding sources, can successfully buy-down DM for BOP facilities, even when conservative estimates of DM disposition cost are considered. The model assumes escalation of the RTBF funding for direct funded facilities and includes the projected levels of FIRP funding. A deferred maintenance accrual rate[1] is conservatively estimated to be 4% per year of the RTBF funding for Master Equipment (ME) facilities and 4% of the indirect maintenance funding for BOP facilities (a 2% growth that resulted from unperformed maintenance the previous year and the discovery of latent deferred maintenance, as well as 2% growth due to inflation).

Deferred maintenance is identified as a budget line in each building-level budget formulation sheet. The model takes into consideration the current effect of the deferred maintenance buy-down funded from sources other than FIRP. During FY04, the full effect of buy-down attributable to funding sources other than FIRP was evaluated and factored into the model for the reduction plan.

Figure 4-5 depicts the plan to reduce deferred maintenance based on the stated assumptions. To stabilize deferred maintenance as required by the corporate goals, the Laboratory must increase maintenance funding by approximately 3.6% per year for five years, as well as sustain the plant with a 3.4% maintenance budget increase into the future following the reduction phase. These changes diverge from the requirements reported in the FY04 TYCSP because contributions from RTBF and the indirect budget constituted an approximate 12% increase over validated FY03 maintenance expenditures. The large contribution in FY04 has enabled the Laboratory to reduce the annual budget increase for maintenance to 3.6% per year for real property assets in direct funded facilities in FY05 through FY09 and continuing at the 3.4% in out years. Estimates reported in the FY04 TYCSP indicated a requirement for a 6% budget increase based on

[1] FIRP funding of ME DM buy-down is based on the FY03 baseline and therefore does not consider DM resulting form new discovery (i.e. additional facility deficiencies discovered as a result of CAS inspections). However, DM can be accrued as a result of planned maintenance actions not performed in a previous FY.

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estimated maintenance costs predicted at the beginning of the 4th quarter of FY03. The Laboratory FY03 maintenance cost estimates were high with respect to validated actual costs at year-end closing, as discussed in Section 4.1.

4.1.6.3 Deferred Maintenance Reduction

The Laboratory recently completed baseline inspections and interviews needed to identify deferred maintenance. The baseline assessment effort included all buildings greater than 100 square feet, as well as other infrastructure associated with utility distribution and transmission system. The Laboratory obtained this assessment by applying the then Mission Essential facilities list to segregate assets appropriately. The utility system assessments were based on the responsible system engineers' assessments, which required limited field inspection. The utility systems are regularly inspected by engineers and field maintenance crews, and performance and material conditions are well understood. Once the field inspection and baseline were completed, the Laboratory validated the collected data. Responsible FMs have reviewed the deferred maintenance contained in the Laboratory's CAIS database. Projections for deferred maintenance reduction are based on the assumption that funding profiles for FIRP and RTBF funding will keep pace with inflation.

Table 4-8: Summary of deferred maintenance and maintenance funding by fiscal year.

	FY03 Deferred Maintenance Baseline	FY04 Deferred Maintenance
Deferred Maintenance	$564M	$546M
Mission Essential Facilities Deferred Maintenance	$267M	$274
Balance of Plant Facilities Deferred Maintenance	$297M	$273

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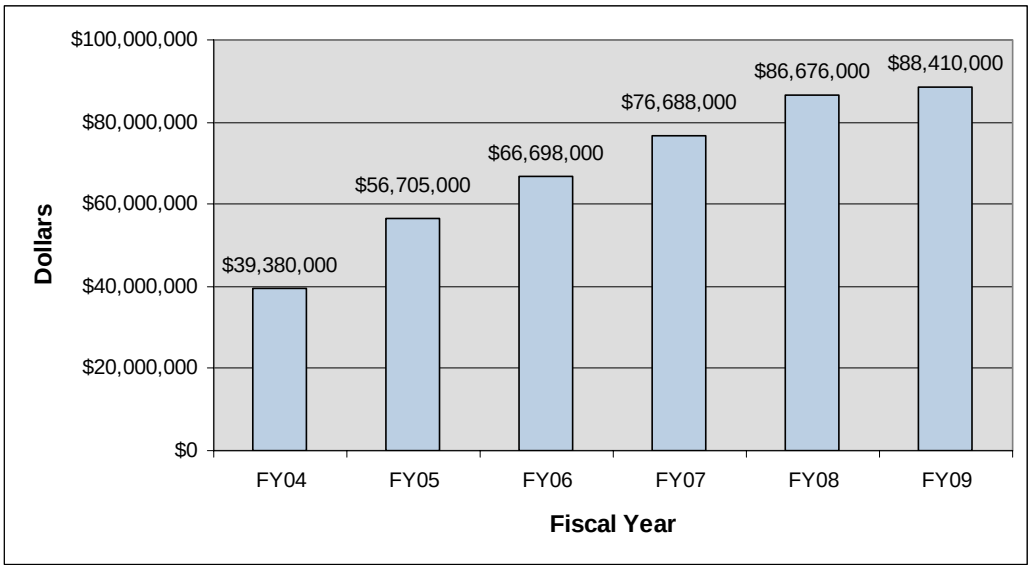
The Laboratory's maintenance program has integrated the CAIS database into the normal course of budget formulation and work execution, and considers deferred maintenance reduction when defining maintenance work. Feedback mechanisms are under development to ensure that completed deferred maintenance-related work is recorded and updates to the CAIS database are affected. The Laboratory's Integrated Facility Management Program requires that documents related to maintenance management must establish the requirements to integrate deferred maintenance into the management process.

Figure 4-8: FIRP funding profile for deferred maintenance reduction based on FY05 FYNSP.



FIRP funding levels with respect to currently identified deferred maintenance appear to be adequate, as modeled, to address the NNSA reduction goals. The delta between the funding profile provided in the FY04 TYCSP ($45.52M) and the current actual allocations for FY03 ($37.84M) indicate an approximate $7.68M reduction in FIRP funding. Although the funding shortfall can be absorbed without adverse effects, similar reductions in future years could negatively impact the Laboratory's plan to meet the deferred maintenance reduction goals.

According to the Laboratory's deferred maintenance management financial model, the end state of deferred maintenance expressed in "current year dollars" (taking inflation into account) will be approximately $ 359M by FY09, and the corporate goals will be achieved. This estimate assumes that the required maintenance funding from all sources

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will increase to keep pace with inflation. Although there continues to be uncertainty with respect to deferred maintenance growth rates, other NNSA sites agree that 2% is a reasonable rate of growth based on assets of similar age and complexity.
The Laboratory assumed a 2% inflation rate for its models. However, the growth and inflation rate assumptions will be refined as inflation rates are published, FIRP funded projects are completed, and subsequent condition assessments are performed. Factored into the financial models will be the Laboratory's ability to meet the corporate goals.

The financial model used for the FY04 TYCSP exhibited sensitivity to the impacts of the CMR building that resulted from the level of deferred maintenance and the magnitude of the RPV associated with a single asset. The Laboratory explored the possibility of treating the CMR building (a non-enduring Mission Essential asset) as a separate case, thus removing it and its influence on the financial model. The NNSA agreed with this approach at the Deferred Maintenance Summit in May of 2003, but only if the Laboratory submitted appropriate justification. Subsequent modeling demonstrated that disconnecting CMR from the process skewed the aggregate FCI for the Laboratory. This skew was caused by the required extended operational life of the asset, and as a result, it unnecessarily complicated the task scheduling required to effectively plan for deferred maintenance buy-down. Thus, CMR is fully incorporated in the modeling and planning process.

4.1.6.4 Proactive Steps to Reduce Deferred Maintenance

Budget requests for deferred maintenance reduction are included in the annual maintenance work plan. As funding becomes available, prioritized requests will be funded at the FM, division, and institutional levels. Requests for deferred maintenance reduction project funding are submitted to the FWO Institutional Projects Office (FWO-IP), which considers such requests for FIRP funding. The level of requested funding is based on two factors, the DM disposition actions, which are ranked using mission risk and FCI reduction values, and estimates of available buy-down funding during each performance period year.

If the recommended year for DM disposition is for the forthcoming FY, needs for deferred maintenance reduction and recapitalization, at the building level, are included in the annual work plan for each building. This approach provides clarity in DM funding requirements and need for various funding streams. Given anticipated limitations on DM disposition funding, prioritization also provides a method to remove DM disposition activities from the execution plan when dictated by funding or programmatic needs.

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Reducing deferred maintenance is an important aspect of facility management. FWO Division through the FWO-IP Office, is responsible for the project management of deferred maintenance reduction. FWO-IP applies rigor in project management and program execution to ensure that allocated resources focus on projects that stabilize or reduce deferred maintenance across the Laboratory. Overseen by the Program Office, personnel in the CAS Program identify, develop, and refine potential deferred maintenance reduction projects. Projects are coordinated through a single entity with the Laboratory, and dedicated personnel ensure that that proper level of rigor is applied to the program.

FWO has undertaken reengineering efforts to ensure proper facility management and maintenance. Personnel are implementing the budget formulation process to identify exact facility management needs to better manage needs against the authorized funding gap. Work management processes are being crafted to realize efficiencies. Accounting functions provide visibility and transparency in actual expenditures and feed a process of continuous improvement in maintenance work management. Process performance measurement indicators that drive corrective behavior are being crafted and implemented.

Using the FCI reduction approach discussed earlier, the Laboratory is preparing a detailed, resource-loaded Deferred Maintenance Prioritization and Scheduling Report (DMPS) that addresses deferred maintenance reduction planning for Mission Essential facilities and BOP assets. The DMPS provides an auditable and defendable basis for the DM buy-down projections discussed in this report. The DMPS was submitted to LASO on June 30, 2004.

4.1.6.5 Measuring Progress and Laboratory Objectives

Established by NNSA, the corporate goals for deferred maintenance reduction were agreed to by each NNSA site. The Laboratory has identified an interim objective for FY05.

> **FY05 Objective 1:** Through the application of FIRP funds, reduce the FCI for mission essential assets by 7.3%. *(Note: Determining the reductions for FY05 and beyond are predicated on actual reductions achieved in FY04. This objective will be monitored through Appendix F in the UC Contract.)*

The Laboratory will use the work management system to plan and execute work and capture expenditures targeted toward deferred maintenance reduction. To identify and report deferred maintenance status, work management cost data will be correlated to the CAIS database. The budget formulation process for FY05 provides discrete line and associated budget codes to identify indirect and some direct funded (funded through

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RTBF funding mechanisms) deferred maintenance disposition projects and to track execution at a building level. Direct funded FIRP projects managed by FWO-IP are tracked through the office. All deferred maintenance buy-down projects are managed and tracked. The Infrastructure Programs Office within FWO-IP identifies direct funded FIRP projects that meet or exceed GPP level funding requirements. The FWO-IP Project Office also tracks projects that affect reduction in deferred maintenance. Deferred maintenance buy-down that results from project execution will be captured in the LANL CAIS2000 database and reported as required.

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4.1.7 Maintenance

RTBF ensures that maintaining and repairing Mission Essential facilities does not increase the current level of deferred maintenance and that available FIRP funding can be used to work off existing deferred maintenance. The Laboratory has re-engineered and institutionalized responsible and accountable facility management processes, including budgetary ones, to maintain the condition of NNSA facilities and infrastructure in accordance with the NNSA corporate goals. The Laboratory has made every effort to reverse past practices that allowed the condition of Laboratory facilities and infrastructure to deteriorate to unacceptable levels. An important element of the corrective action is the provision of adequate funding for routine expenditures and needed maintenance and repair. It is anticipated that the re-engineered facility management process will control DM growth, as a result of unperformed maintenance, to the low 2% level forecasted in Attachment F.

To identify routine (preventive and predictive) maintenance needs of the asset base, personnel use the Master Equipment List (MEL) from the Computerized Maintenance Management System (CMMS). Corrective maintenance needs are defined through periodic inspection, interviews, knowledge of plant systems, and analysis of maintenance history. Preventive and predictive maintenance evolutions are specified in the MEL and are published as work-order documents on specified intervals. Using CMMS as the driving tool for routing recurrent maintenance guarantees that each Structure, System, and Component (SSC) requiring periodic maintenance receives the required level of attention, which in turn ensures control over deferred maintenance and optimizes availability. Once recorded in the CMMS as corrective work orders, corrective maintenance (identified through inspections, interviews and knowledge of plant systems) is executed according to priority.

Maintenance program specifications are defined in the Integrated Facility Management Program document set for Maintenance and Engineering. The requirements set forth in these documents specify that a responsible system engineer define periodic maintenance needs for asset SSCs and ensures that these requirements are recorded in the MEL. The appropriate periodic maintenance work documents are then routinely computer generated via the MEL as part of the periodic maintenance program implementation.

4.1.7.1 Required Maintenance

NNSA is focused on upgrading maintenance spending to a benchmark of 2 to 4% of the (RPV) of its assets. The calculation of required maintenance modeled for Attachment F-1

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and F-2 is based on this approach. Each facility is classified under Mission Essential and Balance of Plant as well as Enduring or Non-Enduring in nature.

Due to its size, large RPV, and impending decommissioning, the CMR facility is classified with a lower calculation for required maintenance. Based on this, as well as its historical budget, a target of 1.0% of RPV is used to calculate the required maintenance for this facility. In addition, after FY11, the facility will be transitioned into a standby status requiring surveillance at an estimated 0.3% of RPV. The remainder of the facilities uses the following to address required maintenance estimates:

1. Mission Essential Facilities
   - Enduring Assets: 2.5% of RPV
   - Non-enduring Assets: 3.5% of RPV
2. CMR: 1.0% of RPV
3. Balance of Plant Facilities
   - Enduring Assets: 2.0% of RPV
   - Non-enduring Assets: 2.0% of RPV

4.1.7.2 Maintenance Needs Compared to Projected Funding

Current maintenance funding at the Laboratory reflects an approximate 12% increase from the FY04 validated actual maintenance expenditures of $88.8M. *The anticipated budget for FY05 is $110.7M.* The TYCSP commitment to increase the FY04 maintenance budget by 6% was based on projected cost estimates at the beginning of the 4th quarter of FY03 that used approximately $96M as the maintenance funding expenditure. The validated actual FY03 costs at year-end closing were $88.8M. However, the Laboratory honored the commitments and allocated funding accordingly, constituting an effective 12% increase over FY03 actual costs. This increase exceeded the projected needs identified for FY04 and will enable the Laboratory to apply effort more aggressively to meet the NNSA corporate goals.

4.1.7.3 Determining Maintenance and Funding Requirements

Developed by using the MEL, the required maintenance budget is based on periodicity and unit cost of performing work for each SSC recorded in the MEL for recurring maintenance. Corrective maintenance funding requirements are based on analysis of maintenance history, operational inspections, CAS inspections, and knowledge of plant systems. To identify funds needed for FY05 periodic maintenance (PM/Pdm), personnel used unit cost tools (MEL-based), analysis of vendor requirements, and professional

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judgment by system engineers. Unit cost estimates per square foot were used for certain classes of assets, such as trailers and transportables, based on historical costs. These tools and techniques are applied, as appropriate, by all FMs.

Maintenance needs for FY05 are expected to escalate by approximately 3% from FY04 actual costs to account for inflation and control of accrued DM. Whitestone Engineering and R.S. Means have identified maintenance inflation projections based on projections for the construction industry that are, by inference, used to describe corrective and preventive maintenance projects. Using a maintenance inflator, the Laboratory calculated a required maintenance budget for FY05 of approximately $103M (subject to revision), with an increase from the FY04 budget being provided in direct funded facilities only. The indirect funded maintenance budget is flat from FY04. Budgets for the FY05 budget year will be developed during the 4th quarter of FY04.

4.1.7.4 Closing Facilities and Consolidating Mission Activities

Based on an analysis of projected maintenance funding requirements for FY05, senior management may close and deactivate some facilities to balance mission capability with maintenance and operations costs. The possibility of consolidating mission activities within existing facilities, where facility capability may support multiple mission efforts, has led to planning analysis for facility closures in FY05. The primary goal of this effort is to reduce maintenance and operational costs. Preliminary analysis indicates that some indirect funded facilities may be candidates for closure to optimize space use and reduce overall operations and maintenance costs.

Also under evaluation for FY05 are the curtailment or closure of some associated mission activities. Eliminating indirect funded mission efforts may provide additional assurance that operations and maintenance costs are stabilized and reduced in accordance with the NNSA corporate goals. This approach may provide necessary NNSA mission support without constructing additional space. Personnel will perform a careful analysis of asset capability, re-usability, asset condition, and maintenance costs for each facility to ensure that decisions for mission support are based on life cycle costs and mission support capability.

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4.1.8 Replacement-in-Kind Requirements

NNSA is committed to facilitating improved facilities and infrastructure management. FIRP is restoring, rebuilding, and revitalizing the physical infrastructure of the nuclear weapons complex and is specifically targeting the reduction of its large amount of deferred maintenance. Currently, NNSA's total deferred maintenance is approximately $2.4 billion (FY03). Based upon the latest approved FYNSP, FIRP is positioned to buy-down $1.2 billion of this deferred maintenance between FY04 and FY09. Such a buy-down should improve NNSA's facility condition to *good* for mission essential facilities and infrastructure by the end of FY09.

Congress has directed that FIRP, as currently structured, end by FY11. NNSA is beginning to plan for the "sunset" of FIRP by identifying facility management processes that must be institutionalized to ensure that the nuclear weapons complex does not suffer the inattention and under-funding that brought it to such disarray in the 1990s. Strong direction by the Administrator and the Deputy Administrator for Defense Programs will ensure that maintenance and repair are adequately funded such that the deferred maintenance does not grow following the successful completion of FIRP. With the continuing Integrated Construction Program Planning process, which addresses the NNSA's capital acquisition requirements, there will remain a post-FIRP legacy requirement for funding major building subsystem replacements beyond the sites' typical maintenance and repair programs.

This sound facility management component has various names in industry and federal government, but is often termed replacement-in-kind (R-I-K). R-I-K encompasses the replacement of building subsystems that are such large financial outlays (typically greater than $250K) such that traditional operations and maintenance budgets are adversely impacted when forced to incorporate such expenses. R-I-K typically includes building subsystems such as roofs, electrical distribution equipment, HVAC equipment, building control systems, and fire protection apparatus. NNSA would like to determine its corporate budget to address the R-I-K needs of the facilities and infrastructure for the nuclear weapons complex. Attachment F-6 contains the Laboratory's R-I-K requirements.

A reasoned approach to establishing requirements at each site for R-I-K would encompass a forecast of the replacement dates for all facility and infrastructure subsystems based on their expected physical lives (i.e., the optimum year for replacement at the end of expected life). To establish requirements at each site for R-I-K, personnel would have to forecast the replacement dates for all facility and infrastructure subsystems based on their expected physical lives (i.e., the as modified by data from ongoing periodic condition assessments and their current actual maintenance and repair costs.

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4.1.9 Utilities

The Laboratory's extensive utility network is essentially its life support system. Providing utility service is the single largest component of the Laboratory's site development costs. Therefore planning to ensure effective and efficient utility system capacity and sustainability is vital to enable various programs to evolve and progress in support of national missions.

Table 4-9: Utility system lengths.

Utility System		Approximate Length (miles)
Electrical System	Primary	16.3
	Secondary	113.5
	Total Electrical	**129.8**
Sanitary Wastewater System	Effluent	3.5
	Force Mains	11.0
	Gravity	126.5
	Total Sanitary Sewer	**141.0**
Water System	Distribution	90.3
	Service	16.7
	Total Water	**107.0**
Natural Gas System	Distribution	58.2
	Service	31.8
	Total Natural Gas	**90.0**
Steam System	Steam	6.3
	Condensate	5.6
	Total Steam	**11.9**

The ownership and distribution of utility services are split between DOE and Los Alamos County. The Facility and Waste Operation Division's Utilities and Infrastructure group (FMU-8 UI) has primary oversight and management responsibility for the various utility systems. Utility systems at the Laboratory include electrical service, natural gas, steam, water, sanitary wastewater, and roads and grounds (roads, guardrails, parking lots, curbs and gutters, sidewalks and grounds).

Electrical service includes a Public Service Company of New Mexico 115 kilovolt (kV) line from Albuquerque, a DOE-owned 115 kV power transmission line from the Norton substation, and a steam/power plant at TA-3 used on an as needed basis. Distribution power consists of 13.2 kV distribution lines connecting to the input side of low-voltage transformers at Laboratory facilities. The natural gas system includes a DOE-owned high-pressure main and distribution system throughout Los Alamos County and pressure-reducing stations at Laboratory buildings. Steam systems include generation and distribution at TA-3 and TA-21. The water system includes supply wells, water chlorination, pumping stations, transmission storage tanks (owned and operated by Los Alamos County), and distribution storage tanks and piping owned by the DOE. Sanitary wastewater systems include septic tanks and a centralized sanitary wastewater collection system and treatment plant.

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General Utility Issues

Utility issues at the Laboratory are both site-wide and utility-specific and discussed below.

A major issue is the age of the Laboratory's primary underground utility systems. The majority of primary underground utilities were installed in the 1950s and 1960s and deterioration of these systems could cause service disruptions, create safety hazards, and impede the Laboratory's ability to develop new and enhanced programs and missions. Modernization of the Laboratory's utility infrastructure is important. Table 4-10 shows when underground piping was installed at the Laboratory and illustrates the aging utility infrastructure.

Table 4-10: Percentage of underground utility piping installation by decade.

Utility	1940s	1950s	1960s	1970s	1980s	1990s
Sanitary Sewer	N/A	22%	11%	6%	17%	44%
Natural Gas	N/A	46%	36%	10%	7%	1%
Steam	N/A	86%	0%	4%	10%	0%
Water	38%	26%	12%	5%	16%	3%

Another primary issue is due to past practices of not installing utility systems within designated utility corridors. As the Laboratory's facilities and mission have changed and expanded over the years, utility systems have commonly been installed via the shortest route possible and on an as-needed basis. The incremental nature of development, along with programmatic changes, has resulted in the piecemeal retrofitting of utilities to accommodate expansion. This has been expensive, energy inefficient, and has resulted in utility downtime. The resulting maze of utility lines leads to high development costs for new facility construction. By locating utilities in corridors that can accommodate future expansion and by planning developments accordingly, the Laboratory will be able to grow efficiently and better achieve its mission.

To address the primary utility issues, the Laboratory is continuing on a path forward to enhance and optimize the sustainability of its utility systems. A fundamental component of this is assessing the existing conditions and the future requirements of the utility systems. The assessment will identify activities and projects necessary for utility sustainability and ensure that sustainability planning is properly documented and

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integrated as a fundamental component of the Laboratory's mission, program, and facility planning.

Electrical Power

There are approximately 130 miles of transmission and primary electrical distribution lines at the Laboratory. The Laboratory is supplied with electrical power through a partnership arrangement with Los Alamos County, known as the Los Alamos Power Pool, which was established in 1985. The capacity rating of the pool resources, less losses, is 105 megawatts (MW) and 83 MW (summer and winter seasons, respectively). The transmission import capacity is contractually limited to 105 MW and 83 MW (summer and winter seasons, respectively). Power delivered to the pool is limited by the two existing regional 115 kV transmission lines. Onsite electric generating capacity for the pool is limited to the existing TA-3 steam/power plant, which has an operating capacity of 12 MW in the summer and 15 MW in the winter. Although the Laboratory's electrical power system is in generally good condition, there are specific concerns that require attention. Initiatives to help ensure the capability and sustainability of the electrical system include a new 115kV transmission line, substation replacements, and new transformers and switchgear.

Sanitary Waste Disposal System

Sanitary liquid wastes are delivered by dedicated pipelines to the sanitary wastewater systems consolidation (SWSC) plant at TA-46. The plant has a design capacity of 600,000 gallons per day. Some septic tank pumpings are delivered periodically to the plant for treatment via tanker truck. After treatment, the liquid is currently recycled to the TA-3 power plant for use in cooling towers or is discharged to Sandia Canyon under an NPDES permit and groundwater discharge plan. The solids are dried in beds at the SWSC plant and are applied as fertilizer as authorized by the existing NPDES permit.

The sanitary wastewater collection system is in poor to satisfactory operating condition, with many miles of aged and obsolete underground piping that needs to be replaced or upgraded. There are areas of the Laboratory served by pumping stations instead of gravity sewers. Replacing these stations with the lower maintenance and operating cost gravity sewers will increase capacity and upgrade the system. The treatment plant is in excellent operating condition and will adequately accommodate future demand. Initiatives to help ensure the capability and sustainability of the sanitary wastewater system include installing new gravity lines and upgrading wastewater lines.

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Radioactive Liquid Waste (RLW)

There are three treatment facilities for handling the Laboratory's RLW—at TA-21, TA-53 and TA-50, and a collection system that consists of 22,000 feet of piping. The largest treatment facility at TA-50 is over 35 years old and in poor condition. This facility currently handles waste generated by approximately 1,800 points. Several treatment upgrades have been installed over the past several years, however the facility is functioning past its expected life. The collection piping system is in good condition. A Radioactive Liquid Waste Treatment Plant Upgrade project is planned to provide major upgrades to extend the life of the existing facility.

Steam/Condensate System

The majority of heating at the Laboratory (and TA-3 heating) is provided by steam and distribution and condensate return systems. There are two primary sources of steam, the power plant in TA-3 and the TA-21 distributed steam plant, with capabilities of 360,000 pounds per hour and 36,000 pounds per hour, respectively. The TA-3 power plant has the capacity to deliver three times the current demand and will accommodate current and future development in the TA-3 area. However, the steam and condensate return systems are primarily underground and in over 20 miles of aging steel piping. Approximately 86% of all the steam underground piping was installed in the 1950s. There are several sections of steam piping that have a high leak rate and high repair requirements that need to be replaced. The condensate return system currently achieves a return rate of 50% and needs to be upgraded to improve central plant performance. Initiatives to help ensure the capability and sustainability of the steam system include improvements to the steam plant, distribution lines, and condensate return lines.

Water System

Before September 8, 1998, DOE supplied all potable water for the Laboratory, Bandelier National Monument, and Los Alamos County. This water was obtained from DOE's groundwater right to withdraw 5,541.3 acre-feet/year or about 1,806 million gallons of water per year from the main aquifer and 1,200 acre-feet/year from the San Juan/Chama Transmountain Diversion Project. On September 5, 2001, DOE conveyed 70% of the entire groundwater right and 100% of the right to San Juan/Chama water to the County. The County is currently performing an engineering feasibility study of utilization of San Juan/Chama waters.

The Laboratory has a target water consumption of 1,662 acre-feet/year. Water demand based on projected growth may require water beyond recent usage levels. In accordance

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with the LANL Site-Wide Water Conservation Plan key recommendation, an Interim Water Conservation Committee has been established and an Acting Water Conservation Officer appointed.

In order to address the concerns over future water availability, the Laboratory has initiated a project to increase the TA-3 and TA-53 cooling towers' cycles of concentration from two to six and is investigating the following water saving opportunities:

- Greater use of recycled water within the Laboratory,
- Use of Los Alamos County wastewater for current and future Laboratory needs,
- "Sustainable design" of new facilities to include water-saving fixtures, reuse of gray water, low water use vegetation in landscaping, use of "natural" space cooling versus water cooling, and
- Complete reuse/recycle for potential use in irrigation, cooling, recreation, fire suppression, and recharge.

Potable water is obtained from deep wells located in three well fields. This water is pumped into production lines, and booster pump stations lift this water to reservoir storage tanks for distribution. The well fields can easily provide forecasted water demands for the next 10 years.

In addition, the water distribution system has been enhanced by the installation of equipment to control the pressure. A preventative maintenance program is in place for this system and the Laboratory is working on a project to connect it to the Supervisory Control and Data Acquisition (monitoring and alarm) system. Although the Laboratory's water system is in generally good condition, there are specific concerns that require attention. Initiatives to help ensure the capability and sustainability of the water system include water line replacements and a water leak survey.

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Natural Gas

Approximately 80% of the natural gas consumed by the Laboratory is used is for heating (both steam and hot air), and the remainder is used for electrical production. The electrical generation fills the difference between peak loads, electric transmission curtailments, plant testing, and the electric contractual import rights. In general, the natural gas system is old with approximately 80% having been installed in the 1950s and 1960s. An aggressive cathodic protection installation and maintenance system was deployed in the late 1980s, and this improved the integrity and condition of the system. However, there are still areas of concern with the natural gas system. Initiatives to help ensure the capability and sustainability of the natural gas system include upgrades to and replacements of gas lines at various TAs.

Table 4-11 summarizes the general status of the utility systems in terms of condition, deficiencies, recommended actions, and related projects. Funding sources and profiles for the projects may be found in Attachment A.

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Table 4-11: Utility system condition assessment and related projects.

System	Condition Assessment						Deficiencies (■ Major, △ Minor)											Recommended Action					Related Projects
	Excellent	Good	Adequate	Fair	Poor	Fail	Capacity	Future Capacity	Age	Phyiscal Condition	Efficiency	Reliability	Operations	Maintenance	Environmental	Safety	Documentation	No Action	Repair	Upgrade	Replace	Further Study	
115kV Electrical System																							
Lines		✓						△		△									•	•			Replace 115kV Oil Circuit Breakers; Replace White Rock 115kv Ring Bus Components; Power Grid Infrastructure Upgrade (PGIU) - 3rd Line; 115kV Transmission System Protection; Additional Express Feeders from WTA to TA-3; Uncross NL & RL 115kV Lines; Reconductor Norton Line.
Substations		✓					△	△	△	△	△	△									•		Replace TA-03-2261 115/13.2 kV Substation; TA-70 115/13.8 kV Substation; Replace TA-53-0937 115/13.2 kV Substation; TA-70 345/115 kV Substation; TA-53 Substation 115kV Ring Bus Upgrade; Replace TA-06-0129 115/13.2 kV Substation; Upgrade 90 MVAR SVC Capacitor.
13.8kV Electrical System																							
Lines		✓						△		△									•	•			Replace 13.8 kv Cables;Safety Upgrades to 13.2KV Circuits; Reconductor 13.2kV Circuits.
Transformers		✓					△	△	△		△		△	△						•	•		Add 3rd 115kV Transformer TA-53; Add 3rd 115kV Transformer TA-3; Replace TA-53 (2) 115kV Transformers.
Switchgear			✓				△													•	•		Replace TA-53-0070 13.2 KV Switchgear; Replace TA-35 13.2 KV Switchgear; Replace Old 13.8kV Switchgears.
Manholes				✓			△	△			■			△		△				•	•		Repair/Replace TA-03 Underground Ducts and Manholes.
Natural Gas																							
Supply and Distribution			✓					△	△	△									•	•			Replace Elevated 4" Gas Line, TA-53.
Steam																							
Steam Generation Plant			✓				△	△	■	△		△		△							•		Refurbish Power Plant Turbine #2; TA-03 Power Plant Backpressure Turbine; TA-43-01 Distributed Boiler Plant.
Steam Distribution					✓			■	■	■		△		■							•		Replace Power Plant Feed Water Piping; Replace TA-03-0058 Cooling Tower; PP - Cooling Tower Piping Replacement.
Condensate Return					✓			■	■	■		△		■							•		
Water Distribution																							
Distribution			✓					△	■	△				△					•	•			Water Leak Survey, Condition Assessment Upgrade.
Wastewater																							
Treatment Plants	✓																						
Piping		✓						△											•		•		TA-3 CMR Sewer Relief Project.
Lift Stations		✓						■	△	■				△					•		•		TA-3/58 Gravity Line.

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Utility Planning

The Laboratory has undertaken a Utilities Condition Assessment Plan to assess the existing and future condition of the Laboratory's water, gas, wastewater, electric, and steam outside distribution, collection, and transmission systems.

This plan will include the consolidation, analysis, and trending of preventative and corrective maintenance observations provided by system engineers and supervisors. Information will be used to plan short and long-range projects to improve all utility systems. Factors to be considered are the future utility system capabilities, potential threats to existing services such as the end-of-operating life issues, maintenance history, and alternative solutions to ensure adequate utility delivery systems.

Planning for Each Utility

- Describe system components and analyze the following:
  - Drawings and maps,
  - Preventative and corrective maintenance history,
  - Reliability and outage history,
  - Available system capacity and demand information,
  - System and component operating data,
  - Regulatory, environmental, and industry standards compliance, and
  - Workforce knowledge.
- Develop methodology for Utility Component Risk Assessment
  - Identify critical system components,
  - Identify potential risks to service provided including reliability expectations, capacity requirements, environmental and regulatory requirements, and outside forces (fire, extreme weather, etc.),
  - Assign a risk rating based on probability and consequences of failure plus availability of alternative service, and
  - Identify mitigation options for risk rating considered unacceptable.
- Create a Utilities Sustainment Plan based on the above information:
  - Calculate future utilities demands based on population, employment, and building projections,
  - Use modeling to develop expansion or modification options based on historical demand and long term projections,
  - Incorporate supply source projections from county and state utilities,
  - Determine and prioritize needed utility systems improvements, and
  - Implement a utility systems continuous improvement plan.

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4.2 PRODUCTION READINESS / PLANT CAPACITY

The *FY 2002 Production Readiness Assessment Site Manager's Report (U)* addresses facility and infrastructure readiness/plant capacity issues and the activities that are underway or planned to alleviate deficiencies. These issues are summarized below, with facilities grouped separately as "nuclear" and "non-nuclear" facilities.

4.2.1 Directed Stockpile Work Management

Los Alamos DSW production is funded by NA-12 and is integrated with design agencies at Lawrence Livermore National Laboratory and Sandia National Laboratory (SNL). Production projects also interface with other weapons complex sites by supplying products or receiving components for use in manufacturing weapons parts and systems. Facilities, equipment, personnel, and infrastructure resources are integral in producing the parts used to certify the safety and reliability of the stockpile. Activities that compete with production for these resources include nuclear and non-nuclear parts for aboveground tests and sub-critical experiments, surveillance of parts returned from the stockpile, fabrication of mock pits, and process and product development. The Laboratory's Associate Director for Weapons, Engineering and Manufacturing (ADWEM) manages allocation of funding for Stockpile Stewardship and Management programs. The ADWEM line organizations manage the allocation of facility, equipment, and personnel resources to support the various program projects. A new Principal Associate Director for Nuclear Weapons Programs (PADNWP) directorate has been formally established at the Laboratory this year. This directorate has programmatic responsibilities for the entire nuclear weapons program (NWP) at Los Alamos. The directorate will create, integrate, and maintain a sustainable program. Among the chief responsibilities of this directorate are setting priorities for the nuclear weapons program, providing cost-benefit analysis and risk management, tracking and ensuring execution of weapons activity plans with consistency across the institution, and assuring long-term support of Division capabilities that are the foundation of the NWP. In addition, PADNWP will balance the stockpile and predictive science programs, allocate required resources, and ensure technical quality of program and deliverables. This directorate will be the customer interface (DOE, NNSA, DoD) and will maintain a "one voice" corporate posture at all times.

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4.2.2 DSW Facilities

Many facilities are required for production and surveillance activities that support the DSW mission. Table 4-12 lists the key facilities that support pit production and surveillance, detonator component production and surveillance, neutron tube target loading, mock pit fabrication, detonator packaging, and other surveillance/manufacturing infrastructure activities. This table also contains facilities that support operation of production facilities.

Table 4-12: Key facilities supporting DSW mission needs.

DSW Project	Key Facilities
Production	
Pit Production	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Sigma Complex • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Buildings
Detonator Production	• TA-22 Detonator Production and Test Facilities
Neutron Tube Target Loading	• TA-21-209 Tritium Science Technology Building • TA-16-450 Weapons Engineering Tritium Facility
Mock Pit Production	• TA-3 Sigma Complex • TA-3 Main Shops
Beryllium Manufacturing	• TA-3-141 Beryllium Technology Facility • TA-3 Main Shops
Detonator Packaging and Transportation	• TA-22 Packaging Buildings
Manufacturing Infrastructure	• TA-16-200 Secure Computing • TA-16 Office Buildings

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Table 4-12 Continued

DSW Project	Key Facilities
Surveillance	
Pit Surveillance	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Facility • NTS
Actuator Surveillance	• TA-22 Detonator Production and Test Facilities • TA-16
Valve Surveillance	• TA-16-209 Inspection Facility • TA-16
Detonator Surveillance	• TA-22 Detonator Production and Test Facilities
Other Surveillance	• TA-55 Plutonium Facility

Descriptions of mission assignment and facility improvements needed are summarized in the following sections. The information is grouped into separated sections for nuclear facilities, non-nuclear facilities, and manufacturing infrastructure. This grouping parallels the Laboratory's facility management organization, where non-reactor nuclear facilities are managed separately from other facilities. None of these facilities are exclusively dedicated to DSW work; therefore their management and facility priorities reflect multiple demands on staff, equipment, and physical plant. A description of the institutional planning process and long-range plans for these and related Laboratory facilities are available in the Laboratory's *Comprehensive Site Plan 2001*, LA-UR-01-1838.

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4.2.2.1 Nuclear Facilities

This section presents the Laboratory's nuclear facilities that primarily support pit production, pit surveillance, and neutron tube target loading activities (Table 4-13).

Table 4-13: Nuclear facility status for DSW missions.

Facility Status	Function(s)	Issues	Related Projects
TA-55 Plutonium Facility			
Facility currently meeting DSW needs. Modifications are required to meet future capacity demands for production and storage.	• Pit manufacturing foundry, machining, joining, welding, assembly, inspection, and testing • In-process pit NDT • Pit process and product development • Pit surveillance disassembly, inspection and evaluation • Fabrication of pit certification program parts and components • Recovery of stored legacy plutonium material • Vault storage of pit and RTG items, shelf-life units, materials awaiting processing, 'in-process' materials/items, scrap materials and finished product • Process control analytical chemistry	• Facility >20 years old and in need of plant support system upgrades • Constrained production capacity due to: 1. Limited process and inspection equipment 2. Limited floor space for production 3. Inadequate vault storage capacity for stockpile and surplus 4. Equipment shared with other functions	• TA-55 Infrastructure Reinvestment Project (FY08 LI) • New Manufacturing Technical Support Facility office recently completed (GPP)

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Table 4-13 Continued

Facility Status	Function(s)	Issues	Related Projects
TA-3 CMR Building			
Facility is marginal in ability to reliably support future missions	Analytical chemistry and material characterization support for TA-55	Facility 50 years old; in need of replacement	CMR Replacement Project (FY04 LI). Proposed site is at TA-55.
TA-21-209 Tritium Science and Technology Building TA-16-450 Weapons Engineering Tritium Facility (WETF)			
Facility addition and equipment will come on line to support future DSW mission needs after 2001	Neutron tube target loading currently at TA-21-209 must relocate to TA-16 WETF	• One currently operational loader not capable of supporting future schedule • Building 16-450 at WETF will be operational to allow installation of one loader, relocation of a loader from TA-21-209, and installation of a third loader in FY03	• WETF Systems Refurbishment (ongoing FIRP GPP) • FY07 TA-16-202 Renovation/ Tritium Consolidation (RTBF)
TA-50 Radioactive Liquid Waste Treatment Facility			
Facility is currently supporting DSW missions	Final treatment of liquid radioactive and industrial wastes from TA-55, CMR, TA-21, TA-16, Sigma, and Main Shops	40 year old facility in need of plant and treatment process improvements	FY07 Radioactive Liquid Waste Treatment Facility Upgrade (LI)
TA-54 Solid Waste Management Facility			
Facility is currently able to support DSW missions	Management of solid radioactive waste generated at TA-55, CMR, TA-21-209, and TA-16 nuclear facilities and TA-3 Sigma and Main Shops.	Transfer of TRU waste stored at TA-54 to WIPP proceeding	N/A

The overall production mission for neutron tubes and neutron generators is an SNL mission. Los Alamos has the portion of the production mission involving tritium loading of the targets used in every neutron tube produced at Sandia. Current requirements on the secondary schedule for neutron tube targets are being met using one loader. Future production requirements will require two or more loaders, and a facility is being reconfigured and upgraded to house the production equipment.

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4.2.2.2 Non-nuclear Facilities

In 1993, the Non-nuclear Reconfiguration Program (NNR) began transferring activities from Rocky Flats, Mound and Pinellas to other sites in the weapons complex. As a result of the NNR changes, Los Alamos became responsible for fabricating weapons detonators and beryllium parts, making mock pits for joint test assemblies, surveillance of detonators removed from stockpile systems, and loading tube targets needed for neutron generators fabricated at SNL.

The non-nuclear facilities presented in Table 4-13 support pit and mock pit production, beryllium parts production, detonator production and surveillance, actuator surveillance, and valve surveillance.

Beryllium operations have been conducted at Los Alamos for over 40 years. Consequently, NNSA directed Los Alamos to capture the beryllium technologies that existed at the Rocky Flats plant after it closed. To enable Los Alamos to produce beryllium components for the nuclear weapons stockpile in a single facility, a building (TA-3-141) was refurbished and designated as the Beryllium Technology Facility (BTF). Los Alamos completed the Readiness Assessment for the BTF in FY01 and completed fabrication of the first parts in April 2001.

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Table 4-14: Non-nuclear facility status for DSW missions.

Facility Status	Function	Issues	Related Projects
TA-3-66 Sigma Building			
Facility is marginal in ability to support future DSW missions	• Mock pit fabrication • Welding/ joining development	• >45 year old facility needs plant upgrades for continued operations • Additional process equipment needed	No projects planned or funded to upgrade facility
TA-3-141 Beryllium Technology Facility (BTF)			
New facility is on-line and machining beryllium parts	• Supports pit and mock pit production • Beryllium part fabrication • Beryllium material supply • Coating of beryllium parts	Facility does not currently house the entire suite of capabilities necessary for the entire Be life cycle	• FY03 Cartridge Filter House Install (FIRP) • FY07 BTF Upgrades to FMS and VAV systems (RTBF)
TA-8 Radiography Buildings			
Facility is currently meeting DSW support needs	• Nondestructive testing of pit parts, pit assemblies, and other DSW products • Certification support for non-DSW components	• Capacity issue for remote site • Requires transport and significant security • Working on capability at TA-55	• FY06 TA-8 Radiography Upgrades proposed (RTBF) • FY06 Radiography Facility planned for TA-55 (Proposed LI)
TA-22 Detonator Production and Test Facilities			
Current production rate utilizes full production capability and floor space of primary building	• Detonator production • Detonator inspection and testing • Actuator and detonator surveillance and testing	Expanded facilities and additional production and test equipment needed for increasing DSW requirements in addition to buying detonators	FY02 High-Powered Detonator Facility (non-RTBF, non-FIRP)

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Table 4-14 Continued

Facility Status	Function	Issues	Related Projects
TA-3-39/102 Main Shops			
Facility is marginal in long term ability to support DSW missions	• Supports pit and mock pit production • Depleted uranium machining and inspection	• >45 year old facility needs plant upgrades • Additional equipment needed to meet production schedules	FY07 ESA Fabrication Facility Replacement and FY09 Demolition (LI)
TA-22 Packaging Buildings			
Facilities can support DSW missions	Detonator and related item transportation container storage, inspection and management	N/A	
TA-16-207 Inspection Facility			
Facility can support DSW missions	Valve surveillance	Needs to be moved to TA-16-202 in FY08 or sooner	
TA-64-1 Central Guard Facility			
Facility is able to support DSW missions	• Central alarm station for security systems • Houses security operations staff and systems	Alarm system in need of upgrade	

Currently, beryllium items are the only components on the directive schedule. In addition, the BTF will need to produce beryllide components that will require extensive R&D, new equipment, and additional space. Other programs that require the BTF are fabrication of mock pits and components for hydrodynamic tests and subcritical experiments.

Responsibility for detonator manufacturing was transferred to the Laboratory from Mound between 1993 and 1998. The production mission was constrained to existing facilities that were designed for R&D activities. Since the mission assignment to Los Alamos, both the required production quantities for each detonator system and the number of detonator types being fabricated simultaneously have increased significantly; the surveillance program competes for resources in the inspection and test firing stations.

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4.2.2.3 Manufacturing Infrastructure

The Laboratory's facilities needed for the manufacturing infrastructure activities supporting DSW are listed below.

Table 4-15: Manufacturing infrastructure facility status for DSW missions.

Facility Status	Function(s)	Issues
TA-41-1 Storage		
Facility has been phased out of DSW support missions	Provides bonded storage and receiving of classified parts and materials	• Facility is aging and remote from supported DSW operations • Risk of flash floods following the Cerro Grande fire caused permanent personnel relocation to TA-16; functions are being transferred to TA-16 although some material is still stored here
TA-16 Office Buildings and Secure Computing		
Facility can support DSW missions	Houses ERP/IFS system personnel and work stations	• Facility is aging. FY09 TA-16-200 Upgrades (RTBF)

One important aspect of the Laboratory's infrastructure development is covered under the Non-nuclear Readiness campaign for streamlining business practices. This task creates a supply chain assurance for engineering materials by developing business conventions and quality assurance standards for acquisition of commercial off-the-shelf components. The critical areas addressed include: leveraging best industry practices and solutions; reliability assessment and component qualification for WR use; component modeling to aid selection; and assessment of component performance under process conditions.

4.2.2.4 Enterprise Project

Over the past few years the Laboratory has been working on the implementation of the Enterprise Project (EP). Progress has been made with the signing of the baseline documents in early 2004 that will define Phase I of the project. The first phase will roll out from October 2004 to April 2005 and includes four releases encompassing a number of business applications. Financial and human resources are receiving the greatest initial emphasis within the project due to the need to report completely and accurately on the use of resources to Laboratory organizations, the DOE/NNSA, the University of

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California, and the taxpaying public. Later releases are scheduled to include financial and project related modules that will help run other areas of the Laboratory's business operations.

While outside of the EPs immediate scope, a jointly funded prototype with the Weapons Engineering & Manufacturing Directorate focuses on a Manufacturing Resource Planning tool. Designed to reside eventually on the classified network and assist with resource allocation, the pilot phase for the tool is now complete. The tool will assist with inventory, master scheduling, cost management and purchasing, and is intended for production implementation in FY05. Its development will feed into the EP's capabilities by providing an additional training ground for practical Oracle applications as well as provide valuable support to the Laboratory's technical mission areas.

Phase 2 of the EP, like Phase I, is expected to include a number of releases. It will focus on project management support for the weapon's program and continued refinement of the modules for the Laboratory's business operations within the CFO, SUP, and HR divisions.

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4.3 ES&H REGULATORY ISSUES

The Laboratory's ES&H and nuclear safety management processes are designed to achieve operational excellence goals, business efficiencies, and Appendix F of the UC/DOE Prime Contract performance expectations. Most importantly, the Laboratory's ES&H and nuclear safety processes are designed to ensure the Laboratory achieves "daily excellence in the protection of the worker, the public, and the environment." This section provides an overview of the issues and funding profiles that were developed in response to the FY05 unified budget call and includes NNSA ES&H management process requirements for the period from FY06 through FY10. This portion of the TYCSP contains three subsections:

- Health/Safety/Radiation Protection,
- Environment, and
- Nuclear Safety.

Each of these subsections provides a brief description of the Laboratory's ES&H organizations and considers two issues:

- How new or revised regulatory requirements impact facilities, infrastructure, future construction, or other major Laboratory projects; and,

- What projects or initiatives are needed to comply with new or revised regulatory requirements.

4.3.1 Health, Safety, and Radiation Protection

The Laboratory's health, safety and radiation protection operations are managed by the Health, Safety and Radiation Protection (HSR) division. The HSR division works in collaboration with the Laboratory's line and support organizations to provide expertise and services within the framework of Integrated Safety Management (ISM). The division's mission is to provide health, safety and radiation protection operational support to enable scientific and programmatic excellence, achieve ISM goals, and conduct operations in a manner that protects the worker, public, and environment.

The core programs within the HSR division include ISM, Occupational Safety and Health and Radiation Protection. HSR division provide institutional and project support in the following areas of expertise:

- Health physics,

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- Occupational medicine,
- Health physics measurements,
- Industrial hygiene,
- Nuclear criticality safety,
- Information management,
- Operations and facility support, and
- Radiation protection.

Firing Site Hazard Assessments

For many years, open-air explosives testing and research involving beryllium, uranium, and other materials occurred on land in the southwest portion of the Laboratory's boundaries. Health standards for beryllium have become increasingly stringent and have been the subject of heightened public attention. Laboratory studies are currently underway to evaluate risks to workers, the public, and the environment associated with these outdoor explosives tests. An action plan and cost estimates for any required remedial actions will be completed in FY05.

Perchlorate Ventilation Assessments

Historically, perchlorates were used in several Laboratory facilities, which resulted in the potential contamination of ventilation systems. Over the past several years, highly contaminated ventilation systems in TA-48 and the CMR facility have been removed. The extent of perchlorate contamination within ventilation systems and associated risks at several other Laboratory facilities still needs further evaluation and potentially remediation efforts that will have a budgetary impact.

4.3.2 Environment

The Laboratory's environmental management, protection, compliance, remediation and surveillance operations are managed by the Risk Reduction and Environmental Stewardship (RRES) division. RRES division also manages the Laboratory's solid waste characterization, certification, regulation and management operations. These activities are accomplished through an integrated management approach that involves several business units, programs and groups. RRES division business units include: Division Operations; Environmental Protection Programs; Project 2010; and, Remediation Services. Each of these units is responsible for a set of operationally integrated programs that have a common linkage to RRES division's institutional responsibilities.

RRES division is pursuing many institutional-scale initiatives that respond to changing regulations and the need to increase NNSA's role as a steward of land and other

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environmental resources. The long-term stewardship initiatives currently under development emphasize a risk-reduction approach towards addressing compliance issues, environmental monitoring, and resource protection.

4.3.2.1 Environmental Compliance Activities Supporting Mission

RRES division is responsibile for ensuring Laboratory compliance with the many environmental protection and pollution prevention mandates required by regulation and/or the UC &DOE/NNSA prime contract. In addition, RRES division provides institutional and project support in areas such as air quality; water quality and hydrology; solid waste regulation; and ecology. Regulatory and contractual environmental requirements that currently impact Laboratory mission and funding profiles are discussed in this section.

4.3.2.1.1 DOE Order 450.1, Environmental Protection Program (EPP)

DOE Order 450.1 was issued January 15, 2003 and requires the Laboratory to implement an Environmental Management System (EMS) by December, 2005 that will:

1. Provide systematic planning, integrated execution and evaluation of programs for public health and environmental protection, pollution prevention and compliance with applicable environmental protection requirements;

2. Include policies, procedures and training to mitigate and control identified activities so they do not have negative environmental impacts; and,

3. Include measurable environmental goals, objectives and targets that are reviewed annually and updated.

Among other things, DOE Order 450.1 mandates that the EMS developed by the Laboratory be integrated with the Laboratory's existing ISM system that was established pursuant to DOE Policy 450.4.

As part of the Laboratory's response to the requirements imposed by DOE Order 450.1, an implementation plan was completed for a Laboratory Environmental Management System. While there are several EMS frameworks available, Los Alamos chose to implement the one described by International Standardization Organization (ISO)-14001. This choice was predicated on the widespread use of the ISO-14001 standard in both government and private sectors, coupled with the availability of relevant resources and training materials. The current EMS schedule calls for self-declaration, according to DOE protocols, by December 2004, with the Laboratory then being prepared to submit to

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independent third-party certification, according to the ISO 14001 protocols, by December 2005. Significant division-level efforts in the areas of training, communications, implementation and audit preparation are being pursued in order to meet these aggressive milestones.

In accordance with DOE guidance, the monitoring of environmental media is required to minimize the potential for risk-significant exposures to residual contamination at corrective action sites. Related activities are being integrated into site-wide monitoring program elements to avoid or eliminate duplicative or redundant costs. These efforts include the monitoring of groundwater and surface water/sediment. As required by DOE Order 450.1, integrated groundwater monitoring is being implemented on a site-wide scale. Integrated surface water/sediment monitoring is being implemented on a watershed scale.

Groundwater Protection Program

The Groundwater Protection Program (GPP) provides comprehensive regulatory compliance and stewardship for groundwater at the Laboratory. The regulatory requirements for this program are part of DOE Order 450.1, which requires:

- Preparation of an Interim Site-Wide Groundwater Monitoring Plan,
- Monitoring and sampling of all Laboratory canyons,
- Installation of additional groundwater monitoring wells,
- Plugging and abandonment of wells no longer needed,
- Procedural methods for sampling and analysis, and
- Compliance schedule.

Ground water samples are taken from wells and springs within or adjacent to the Laboratory and from the nearby San Ildefonso Pueblo. On-site stations, for the most part, focus on areas of present or former radioactive waste disposal operations, such as canyons. Specific well locations, sampling frequencies, analytic suites, and exit strategies for groundwater monitoring that are necessary to meet requirements for long-term environmental monitoring and characterization of residual contamination have not been finalized. Even so, the Laboratory has developed analytical decision support tools to assist in developing an integrated and optimized groundwater-monitoring program consistent with DOE guidance.

The costs associated with these compliance activities are being evaluated and funding requirements are not yet determined. Historically, a GPP project was used to install monitoring wells, perform analyses, modeling and outreach under an approved

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Hydrogeologic Workplan. Funding for this effort has been, and continues to be, split equally between NNSA and EM funding. Surveillance monitoring of groundwater at the Laboratory has historically been conducted with institutional funds. The current funding profile (in thousands) for the GPP is provided in the table below.

Table 4-16: Current funding for the GPP ($K).

Funding Source	FY04	FY05	FY06	FY07
RTBF/Operations of Facilities	$10,000	$12,800	$3,200	N/A
DOE/EM (ER)	$3,607	$20,776	$13,097	$23,419
Institutional	$1,400	$1,400	$1,400	$1,400
TOTAL	**$15,007**	**$35,076**	**$17,697**	**$24,819**

Ecology

Another DOE Order 450.1 related area of concern involves Laboratory natural and cultural resource management. This concern is due to reduced levels of funding available to maintain and update information contained in Laboratory plans and databases that have been impacted by recent natural events, including the Cerro Grande Fire, drought, and bark beetle infestation. Some other drivers for making a continual effort to update impacted documents and databases include the Threatened and Endangered Species Act, Floodplains and Wetlands protection provisions, Migratory Bird Treaty Act, National Historic Preservation Act, Archeological Resources Protection Act and the Native American Graves Protection and Repatriation Act. Efforts are currently underway to develop performance metrics that address current issues and identify better approaches to resolving this area of concern. Proposals are in development to improve cultural, biological and natural resource management programs. The resulting programs will be monitored for performance under the Environmental Management System (EMS).

Wildland Fire/Forest Management Planning

Following the 2000 Cerro Grande wildland fire, the Laboratory was provided special Congressional funding for forest thinning, forest fuels mitigation, defensible space maintenance around Laboratory facilities and utility corridors, and fire road development and maintenance. The first phase of this initiative was completed at the end of FY03. DOE's issuance of DOE O 450.1 and the February 24, 2003, DOE Secretarial Memorandum "Department of Energy Wildland Fire Management Policy" requires the Laboratory develop and implement a "Wildland Fire Management Plan" to address long-term wildland fuels management/mitigation and forest management objectives. Institutional funding is available to develop this plan, however funding required for long-

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term mitigation and fuels management to implement this Plan has not been allocated at this point.

DOE Pollution Prevention Goals

The DOE has set Secretarial Pollution Prevention goals for 2005 in several waste categories. The Laboratory tracks progress against these goals on a quarterly basis and reports to NNSA and DOE-EH. Reporting categories are: hazardous waste, low-level waste, mixed low-level waste, EPA Toxic Release Inventory waste, sanitary waste, sanitary material recycling, cleanup/stabilization waste reduction, affirmative procurement, replacement of ozone depleting substance (ODS) class I chillers >150 tons and TRU waste. Most categories are on track to meet the DOE 2005 goals. The exceptions are low-level waste and TRU waste. Substantial waste reductions in these categories have been offset by increased programmatic activity, particularly in the low-level waste area. RTBF-funded projects to complete ODS chiller replacement are expected to be completed during FY04.

Excess Equipment

Programmatic work and facility operations, plus associated maintenance actions, generate significant quantities of excess equipment. All excess equipment must be characterized and properly dispositioned for resale or as salvage, scrap metal, or waste. Facilities that are accumulating excess equipment must be funded to characterize and manage the equipment in accordance with regulatory requirements. Inadequate funding prevents the Laboratory from characterizing and disposing of much of the existing excess equipment.

Scrap Metal Recycling Moratorium

DOE issued a moratorium on recycling scrap metal that originated from a radiological controlled area. The Laboratory must now either store these wastes indefinitely in anticipation of the moratorium being lifted or identify them as suspected LLW and dispose of them onsite. The first option may pose compliance vulnerabilities, while the second option consumes limited LLW landfill space.

4.3.2.1.2 New Permit under Title V of the Clean Air Act

Title V of the Federal Clean Air Act Amendments of 1990 required that all states have an operating permit program meeting the criteria established by the U.S. Environmental Protection Agency. The intent of the operating permit program is to enhance compliance by including in a single permit all applicable air quality requirements, including the monitoring, record keeping and reporting related to major emission facilities. Facilities

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defined as major emissions sources are required to obtain a permit. A major emissions source is any facility that has the potential to emit greater than or equal to 100 tons of any criteria air pollutant or for hazardous air pollutants greater than or equal to 10 tons of any specific hazardous air pollutant or greater than or equal to 25 tons of all hazardous air pollutants combined. In New Mexico, the operating permit program was implemented as a second permit program in addition to the existing construction permit program. Under this dual permit program, a new air source or modification to an emission source is required to first obtain an air quality construction permit, followed by an operating permit.

The Laboratory submitted an application for permit to the New Mexico Environment Department (NMED) and was issued a permit on April 30, 2004. To lower potential air emissions, the Laboratory's application included voluntarily proposed lowering of fuel limits as well as production limits and other operational restrictions. As examples, the Laboratory proposed fuel limits for some boilers; production limits for substances such as asphalt; hour of operation limits for stationary generators and the air destructor curtains; and limits to the burning of slash from the fire and clearing operations. These proposed restrictions are now federally enforceable. Under the newly issued permit, the Laboratory will submit semi-annual monitoring reports, annual compliance certification reports to NMED, and more frequent emissions reports.

Federal rules, New Mexico state laws, and Department of Energy orders require that the Laboratory mitigate the potential for adverse environmental impacts. As a result, before work is authorized, proposals for new or revised work activities must be assessed for potential environmental impacts and required controls must be implemented. Work affected by the new Title V permit includes the following:

- Installation or modification of boilers, generators, or any fuel burning equipment,
- Use of radionuclides or production of radiation,
- Maintenance (for example, filter changes), installation, or modification of radionuclide or beryllium building exhaust system components,
- Use of beryllium (e.g. beryllium machining operations),
- Removal or disposal of asbestos or asbestos containing material,
- Installation of new storage tanks or changes to liquids in an existing storage tanks,
- Halogenated solvent cleaning,
- Melting, cutting, grinding, or retooling of more than 100 pounds of lead annually,
- Excavation or disturbance of soils or groundwater potentially contaminated with radionuclides or chemicals,
- Demolition, decommissioning, or decontamination of a facility or structure,
- Open burning,

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- Installing, replacing, retrofitting, maintaining, servicing, repairing, disposing of equipment/appliances containing refrigerants (ODS and non-ODS),
- Use, other than for refrigeration, of class I & II ozone-depleting substances, or
- Installation or modification of particulate-generating operations (i.e. asphalt production, rock crushing, carpenter shops, paint booths, etc.).

4.3.2.1.3 Draft Federal Facility Compliance Agreement for Surface Water

The Federal Facility Compliance Agreement (FFCA) objectives for surface water relate to three activities:

- Individual Permit application submittal,
- Implementation of the anticipated EPA Federal Facility Compliance Agreement (FFCA), and
- BMP Installation, Inspection & Maintenance.

Individual Permit Application Submittals

Individual permit application submittals include planning, negotiations, data compilation, Data Quality Objectives (DQO), GIS support and individual permit application preparation for coverage of storm water discharges from PRSs. The information requested by the EPA will be negotiated prior to the submittal of the application and will consist of gauging station locations, site-specific monitoring of PRS locations, a copy of the Administrative Order/Federal Facility Compliance Agreement, description of pollutant sources, a list of past spills and leaks, a list of Contaminants of Potential Concern, a list of analytes detected above background in storm water samples collected, biological toxicity information and a schedule of implementation. Work plans are required for submittal to the EPA Region VI. The PRS based Storm Water Pollution Prevention Plan will:

- Identify potential pollutant sources,
- Describe controls to minimize sediment/pollutant migration and provides an agreed upon monitoring approach, and
- Include a Storm Water Monitoring Plan that describes how the Laboratory's telemetry based monitoring system (watershed scale) will be used to support the implementation of an Individual Permit for storm water discharges from PRSs.

Implementation of the anticipated additional requirements

Implementation of anticipated additional requirements includes planning and fieldwork to implement the monitoring requirements for 324 individual PRSs and other areas of

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concern that have moderate to high erosion potential. The required analytical suites were estimated from previous sample collection activities. It is anticipated that four samples will be sufficient to determine whether contamination is present and migrating from each PRS into surface water so a path forward can be determined. Geographic Information System (GIS) will be used to determine drainage areas, provide mapping support, and locate current/proposed best-management practices (BMPs) and provide analysis of data trends.

BMP Installation, Inspection, and Maintenance

BMP installation, inspection and maintenance supports the work at a site-specific level by providing for the oversight and coordination of Best Management Practice (BMP) installation, inspection, and maintenance efforts across Potential Release Sites (PRSs) and other Areas of Concern. This includes the maintenance of a tracking database. Complete quarterly, semi-annual and annual reports on proposed/implemented actions are required

Significant actions are underway to implement requirements of the new EPA Federal Facility Compliance Agreement for Storm Water. Beginning in October 2002, Data Quality Objectives (DQO) were completed for Conventional Industrial Activities and initiated for Storm Water Management Units in November 2002. Based upon these DQO's, processes were developed to address regulatory concerns and to meet anticipated requirements. In April 2004, the Laboratory provided a draft Storm Water Management Plan to EPA and NMED, implemented watershed monitoring to meet anticipated requirements, and initiated field surveys for placement of sampling locations for Stormwater Management Unit monitoring.

Major activities associated with this effort included:

- Developed criteria for Storm Water Management Areas (SMA) delineation, identification of potential pollutants and scheduling,
- Conducted field Assessments at SMA's and SMA field monitoring,
- Identified actions for any problems are identified with focus on less monitoring and more site stabilization, and
- Developed a Multi-Sector General Permit to address Conventional Industrial Activities covered by 17 existing Storm Water Pollution Prevention Plans.

Other anticipated requirements include addressing 325 PRSs, watershed-based monitoring, and site-specific stormwater management unit monitoring.

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FY05 and FY06 anticipated additional compliance costs related to environmental restoration (EM-funded) are estimated to be $3,909,000 each year. FY05 and FY06 costs related to on-going mission operations (RTBF or Laboratory indirect funds) are estimated to be $1,500,000 each year. FY 2006-2010 costs are projected at $15,916,000 and $7,500,000 for environmental restoration and on-going mission programs respectively.

4.3.2.1.4 Anticipated National Pollution Discharge Elimination System Permit

The Laboratory anticipates that EPA will issue new water quality standards that apply to operational discharges to the Laboratory canyons in the summer of 2004. EPA will use these new standards to develop stricter National Pollution Discharge Elimination System (NPDES) discharge limits for Laboratory outfalls. Total impact or effluent system upgrades cannot be estimated until the new permit is received. EPA could issue the Laboratory a new NPDES permit as early as the summer of 2005. The Laboratory's radioactive liquid waste treatment facility is expected to be significantly impacted by these new limits.

4.3.2.1.5 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act is a regulatory driver behind efforts to clean-out mercury from Laboratory drains. Approximately 5% of the Laboratory's 7,000 sanitary waste drains and an even greater fraction of the radioactive liquid waste drains have traps that are contaminated with mercury according to a pilot study that assessed approximately 200 drains. A project has been proposed but not funded to characterize all drains and clean-out those found to be contaminated. The estimated cost for this project is $5M over two years.

4.3.2.1.6 Toxic Substances Control Act

The use, storage, and disposal of equipment containing polychlorinated biphenyls (PCBs) are regulated by the Toxic Substances Control Act. While allowing limited continued use of PCB equipment, the intent of TSCA is to remove from use all PCB contaminated equipment.

The Laboratory adopted a goal of being PCB free and continues its efforts to inventory and reduce PCB-containing equipment. The presence of PCB equipment presents an operational liability because of the associated tracking requirements. Additional funding is needed to replace old PCB equipment, including several large PCB capacitors in use or stored for re-use at MST, NMT, NIS and LANSCE divisions. Continued effort is needed to locate and dispose of unused equipment stored at various sites around the Laboratory that has PCB contamination. These actions are funded by indirect funds, with many of the

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costs distributed throughout the Laboratory to line organizations. Testing done in FY04 confirmed that the decontamination of all retrofitted transformers done in FY03 was successful. In FY04, PCB mitigation efforts continued with the retro fill of TA-53-0072 with the PCB waste from this operation being incinerated off-site. There is one PCB-contaminated transformer located in TA48-0001 that will be replaced in the near future.

4.3.2.1.7 RCRA, Environmental Permitting, and Public Communication

Corrective-action sites with contaminants that are classified as being hazardous under RCRA will remain on the Laboratory's RCRA permit until remedies are undertaken that achieve contaminant levels deemed acceptable for unrestricted use. This is true even for sites the Laboratory intends to use for ongoing NNSA mission operations. Until remediation is accomplished allowing unrestricted use, the Laboratory must execute activities (including surveillance, maintenance, monitoring, and reporting) and maintain administrative records for these sites, in accordance with the RCRA permit.

The concept of long-term environmental stewardship includes the consideration of future liabilities related to governmental permitting, as well as ensuring public awareness and communications. These activities include RCRA permitting costs, which begin in 2016; Citizen Advisory Board participation; stakeholder and public outreach efforts; and environmental programs for neighboring pueblos. The Laboratory's long-term environmental stewardship program will include activities that are designed to foster public knowledge of, and confidence in, the Laboratory's management of residual risks.

Table 4-17: Environmental permitting and public communications costs ($K).

Environmental Requirement	FY06	FY06 Rank	FY07	FY08	FY09	FY10	FY11-FY25	Post FY25
LTS RCRA Permit Costs							$2,500	$11,250
Citizen's Advisory Board (CAB)	$475	2	$475	$475	$475	$475	$6,650	$21,375
Stakeholder/public outreach	$1,017	2	$1,017	$1,017	$1,017	$1,017	$14,238	
Four Accord Pueblo's Environmental programs	$1,070	2	$1,070	$1,070	$1,070	$1,070	$14,980	
Total	**$2,562**	**6**	**$2,562**	**$2,562**	**$2,562**	**$2,562**	**$38,368**	**$32,625**

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4.3.2.1.8 County Landfill Closure

Historically, the Laboratory has utilized the Los Alamos County Landfill for disposal of sanitary wastes, per an agreement between the County and DOE/NNSA. The County's current landfill is anticipated to reach full capacity and be closed within the next several years. Both the County and DOE/NNSA are evaluating options for disposal of their respective sanitary waste streams. Options being explored include some form of regional agreement and/or the development of a new local disposal site. Due to shipping costs, political issues, and potential risks in developing regional agreements, very strong consideration is currently being given to the development of a new joint County/NNSA disposal site on Laboratory property. This is an unresolved issue that is likely to have increased attention in the next year. Failure to address and solve this issue could impact the Laboratory's missions due to a lack of a cost-effective waste disposal path for sanitary wastes.

4.3.2.2 Environmental Remediation & Legacy Waste Disposition

4.3.2.2.1 Draft Consent Order with New Mexico Environment Department (NMED)

In March 2004, NMED and NNSA reached an "in-principle" agreement on the Consent Order for the clean-up and disposition of legacy contamination at the Los Alamos Site. The draft order will be released for public comment and will take effect after NMED has addressed all the comments. Satisfying the anticipated requirements will require institutional and programmatic funding to address requirements related to on-going mission operations will have to be coupled with DOE/EM funding to address all of the requirements related to legacy clean-up and waste disposition. All of the following programs and projects are driven by Laboratory efforts to proactively comply with the terms and requirements contained within the draft consent order.

4.3.2.2.2 Environmental Restoration

The scope of the Environmental Restoration (ER) project is to investigate whether hazardous chemicals and/or radioactive contamination are present as a result of past laboratory operations and clean up those sites where contamination is present to levels protective of human health and the environment. The ER project consists of 2,124 potential release sites (PRSs), of which 824 remain to be assessed. Project activities are located in eight watersheds and include investigating Material Disposal Areas, canyons and sediments, as well as groundwater characterization and protection activities. The ER Project is scheduled for completion in FY15. The present projected cost of this project is $ 533,171,000 in funding spread over FY06 through 2015. An additional $125,526,000 in FY06-FY15 over target funding has been requested from DOE/EM to address anticipated

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additional remediation costs that were not included in the original baseline or Performance Management Plan.

4.3.2.2.3 Information Management and Data Stewardship

Development and maintenance of a robust and accessible information management system is a core element within the Laboratory's long-term environmental stewardship initiative. As the Laboratory Environmental Restoration (ER) project transitions from cleanup to long-term stewardship, there is a need for detailed, accurate information about the location and nature of residual hazards as well as the processes and cleanup strategies that generated and addressed hazards. The development of an information management system to support long term environmental stewardship is currently underway. The Environmental Restoration Database (ERDB) includes indexing capability; data quality assurance; associations between potential release site (PRS) sample, document and spatial information; documentation of site decision pathway; information by site, aggregate, and watershed; and a web-based access to information.

All interested parties, including operating facilities, regulatory agencies, tribal and community members, will require access to current and historical ER project documents, monitoring data, PRS information, technical data, and related maps. Stewardship of ER project records and data will require data steward, document steward, and Geographic Information System (GIS) steward activities to assemble requested information, maintain database files and hard copy records.

4.3.2.2.4 D&D

Many ER corrective actions at TA-21 and TA-54 cannot be completed without the D&D of excess, highly contaminated buildings. At TA-21 there are approximately 100,000 square feet of excess, highly contaminated facilities in DP West (the former plutonium processing facilities). These facilities are currently in surveillance and maintenance (S&M). Most of these facilities have PRSs beneath them that cannot be investigated and/or remediated until these facilities are removed. There are known contaminated lines and historic releases beneath many of these facilities. At this point, neither EM nor NNSA has any funding programmed for the D&D of these structures. The projected cost for executing D&D projects for these highly contaminated facilities is $102,829,000 in FY06 through FY10. Additional funding for the D&D of other contaminated facilities will be required in 2011 and 2012, but an exact dollar figure still is being developed for that effort.

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4.3.2.2.5 Contaminated Structures Left in Place

Many areas with legacy contamination cannot be remediated by 2015 because they are still in use. Examples include the Laboratory's active firing sites, the existing system of buried radioactive liquid waste collection lines, as well as many sanitary waste lines that were contaminated by past operation. These structures will be managed in place as long as they are required to support active operations. When no longer needed, these structures will be remediated by NNSA. Because these structures are contaminated, there are additional costs associated with their maintenance or any required conversion activities.

4.3.2.2.6 Industrial Use Zone Restrictions

Many contaminated sites will be remediated only to industrial use standards (in part because cleaning-up to residential or unrestricted use standards is prohibitively expensive). Future construction, maintenance and other activities will be more expensive in cases where these "brownfields" will require additional environmental controls or on-going monitoring activities.

4.3.2.2.7 Project 2010 and Legacy Wastes

Under the Laboratory's waste-disposition Project 2010, all legacy waste will be properly characterized, treated, and disposed of by 2010. The project is designed to facilitate significant cost savings and, under current schedules, calls for the disposition of all legacy waste 20 years earlier than originally projected.

Wastes that resulted from programmatic activities carried out at the Laboratory before a generation-to-disposal management path existed are known as "legacy" wastes. These wastes have been kept in interim storage at the Lab awaiting final disposal. The scope of Project 2010 includes the treatment, storage, and disposal of all Laboratory TRU Waste and MLLW generated before October 1, 1998. 9,200 cubic meters of TRU Waste is to be characterized, packaged, and shipped to WIPP in Carlsbad, NM, by the end of FY10. Of this total, 2000 cubic meters must be retrieved from below grade. Approximately 1,300 shipments of TRU Waste to WIPP are planned. Four hundred cubic meters of the waste that is stored above ground contains high-activity waste. This waste represents the greatest nuclear risk on the site and will be disposed on a priority basis in FY05. Project 2010 also includes the disposition of 32 cubic meters of legacy mixed low-level waste. This disposition should be accomplished by 2006. All legacy TRU waste must be disposed by 2010 so that buildings at Areas G and L (TA-54) can be demolished and MDAs in Areas G and L can be remediated by 2010.

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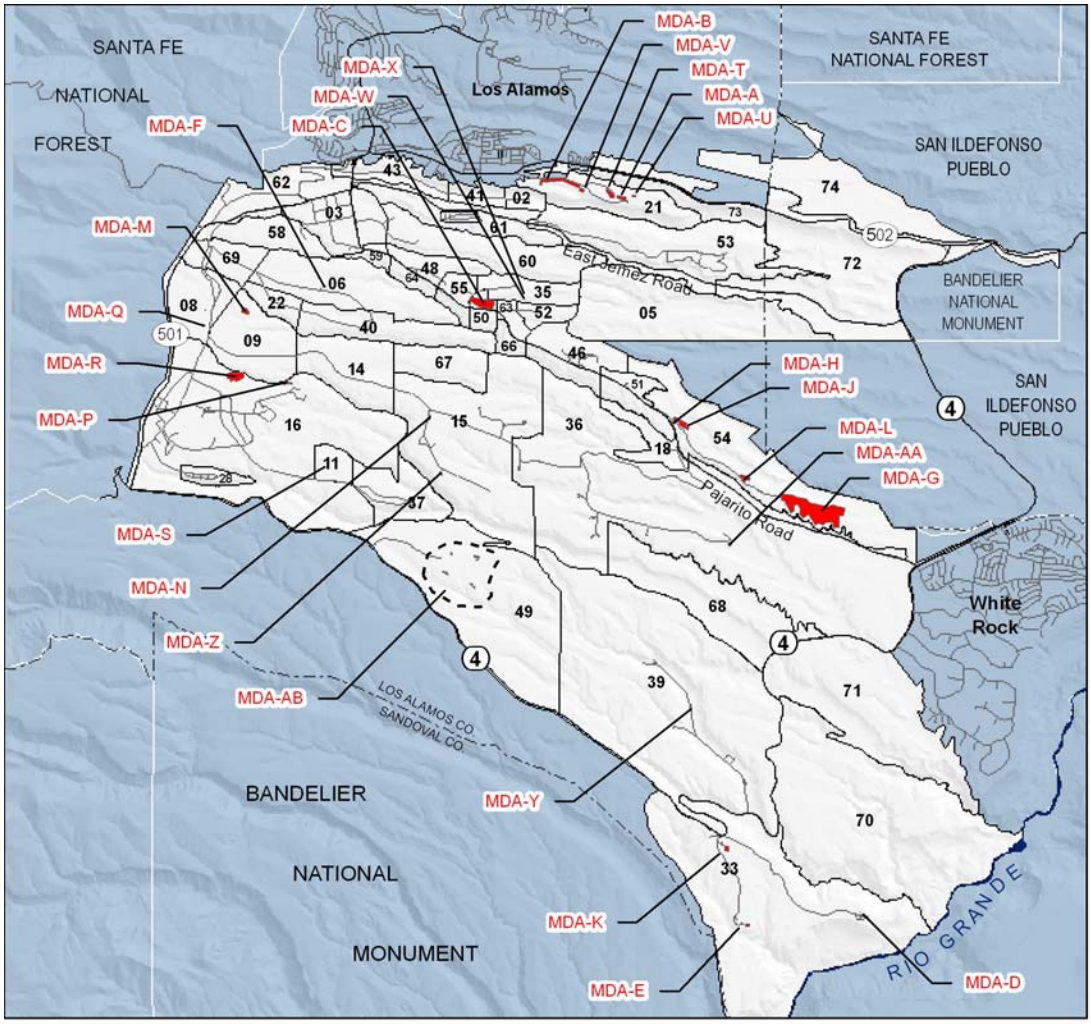

Material Disposal Areas (MDAs)

LEGEND

- Material Disposal Area (MDA)
- Technical Area Boundary
- Department of Energy

0 4,000 8,000
Feet

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Materials Disposal Areas (erdgi_v.ER_DGI.mda_ply)

Work performed on behalf of the
RRES Remediation Services Project, ER2004-0221
Los Alamos National Laboratory, Los Alamos, NM 87545

1:2,500 Scale Data; 23 April 2004

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The present EM life cycle cost for this project is $443,839,000. Of this amount, $233,728,000 must be allocated and spent in FY05-FY10. An additional $22M has been requested from EM to fund increased costs related to nuclear transportation safety requirements imposed since the establishment of the project baseline.

4.3.2.3 Capability Replacement

4.3.2.3.1 Radioactive Liquid Waste Treatment Facility (RLWTF) Replacement

The Laboratory's TA-50 Radioactive Liquid Waste Treatment Facility (RLWTF) was commissioned in 1963 and presently treats on a yearly basis approximately 12 million liters of low-level radioactive liquid waste generated at numerous sites throughout the Laboratory. This waste is primarily conveyed to the RLWTF through a four-mile long, double-contained, buried pipeline. Smaller amounts of radioactive liquid waste are trucked to the facility. Additionally, about 50,000 liters of TRU radioactive liquid waste generated annually by the TA-55 plutonium facility is transported to the RLWTF for treatment through a separate double-contained pipeline.

Treated water from the RLWTF is discharged to the environment via a National Pollutant Discharge Elimination System (NPDES) outfall that is currently in compliance with all Federal, State and DOE standards and guidelines. The present NPDES permit expires January 31, 2005. With the advent of new codes, standards, and environmental regulations, it is expected the RLWTF will require further upgrades in order to produce effluent water in compliance with new discharge standards. Discharge regulations are anticipated to continue to be lowered in the future, thereby pushing the limits of the RLWTF's treatment capability.

The Laboratory has requested a Line Item expenditure of $20M split between FY06 and FY07, with an additional $35M split between FY08 and FY09, to accomplish currently required and anticipated upgrades to the facility. These funds, in addition to funding from RTBF, FIRP and the P2 programs, are expected to provide the Laboratory with a reliable radioactive liquid waste collection, treatment, and discharge capability for the next 30 years.

4.3.2.3.2 TA-54 and Area G Action Plan

Low-level waste is disposed of on-site at a location known as the Technical Area (TA) 54, Area G. This site has been used for disposal since 1957. The Laboratory generates approximately 3,000 cubic meters of low-level waste (LLW) each year. Clean up activities after the Cerro Grande Fire, ER projects, and D&D projects has impacted the

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remaining capacity of Area G. As a result, it is projected that the remaining capacity within Area G will be exhausted by the end of FY07.

The Laboratory's Site Wide Environmental Impact Statement considered construction in Zone 4 as the preferred option for future LLW disposal operations. A ROD was issued in 1999 by DOE confirming this decision. The Laboratory then confirmed the NEPA status for expansion of Area G into Zone 4 (approximately 30 acres). The DOE NEPA SME verified that we are in compliance with NEPA, National Historic Preservation Act (NHPA), and Endangered Species Act (ESA). The Laboratory also performed a Biological Resources review for the proposed work, which included a review of endangered species, floodplain, and wetlands issues. This analysis included a review of the proposed pit locations in Zone 4. The results of these studies have indicated that Zone 4 is still the preferred option, so finding adequate funding to proceed with the Zone 4 work scope is required in the near term.

4.3.3 Nuclear Safety

The Performance Surety (PS) division assists Laboratory management in developing integrated management systems and services to facilitate the accomplishment of the Laboratory's mission in a safe, secure, compliant and efficient manner. In coordination with nuclear facility managers, PS division plays in integral role in identifying and tracking the implementation of institutional nuclear safety policy and procedures.

DOE has reassessed the continued safe operation of its nuclear facilities, its non-nuclear facilities that deal with radiation and the nuclear safety requirements under that these facilities operate. The Agency recently implemented several new nuclear safety requirements in the form of regulations that are found in the Code of Federal Regulations (CFRs). To date, DOE has issued final regulations for:

- 10 C.F.R. Part 820: Procedural Rules for DOE Nuclear Activities,
- 10 C.F.R. § 830.120: Nuclear Safety Management, Quality Assurance Programs,
- 10 C.F.R. Part 830: Nuclear Safety Management, General Coverage, and
- 10 C.F.R. Part 835: Occupational Radiation Protection.

Proposed regulations for other areas related to nuclear or radiation safety are pending, with publication anticipated in the near future. These additional regulations include:

- 10 C.F.R. Part 834 (Radiation Protection of the Public and Environment)
- Several subparts of 10 C.F.R. Part 830
    - 830.110 (Safety Analysis Reports),

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- 830.112 (Unreviewed Safety Questions),
- 830.122 (Defect Identification and Reporting),
- 830.310 (Conduct of Operations at DOE Nuclear Facilities),
- 830.320 (Technical Safety Requirements),
- 830.330 (Training and Certification of Nuclear Facility Personnel),
- 830.340 (Maintenance Management), and
- 830.350 (Occurrence).

4.3.3.1 Quality Assurance

The final Code of Federal Regulation Rule for nuclear safety management (10 CFR 830) establishes new requirements for the Laboratory's nuclear and radiological facilities. The Laboratory identified and self-reported weaknesses in the implementation of provisions related to this CFR and DOE O 414.1A in a Price Anderson Amendment Act (PAAA) Noncompliance Report (NTS-ALO-LA-LANL-LANL-2000-0014). Actions to address the identified weaknesses were initiated early in CY03, including the formation of the Performance Surety division that has been chartered to lead efforts to improve quality management; prepare an Institutional Quality Management Implementation Plan approved for implementation; issue new institutional quality requirements; form a new Quality Steering Group; and strengthen Laboratory procurement processes.

4.3.3.2 Appendix F Safety Analyses

Appendix F of the UC & DOE/NNSA prime contract provides specific expectations for improvements to the Laboratory's Authorization Basis (A/B) processes. The expectations center on the development and implementation of Safety A/B documentation, for both nuclear and non-nuclear facilities, which brings better consistency and improved quality to accomplishing Technical Safety Requirements (TSRs) and the Unreviewed Safety Question (USQ) process. A single institutional Safety Basis Office, established within the Performance Surety division, has institutional responsibility for the Laboratory's A/B program, while line organizations retain A/B responsibility for their individual facilities. DSA/FSA/TSR/OSR/USQ development and quality assurance processes continue to evolve to improve supported programmatic work and ensure full compliance with the Laboratory's LIRs 300-00-05, Facility Hazard Categorization, 300-00-06 Nuclear Facility Safety Authorization Basis, and 300-00-07 Non-nuclear Facility Safety Basis.

4.3.3.3 DNFSB Recommendation 2000-2

DNFSB recommendation 2000-2, addressed the reliability of vital safety systems. As an on going effort, additional funds will be required as new safety systems are developed, implemented and tracked. Commitments related to the development of the Laboratory's

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systems engineering program and institutionalization of safety system assessments are being addressed through the Integrated Facilities Management Program. Failure to continue the adequate funding of this initiative could result in increased risks within nuclear facility operations.

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Table 4-18: Summary of ES&H requirements and projects.

Requirement / Project	Authority	Implementation Status	Project Funding $K	Project Timeframe	Funding Status	Impact to Current Facilities	Impact to New Construction
DOE Order 450.1, Environmental Protection Program							
EMS Implementation Project	DOE requirement	Underway	N/A	N/A	Additional cost of doing business	Could require pollution prevention upgrades to some facilities	
Wildland Fire / Forest Management Planning	DOE requirement	Underway	TBD	TBD	Unspecified additional funding required	Unknown	
Ecology	DOE requirement, plus numerous environmental laws	Underway	TBD	TBD	Unspecified additional funding required		
Pollution Prevention							
DOE Pollution Prevention Goals	DOED requirement	Underway	N/A	2005	Additional cost of doing business, ~$5M being spent in FY 2004 to replace LANSCE chillers.	Could require pollution prevention upgrades to some facilities	
Excess Equipment							
Excess and Waste Equipment	RCRA requirement	Not projectized, separately addressed by each division	TBD	TBD	Additional cost of doing business, current backlog could be managed as a project	Potential for significant number of RCRA violations	None
Scrap Metal Recycling Moratorium	DOE requirement	Separately addressed by each division	N/A	N/A	Additional cost of doing business	Impacts ability to meet low-level waste minimi-zation goal, LLW disposal capacity	None
Clean Air Act							
New Permit under Title V of the Clean Air Act	Legally enforcable permit under Clean Air Act	Underway	N/A	N/A	Additional cost of doing business	Increased stack monitoring costs	Some emissions may require more expensive monitoring systems

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Table 4-18 Continued

Requirement / Project	Authority	Implementation Status	Project Funding $K	Project Timeframe	Funding Status	Impact to Current Facilities	Impact to New Construction
FFCA							
FFCA Surface Water Monitoring (Institution)	Legally enforcable agreement under Clean Water Act	Underway	$15,000	2005-2015	Funded	Requires additional permitting, documentation, and BMP installation	
FFCA Surface Water Monitoring (EM)			$29,184	2005-2015	Overtarget requested from EM	Increased stormwater monitoring costs	
NPDES Permit							
Anticipated NPDES Permit	Legally enforcable permit under Clean Water Act	Permit expected to be issued in 2005	TBD	TBD	Funding requirement unknown until discharge limits are specified in new permit	Could require upgrading effluent treatment systems	Could require more expensive effluent treatment systems
RLWTF Upgrade		Proposed as a line item construction project	$55,000	FY06-FY09	Identified as line item construction project in Attachment A	All chemical processing of rad. liquids depends on RLWTF for effluent processing	
RCRA							
Clean-out mercury-contaminated drains	Risk reduction	Not begun	$5,000	Start-2 years	$5M required, no funding source identified	Could require contami-nated sanitary waste water treatment plant	None
Toxic Substances Control Act							
PCB Elimination	Legal requirement	Underway	TBD	TBD	Unspecified additional funding required to accelerate replacement and disposition of PCB-contaminated equipment	Risk of cont. due to PCB equipment failure	None

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Table 4-18 Continued

Requirement / Project	Authority	Implementation Status	Project Funding $K	Project Timeframe	Funding Status	Impact to Current Facilities	Impact to New Construction
Capability Replacement							
Area G corrective Action and Expansion	Operational requirement	In planning	TBD	TBD	TBD	None	
County Landfill Closure							
Draft Consent Order							
Environmental Restoration (including additional ground water monitoring requirements)	Legally enforcable order	Underway	$125,526	2005-2015	Overtarget requested from EM. (NNSA-RTBF and LANL (inst.) also provide funding for ground-water monitoring).	None	
Legacy Waste Management		Underway	$22,000	2005-2010	Overtarget requested from EM		
D&D (process contaminated facilities)		Not begun	(partial) $73,027	2007-2011	Full funding requirement TBD. No funding source identified.		
Public Law 105-119, Land Transfer Act							
Land transfer project	Legal requirement	Underway	$19,400	2005-2007	RTBF funded; also requires EM remediation funding to clean-up transfer parcels	None	

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4.4 WORKFORCE PROFILE

As of April 2004, the Laboratory workforce was comprised of employees from UC (8,856), KSL (1,445), and PTLA (604) in addition to supplemental contract labor (1,429), student assignments (1,298), and guests/affiliates (1,298). These statistics do not include a temporary influx of summer students and guests that join the Laboratory for short-term assignments or special programs and crafts workers that support seasonal site and construction activities. It is estimated that the temporary summer staff represents some 350 additional people not included in Figure 4-9. The career workforce (excludes guest/affiliates, PTLA, and KSL) comprises approximately 11,600 of the 14,900-member workforce.

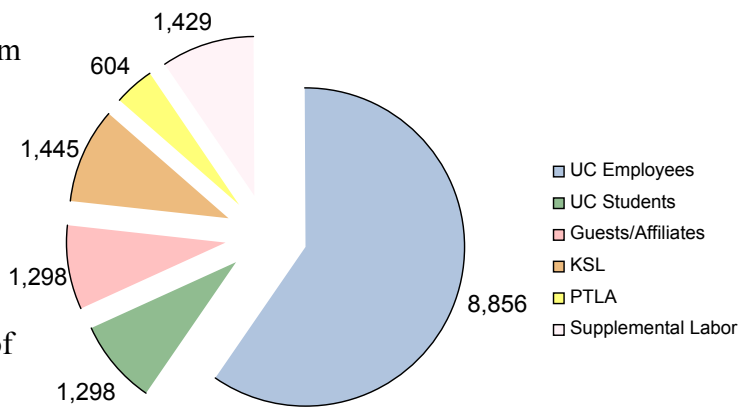

Figure 4-9: Total Los Alamos employees, April 2004.

Figures 4-10 and 4-11 further characterize the career workforce as of April 2004 in terms of ethnicity and levels of education.

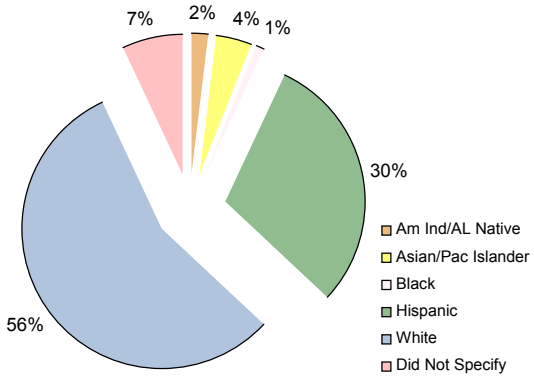

Figure 4-10: Career workforce ethnicity.

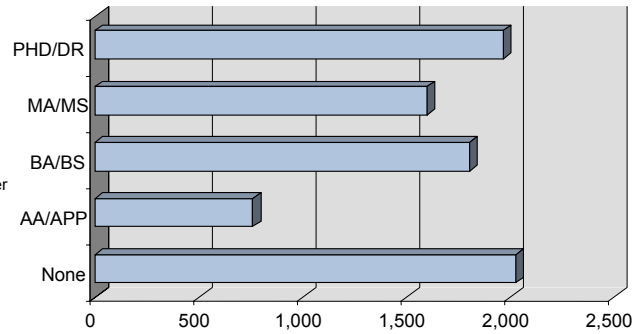

Figure 4-11: Regular UC employees by highest degree.

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Optimizing performance of human resources is fundamental to mission success. The Laboratory fosters excellence in a workforce that is richly diverse in people and capabilities by taking a planned approach to attracting, acquiring, aligning, developing, and retaining talented people. By encouraging a positive, supportive, and creative atmosphere, and by providing facilities that enhance information exchange and include modern capabilities, NNSA, DOE, and other missions are enabled.

Table 4-19 provides current workforce numbers by Directorate. The projected increases for FY04 are based on projected hires and terminations for the rest of the fiscal year. An estimate of potential workforce changes is provided for the out years (FY05-FY08). Critical skills are a subset of the total workforce and defined as positions assigned 25% or more to the stockpile stewardship mission. A critical skill position is required to maintain the nuclear deterrent capability indefinitely or is required to support a specific tangible aspect of stockpile stewardship. In addition, a critical skill position must meet at least one of the following additional attributes.

- **Extended Time to Acquire**—skill and related proficiency can only be acquired after some extended period of explicit on-the-job training/experience (2 to 3 years or more)
- **Complexity of Skill**—skill is related to a scientific, technical or engineering discipline required by the mission, or to the management of a technical aspect of the mission
- **Uniqueness of Skill**—skill is unique to the mission of the nuclear weapons complex
- **Difficult to recruit and retain** — candidates for the critical skill position are difficult to recruit or employees with the critical skill are difficult to retain.

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Table 4-19: Current and projected workforce levels by directorate.

		FY03	Current (April 2004)	FY04*	FY05**	FY06***	FY07***	FY08***
Institutional Science Base and Support Divisions								
	Work Force	3,953	3,847	3,882	3,909	3,937	3,956	3,976
	Critical Skills	247	240	276	280	284	285	284
Nuclear Weapons Program (PADNWP)								
	Work Force		22	23	23	23	23	24
	Critical Skills		13					
Strategic Research								
	Work Force	1,839	1,790	1,806	1,819	1,831	1,841	1,850
	Critical Skills	240	231	331	337	339	339	339
Threat Reduction								
	Work Force	1,435	1,483	1,497	1,507	1,518	1,526	1,533
	Critical Skills	123	126	135	146	146	146	146
Weapons Engineering & Manufacturing								
	Work Force	1,877	1,894	1,911	1,924	1,938	1,948	19,57
	Critical Skills	654	630	725	716	646	640	647
Weapons Physics								
	Work Force	2,514	2,523	2,546	2,569	2,582	2,595	2,608
	Critical Skills	726	717	899	963	998	1,030	1,038
Total								
	Work Force ‡	11,618	11,559	11,665	11,751	11,829	11,889	11,948
	Critical Skills ****	1,990	1,957	2,366	2,442	2,413	2,440	2,454
Net Increase								
	Work Force		-59	106	86	78	60	59
	Critical Skills		-33	409	76	-29	27	14

***FY04 projections are based on projected hires and terminations for the rest of the fiscal year.**
****Projections based on LANL Total Operating FTE estimate for FY05.**
*****Projections assume slow growth (FY06-0.7%; FY07-0.5%; FY08-0.5%) as conservative estimate.**
FY03 are EOY actuals. Current represents Q304 figures and FY05 - FY08 represent projected needs.
Figures exclude KSL, PTLA, Affiliates, and Guests.

As of April 2004, there has been a net decline of 59 in the Laboratory workforce since the start of FY04. Still, it is anticipated that a net gain of 47 will occur by the end of FY04.

From the beginning of FY05 through FY08, the Laboratory will experience a small (approximately 2.8%) increase in the number of personnel. Even with increasing mission and program requirements, flat budget estimates are expected to correspond with small increases in personnel. In the same time period the Laboratory will see a 23% increase in resources that specifically address the "Commission on Maintaining United States Nuclear Weapons Expertise" (Chiles Report). Projected increases call for facilities to support a career workforce of approximately 15,000 people.

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In addition to the impact and need for hiring critical skills positions, the Laboratory is facing an aging population and will see increases in retirements over the next five to ten years. Figure 4-12 illustrates the age distribution of the UC Regular work force and the years of service within each age category. The data indicates approximately 21% of the workforce is now eligible for retirement using the sum of age and years of service as a benchmark. Historical data shows that retirements increase significantly when the sum reaches 75 or more. A second benchmark includes employees with 20 or more years of service, which indicates approximately 30% of the workforce is considering retirement.

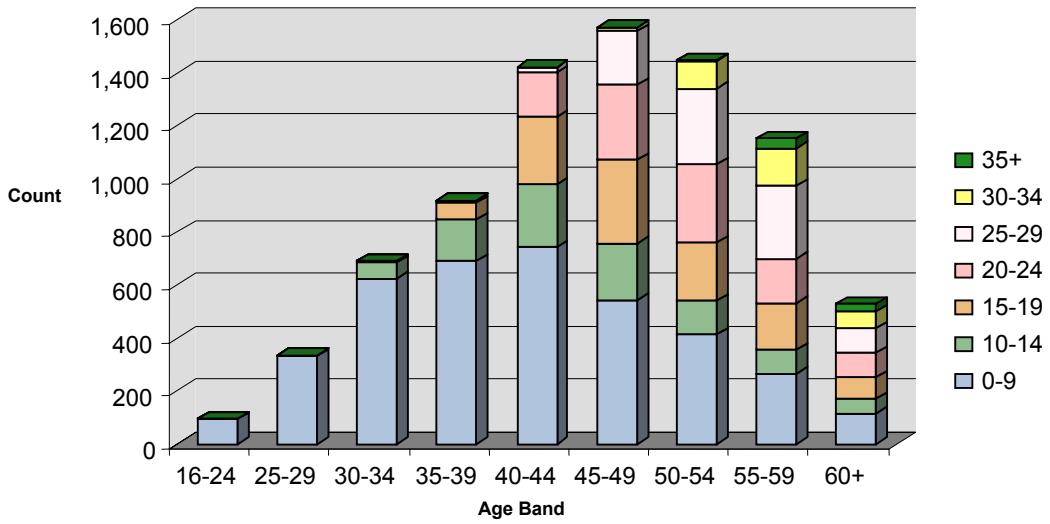

Figure 4-12: Age distribution and years of service for UC regular population.

Recruitment of entry-level resources (five or less years from a bachelor's degree) is a key Laboratory goal. Since the beginning of FY01, efforts in hiring early career technical staff members (TSMs) has increased the number of UC Regular TSMs under the age of 35 by 105. Presently there are 33% more UC Regular TSMs under the age of 35 than there was at the end of FY00.

The Facility Reduction Initiative (see Section 4.1.3) will have a major impact on the site's footprint over the next few years. However, this effort is not being driven by workforce planning; rather, this initiative will *impact* workforce planning by requiring divisions to evaluate the mission need for every individual being provided space. At the present time, planning for the facility reduction initiative has been slowed due to the Laboratory's work suspension; more information will be provided in the FY06 TYCSP.

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4.5 SECURITY

4.5.1 Assets

The Laboratory's security is complicated by the size of the site, multiple scopes of work, and diversity of its holdings. With over 12,000 cleared, and 16,000 badged personnel, 150 security areas, Category I / II nuclear facilities, 6.5 million classified records, 2,000 classified computers, and many metric tons of nuclear material distributed over 40 square miles of rugged terrain, the safeguards and security program at the Laboratory is one of the most complex, geographically diverse, and operationally challenging programs in the world. This operational environment demands a security program capable of dealing with ever-changing and ever-escalating threats. The Laboratory continually maintains a multi-layered security program that supports the roles of safety and security and science as integral components of the Laboratory's mission.

In the post 9/11 era, physical security at the Laboratory remains strong and much work is ongoing on preparations to meet the threats and response requirements identified in the May 2003 Design Basis Threat (DBT) Policy. Most significant among those preparations are:

- The position of Laboratory Chief Security Officer was established to manage and integrate the many and diverse safeguards and security plans and activities across the site.
- Development and use of a DBT Implementation Plan (DBTIP) to guide our efforts to achieve DOE mandated Low Risk /High System Effectiveness by the end of FY'06.
- Expedited vulnerability assessments, utilizing the May 2003 DBT, to support not only the DBTIP and Site Safeguards and Security Plan (SSSP) but also new projects initiated for mission changes or construction.
- Closure of the Pajarito Corridor with permanent access control points.
- Development of the Security Perimeter Road Project to better control access to the entire site
- Relocation of the Laboratory's warehouse operation to consolidate it with the truck inspection station near the intersection of East Jemez and NM Route 4.
- Development of the safeguards and security requirements integration process where mission change and construction projects are informed of and provided guidance early as to assure all requirements are met in the most cost effective manner possible.
- Support for the Laboratory's effort to realistically input to the TA-18 Closure Plan mandated by the NNSA Administrator.

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4.5.2 Protection Activities

Further, the Laboratory has continued an aggressive program to increase the quality of its protection strategies and processes for the Laboratory's assets. Major protection activities include the following:

- Vehicle screening posts continued in operation to address post 9/11 security challenges,
- An explosives detection program using dogs to screen incoming vehicles has been implemented,
- The line item construction project to replace the aging alarm system (NMSSUP Phase I), which is currently to be completed in early FY05,
- The line item construction project continues in development to upgrade the physical security system at TA-55 (NMSSUP Phase II), and
- A number of security posts were automated to reduce our dependence on Security Police Officers (SPO) thus increasing the reliability of the access control process but also making more SPOs available to support construction projects and programmatic work.

Denial Strategy Implementation Plan (DSIP) Closed Out

The purpose of the DSIP Project was to ensure that the Laboratory developed and implemented a strategy for protecting assets at TA-55 in response to the DOE direction given on October 3, 2001. The majority of necessary work was completed in 2003. Per agreement with NNSA/LASO uncompleted actions were transitioned to the DOE mandated DBTIP.

4.5.3 Integration

Security Integration Board

The mission of the Security Integration Board is to provide an integrated approach to security throughout the Laboratory by developing formal processes for emerging security-related institutional S&S policy, resolving S&S issues, determining budget and resource allocation, and coordinating responses to external reviews, investigations, audits, and findings.

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SIB Functions:

- Policy approval;
- Program direction;
- Security plan approval;
- Program prioritization;
- Budget development and impact assessments;
- Resource allocation;
- Change Control.

SIB Goals:

- Support institutional consistency in the application of security policy;
- Serve as a conduit for security communications between line organizations and Senior management;
- Provide direct communication of lessons learned/best practices among Laboratory directorates;
- Coordinate policy development with other University of California laboratories, the Department of Energy and National Nuclear Security Administration;
- Provide improved and efficient allocation of scarce resources to optimize the value of security programs;
- Ensure cost effective management of the security program budget;
- Develop processes and tools for planning and issues resolution;
- Determine logical "ownership" of security activities and issues.

SIB Deliverables:

- Integrated Laboratory S&S policy documents;
- Laboratory S&S Strategic Plan;
- Laboratory Site Safeguards and Security Plan;
- S&S Annual Security Improvement Plan;
- S&S input to the Ten-Year Comprehensive Site Plan;
- S&S input to ad hoc security plans;
- Annual Operating Plan and related S&S Budgets;
- S&S policy and program changes;
- Laboratory S&S Appendix F performance measures;
- Board decision and direction documents;

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Protection Program Planning Team (PPMT)

Due to the need for continuity in S&S practices many SIB members are also members of the PPMT to which the SIB reports. The Security and Safeguards Division and Los Alamos Site Office (LASO) have continued a management-level working group that provides program direction and implements Laboratory S&S policy. This team ensures that appropriate levels of protection are in place to protect against the approved DOE DBT and that a graded approach is applied to security planning and resource identification. The PPMT provides a forum for S&S requirement integration, mission prioritization, stakeholder cooperation, and risk management. Relative to S&S FS-20 funding, guidance is passed to S Division and options evaluated by the PPMT such that budgetary planning and prioritization take place with appropriate levels of senior leadership input. The PPMT also ensures that the Laboratory's vulnerability assessment process and SSSP provide the protective measures and strategies necessary to ensure acceptable levels of protection for DOE assets. PPMT membership includes the LASO manager and S&S director, the S-Division leader, S Division groups and various other Laboratory groups involved in programmatic security activities.

Requirements Integration Team

The Security and Safeguards Division has established the S-1 Requirements Integration Team (S&S RIT) which serves as the Laboratory advocate to promote Integrated Safeguards and Security Management (ISSM). This ensures that S&S planning is systematically integrated into all Laboratory construction, facility modifications or upgrades, mission change, and operational projects. This integration provides an avenue for the S&S community to join the process of modernizing Laboratory infrastructure and supporting new missions early on in their respective life cycles. This initiative is in sharp contrast to prior approaches, where security issues were introduced into many projects in later, less feasible, stages. S&S integration into Laboratory site planning helps to create efficiencies on an institutional level. This proactive involvement helps to standardize S&S applications throughout the institution and provides opportunities to view S&S interdependencies among and between projects and functions across the Laboratory. Early integration into projects also helps avoid retrofit and costly rework in later stages.

The formality of operations being championed by the S-1 S&S-RIT identifies, captures, and addresses the level of "security interests" for S&S that need to be included in the pre-planning and decision analysis supporting the process of project planning and execution phases of the project review life cycle all of which is in keeping with the guiding principles of ISSM. This integration also ensures that the appropriate subject matter expert(s) (SME) from the S&S disciplines engage Laboratory project managers and

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owning organization and responsible project authorities to plan, design, develop, and implement S&S systems that are compliant with:

- Site and Project Planning LIR 210-01-01.1, Comprehensive Site and Facility Planning LPR 210-01-00.1,
- Construction Project Management LIR (220-01-01.6),
- Integrated Safeguards and Security Management LPR (406-00-00.0),
- DOE Manual (413.3-1) Project Management for the Acquisition of Capital Assets,
- Applicable DOE Orders, manuals, policy and guidance documents, and
- Other relevant and applicable federal agency requirements.

The S&S-RIT has also formed a partnership with CCN and CIO division SMEs which ensures further integration of requirements and guidance on design and installation of telecommunications, information, and cyber security systems. The S&S RIT is also an active participant in institutional planning groups such as the Laboratory Site Planning and Construction Committee (SPCC) and Internal Siting Committee (ISC). In addition, the S&S RIT also participates as part of the INP to ensure that S&S planning is systematically integrated in the INP process. A representative from the organization serves as an active participant in the INP meetings and planning workshops as well as serving as a co-chair on the INP's S&S sub-committee.

4.5.4 Special Security Projects to Address New Threats

As noted earlier, the Laboratory continues to initiate safeguards and security projects to further enhance security at the Laboratory as well as meet new threats. The following is a brief description of some of these projects. A more complete description of many of these projects is available from the S-1 Security Plans Group.

Security Perimeter/By-Pass Roads

This project is designed to support institutional security objectives by adding access controls at the West and North ends of West Jemez Road to the extent that the public may be prohibited from using that road based upon the security posture in place at any time. Diamond Drive will be controlled much the same as Pajarito Road is now. New roads and access control stations will upgrade the physical protection around critical assets. Access to these roads by Laboratory badge holders will be maintained and traffic by non-DOE badge holders in the TA-3 area will be eliminated as necessary. In addition, access control will also involve screening vehicles entering the Laboratory for explosives, prohibited articles and contraband.

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Relocation of Warehouse Operations

This project is designed to prevent unsearched commercial vehicle loads from entering the Laboratory. The new warehouse operation has been sited on the southwest side of East Jemez Road approximately 4,000 feet from N.M. Route 4. This places the site at the edge of the Laboratory's property, far from the core of Laboratory facilities. It will be funded and constructed by a third party for lease to the Laboratory/NNSA. The operational concept calls for all Lab-bound materials to be off loaded and searched at the warehouse and then transshipped to the ultimate user.

Bio-Safety Laboratory

The Laboratory has constructed a stand-alone state-of-the-art bio-safety laboratory. This one-story, approximately 3,200 square foot, facility will, when opened, accommodate research to enhance public health capabilities and reduce the threat from terrorism using biological weapons.

TA-18 Relocation Project/Closure Plan

The Los Alamos Critical Experiments Facility (LACEF) project will provide for the movement of Category I/II nuclear materials, operations, appropriate personnel, and infrastructure from TA-18 to the Nevada Test Site by October 2005. For Category III/IV, materials will move to another location in Los Alamos or NTS by 2009 at which time the site will be turned over for D&D.

NMSSUP Phase II

This project will address the security system at TA-55, the Laboratory's key nuclear facility which houses and processes Category I quantities of SNM. Phase II includes the upgrade or replacement of the existing Perimeter Intrusion Detection and Assessment System (PIDAS) and installation of interior intrusion detection, assessment, delay, access control, and security communications equipment for TA-55. Also included in the project are access control facilities for the Protected and Material Access Areas, which will be replaced or upgraded. These systems will be integrated with the Argus security control system that is being installed under NMSSUP Phase I. The NMSSUP Phase II project is currently approaching CD-1.

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4.5.5 End State of Security Efforts

Considerable effort has been put into safeguards and security at the Laboratory over the past few years. That effort has been successful, but there is still much more work ahead. As a part of the DBTIP, we will continue the effort to improve the safeguards and security program at the Laboratory, and otherwise will continuously seek ways to do more work within an essentially flat-lined or decreasing budget.

The DBTIP and SSSP, our security authorization basis, actually describe what the "End State" of all of the planned security enhancements must be, and further provide a definitive and positive direction in which to direct Laboratory safeguards and security efforts. They will continue to be of critical importance as scarce security resources are appropriated to meet the ever-changing increases in the threats to the Laboratory.

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4.6 TRANSPORTATION AND PARKING

The Laboratory's remote location, topography, and development pattern create unique transportation problems. Its location on a series of mesa tops separated by deep canyons and the dispersed arrangement of facilities combine to make access between Laboratory facilities difficult and circuitous. Development of roads and parking has been incremental, often guided by short-term needs.

Table 4-20: Existing road lengths and parking.

		Approximate Length
Roads	Primary (Paved)	19.7 miles
	Secondary (Paved)	23.1 miles
	Unpaved	112.2 miles
	Total Roads	**155.0 miles**
Parking	Paved Parking	4,068,098 sf

There are only four major entrance points to the Laboratory, and many TAs and facilities have only one avenue of access. There are approximately 43 miles of paved roads onsite, and the Laboratory is responsible for the maintenance, repair, replacement, and operation of all existing paved roadways and parking lots, sidewalks, traffic control/signals, traffic signs, guardrails, and bridges. Maintenance of the transportation infrastructure has generally been inadequate to keep up with needs. The Laboratory has been identifying and prioritizing needed roads projects based on accident rates, compliance with traffic standards, and comprehensive planning. Focus is being given to resolving inadequate parking capacity, ADA compliance, and safe pedestrian access, in particular to TA-3 facilities. Initiatives to ensure the capability and sustainability of the roads and parking system are shown on the following page. Additional information on these initiatives is provided in Attachment A-5.

4.6.1 Parking

Construction activities in the northwest sector of TA-3 prior to FY03 eliminated over 800 parking spaces. New surface lots replaced some of the lost spaces, but many were constructed in other areas of TA-3, away from where population increases were occurring. To address this situation, the Laboratory completed its first parking structure in April, 2004. This structure, funded as an IGPP and located just to the west of building TA-3-31, was completed in April 2004 and resulted in 200 net parking spaces. Another structure, currently under construction and planned for completion in early 2005, was funded as part of the new National Security Sciences Building. This structure will add over 300 net parking spaces to the northwest sector of TA-3. The parking situation in TA-3 continues to be studied as future construction projects are planned, and additional new surface parking lots are possible.

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Table 4-21: Transportation system condition assessment and related projects.

System	Condition Assessment						Deficiencies (Major ■ / Minor ◁)											Recommended Action						Related Projects
	Excellent	Good	Adequate	Fair	Poor	Fail	Capacity	Future Capacity	Age	Physical Condition	Efficiency	Reliability	Operations	Maintenance	Environmental	Safety	No Action	Repair	Upgrade	Replace	Further Study	
Roads																						
Roads			✓					■	◁	◁				■		■		●	●			Security Perimeter Project; Multiple Intersection Upgrades; Mill and Overlay Pajarito Road; East Jemez Road Widening; Repair R Site Road; Repair Anchor Ranch Road South; W. Jemez from Casa Grande to West Road; Pajarito Rd. TA-59 to TA-64 Access; Repair Eniwetok to Sigma Mesa; W. Jemez Road Shoulders; Mill and Overlay Secondary Roads; W. Jemez Overpass at TA-3.
Parking Lots					✓		■	■	■							■		●	●			ADA Compliance; Mill and Overlay Parking Lots; Pajarito Rd. TA-59 to TA-64 Parking;
Sidewalks					✓					■						■		●	●			Sidewalk/Curb Trip Mitigation; ADA Compliance; Repair TA-53 Sidewalks
Traffic Control Devices				✓															●			Replace Traffic Signals; Roadside Safety-Obstacles/Guardrails; Sign Upgrades.

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Increased population at TA-55 is also causing parking shortages in that area, and two new surface lots are planned to improve the situation. In the short-term, an IGPP funded lot has been proposed located to the south of the new office building currently under construction. In the long-term, a 500-car lot is proposed to the south of the Pecos Road and Pajarito Road intersection.

4.6.2 Regional Transit

In May 2003, the New Mexico State Transportation Department established a regional park and ride system to provide commuter bus service between the cities of Santa Fe, Española, and Los Alamos. The total impact on parking demand, particularly in the TA-3 area, has not been determined, though most of the estimated 3,400 riders are destined for TA-3. The Support Services Subcontractor is providing on-site transportation from the bus center location at Diamond Drive and East Jemez Road to other Laboratory locations as required. The commuter bus service was initially funded for only 18 months during construction work along Highway 84/285. However, local governments are working to establish a permanent regional transit authority to maintain and perhaps expand the service in north-central New Mexico.

4.6.3 Security Perimeter Project

This project is the only major transportation project currently funded for the Laboratory. The Security Perimeter project will provide the Laboratory the ability to isolate TA-3 from unscreened vehicle access in order to protect vital national security assets, government property, and human life from possible terrorist activity. The Laboratory will be able to enact a graded closure of the core area depending on the NNSA Security Condition (SECON) levels in effect at the time. In addition, new access control stations will be constructed off of East Jemez Road and on West Jemez Road at the “back gate” area near NM-4, and approximately one and one-half miles of new road will be constructed to connect West Road and the existing Ski Hill Road to maintain public access and provide an alternative evacuation route. The map on the following page illustrates the scope of the Security Perimeter Project.

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4.6.4 Transportation Planning

The Site-Wide Future Transportation Plan was last developed in 1990, but the Laboratory is currently developing an updated transportation plan. This plan update is particularly important in regard to how strengthened security policies and requirements may affect the Laboratory. Other transportation components, including parking, bicycle and pedestrian circulation, and transit, will be addressed in the plan. The plan is intended to guide the Laboratory in regard to its transportation system for the next 10 to 20 year period. Previously proposed road improvements and strategies will be reviewed and modified as necessary.

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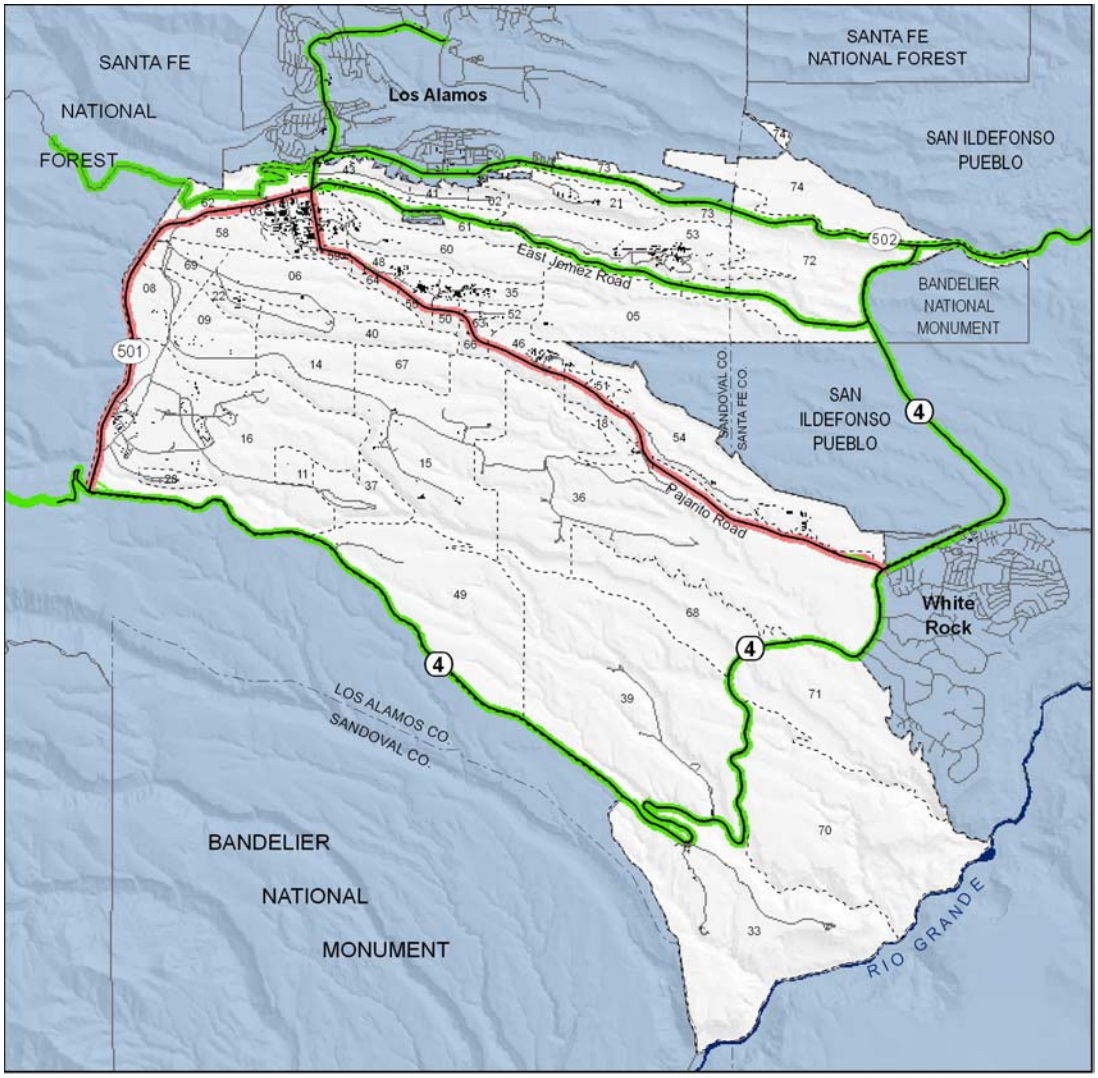

Security Perimeter Road Concept

LEGEND

Arterial with Restricted Access

Arterial with Unrestricted Access

N

0 4,000 8,000

Feet

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4.7 CURRENT PLANNING INITIATIVES

The Laboratory has continued to produce master plans for various Laboratory areas during the past year. Areas studied and planned include TA-3, TA-48, and TA-21, while an ADP for the Pajarito Corridor West area is under development. The level of planning performed varied based on current needs within these different areas. Summaries of some of the more complex urban planning efforts undertaken recently are presented below. Although physical planning documents were produced, planning is an interactive, ongoing process, and the documents will be updated as necessary.

4.7.1 Pajarito Corridor West ADP

The Pajarito Corridor West ADP will address issues of land use, transportation, utilities, security, facilities, urban design and environment. It will identify development opportunities for potential growth and revitalization in support of the Laboratory's key mission activities at TAs -48, -64, -55, -35, -63, -66, and -52. In particular, the ADP will examine and make recommendations for expanding the nuclear facilities complex around TA-55 and for providing separate access to the science activities conducted at TA-35. TA-66 is proposed for current and future Homeland Security missions, while TAs –63 and –52 may provide room for growth of numerous Laboratory activities.

4.7.2 TA-48 Master Plan

The TA-48 master plan addresses the need for Chemistry (C) Division to remain located within the TA for the foreseeable future. The master plan proposes four to six new buildings to maintain and upgrade onsite capabilities while several old structures would be removed. The TA-48 master plan also includes a proposed radiological complex to the east, adjacent to TA-55. Another key recommendation is a transit corridor for moving special nuclear materials without using Pajarito Road. Other elements addressed include open space, parking, pedestrian networks, and a more attractive physical environment than currently exists.

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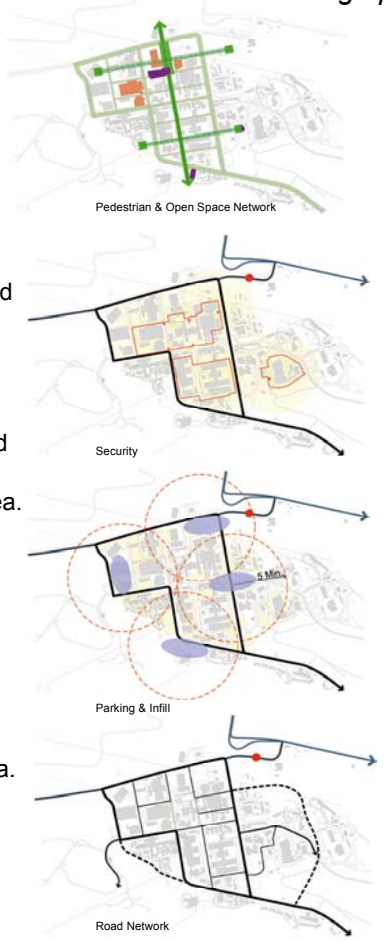
4.7.3 TA-3 Master Plan

TA-3 is located in the northwest corner of the Laboratory and contains the majority of the Laboratory's population, buildings, and infrastructure. It is the heart of the Laboratory and its "central business district." A new master plan for TA-3, based on previous revitalization plans first begun in 1997, was completed during the past year. The goal of the master plan is to develop a unifying center of the Laboratory while creating a secure environment, integrating well-designed buildings, and establishing a pedestrian circulation network. Key points to the updated master plan are described below and a map is included on the following page.

Figure 4-13: TA-3 Master Plan design principles.



ASSUMPTIONS

- TA-3 will house administrative, theoretical/computational, and experimental science activities.
- SNM activities will be removed from the CMR building.
- Support functions and services will be relocated to more appropriate sites.
- TA-3 is the initial focus area for replacing older buildings.

DESIGN PRINCIPLES

- Organize primary exterior space with pedestrian networks and open space.
- Secure Laboratory traffic through access control gates.
- Consolidate parking to structures along the main loop arterial roads.
- Promote efficient infrastructure and land use through infill and increased density.
- Enhance security by excluding public traffic from the core area.

PHASING 0-5 Years

- Consolidate parking into structures.
- Remove deficient facilities.
- Build National Security Sciences Building.
- Continue infill with other buildings.
- Begin open space and pedestrian network development.
- Develop road and access network for security and parking.
- Develop disposition plan for CMR, Shops, Physics and Sigma.

PHASING 5-10 Years

- Build major infill facility south of new NSSB.
- Create central pedestrian network open space.
- Continue consolidation of parking into structures.

PHASING 10+ Years

- Continue development of infill buildings within the Core Area.
- Continue development of pedestrian and open space network.
- Continue to remove old facilities.

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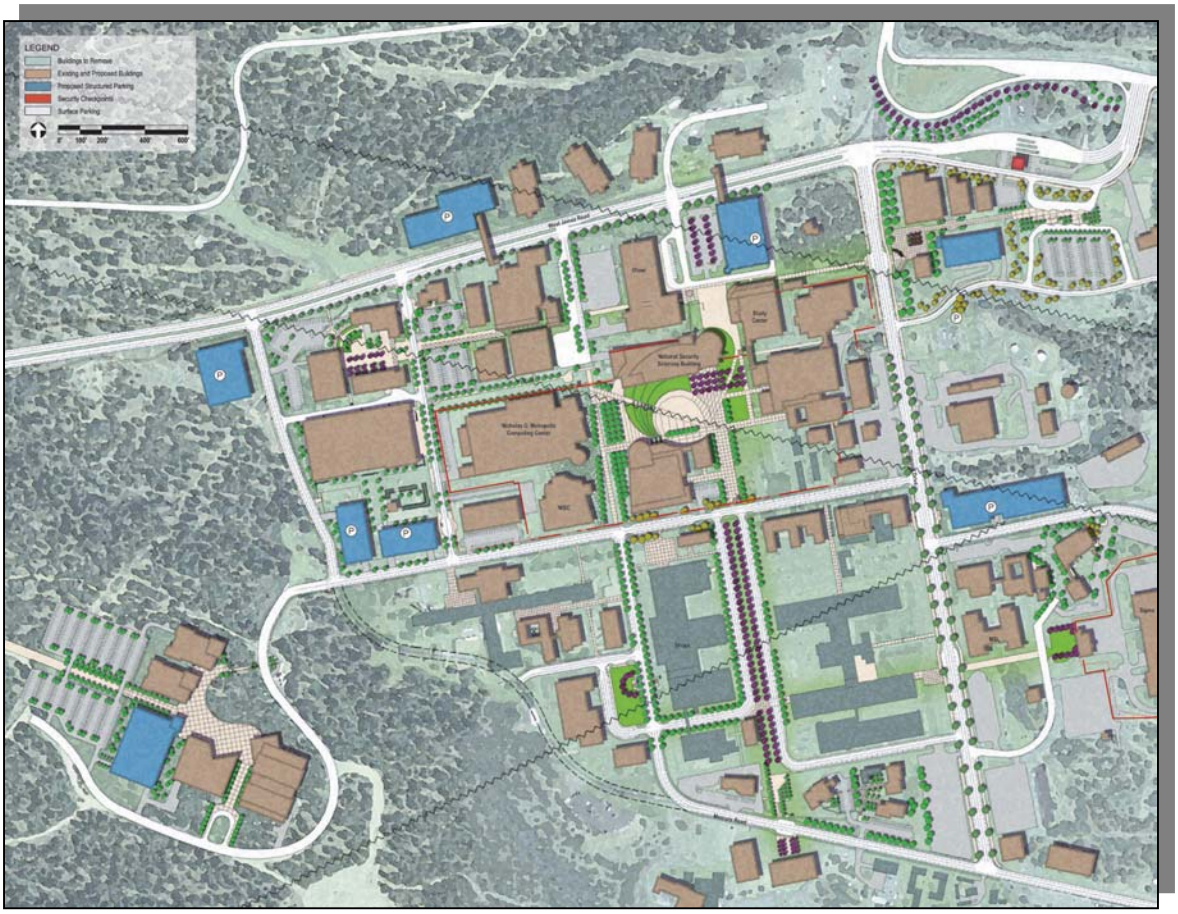

Figure 4-14: TA-3 2014 master plan.

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4.7.4 TA-21 Reuse Planning

On November 26, 1997, Congress passed Public Law 105-119. Section 632 of that law directed the Secretary of Energy to convey to the Incorporated County of Los Alamos, New Mexico or to the designee of the County and transfer to the Secretary of the Interior, in trust for the Pueblo of San Ildefonso, parcels of land under the jurisdictional administrative control of the Secretary at or in the vicinity of Los Alamos National Laboratory. The DOE has identified 10 tracts of land for potential transfer to the County of Los Alamos or to San Ildefonso Pueblo, including six sub-parcels within TA-21.

The term "TA-21 Reuse" has become the accepted nomenclature for the eventual reutilization of one sub-parcel, A-16. Because of legacy contamination at sub-parcel A-16 and the continued need for a buffer zone around TA-53 operations, DOE determined that sub-parcel A-16 would be deferred from transfer to Los Alamos County.

Sub-parcel A-16 is currently occupied by employees and/or subcontractors in about 65 buildings (239,000 square feet). There are five material disposal areas, over 60 potential release sites, and approximately 95,000 square feet of buildings on the excess facility list. The central portion of sub-parcel A-16 contains structures built over 50 years ago for a variety of operations using plutonium, uranium, and other materials. These buildings will be removed, and the resulting brownfield sites evaluated for potential reuse.

Geophysical and radiological surveys are being conducted and will be completed by the end of 2004. Potential release sites and boundaries will be identified, buried waste lines and structures will be located, and the nature and extent of geophysical and radiological anomalies will be determined.

Based on this information, the Laboratory will continue to develop, procure funding, and implement a plan to reuse those portions of sub-parcel A-16 acceptable for industrial development. In addition, some portions of sub-parcel A-16 will be evaluated for potential transfer to Los Alamos County at an undetermined future date. This will maximize beneficial use of these lands to the Laboratory for missions and programs that require frequent collaboration with external customers and help consolidate dispersed Laboratory activities that are located in less suitable sites where access control has increased. Much of sub-parcel A-16 is served with utilities and is located within walking distance to downtown housing, shopping and services, the airport, and a major public highway.

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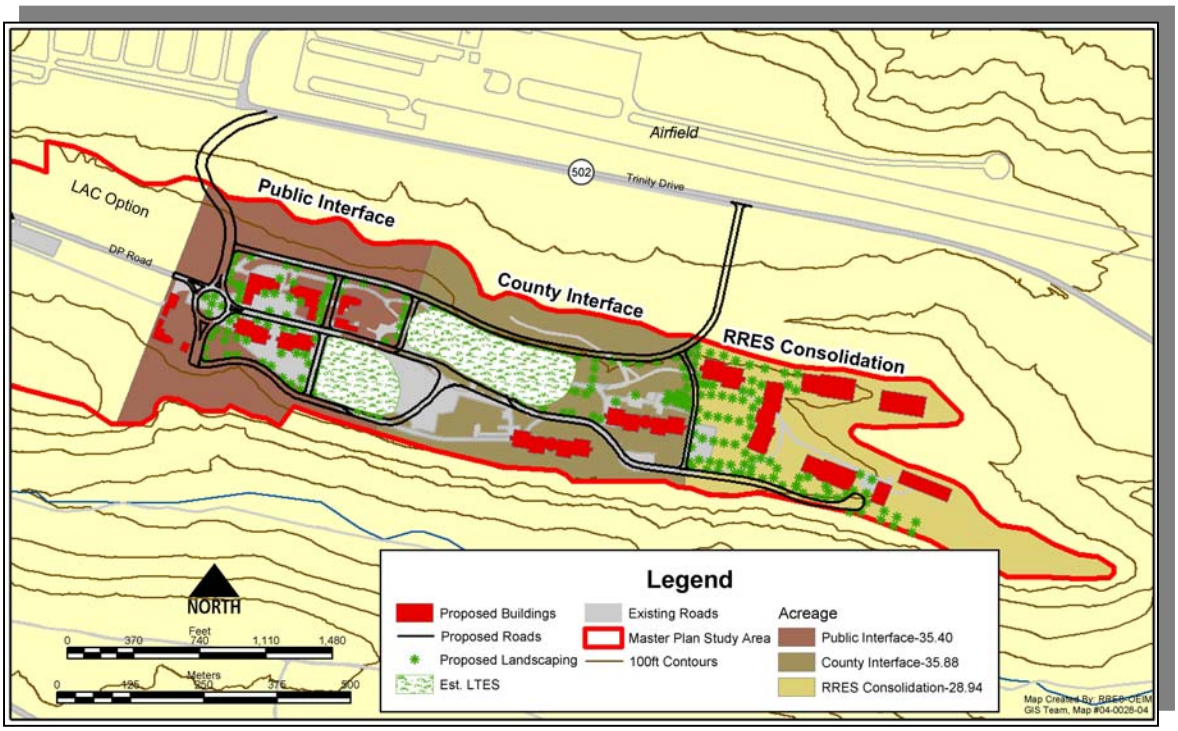
Several reuse strategies are currently under consideration. One is a multiple-use industrial redevelopment option that would benefit both NNSA and Los Alamos County, with the possibility of using alternative financing. Another is developing a multiple-use service center for regional land management agencies. The service center would attract supporting businesses and allow more immediate reuse of the property. In addition, it could provide integrated facility space for Laboratory organizations focused on intergovernmental relations, environmental stewardship, public outreach, and education. More detailed migration, project development, D&D, remedial action, and financing implementation strategies will be developed as planning efforts continue in FY05. Potential reuse conceptual development is shown in the following figure.

Figure 4-15: Conceptual TA-21 development includes three focus areas and many potential development areas.



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4.7.5 Los Alamos Science Complex

Since 2000, the University of California Office of the President (UCOP) and the Laboratory have been developing alternative financing methods in addition to traditional construction mechanisms such as congressional line-item or GPP funding as a means to address aging infrastructure. While real progress has been made in recent years to improve facilities and infrastructure, serious concerns and challenges remain for non-directly funded NNSA programs that conduct scientific research in support of the DP mission. Many of the non-directly funded facilities are reaching the end of their useful life and require major upgrades to meet future mission needs.

Non-direct, non-mission essential NNSA facilities, while important as a whole, will always be considered a lower priority when competing for construction dollars as long as important mission critical direct priorities remain unfunded due to ongoing budget constraints and the fluctuation of the government's funding cycle.

During FY03/04, working with NA-10 and UCOP, the Laboratory developed the mission need and acquisition strategy plan to alternatively finance construction of the Los Alamos Science Complex (Science Complex). Located at TA-58 Two Mile Mesa North, the Science complex will relocate and co-locate approximately 1,300 scientific staff from within various Laboratory TAs. Approximately 402,000 GSF of new multi-disciplinary, modern, competitive, high-quality space will be constructed.

The objective of the Science Complex is to provide non-directly funded, non-mission essential, NNSA scientific facilities in a state-of-the-art multi-purpose and multi-disciplinary environment that will enable DP mission supported and related basic and applied scientific research and technology to be conducted in a unique and powerful collaborative setting designed to be environmentally sound and highly cost effective.

Alternative financing will utilize a "third party" to develop and construct the Science Complex for the Laboratory and DOE/NNSA to lease. Oak Ridge National Laboratory successfully used this approach to build approximately 375,000 GSF of new facility space in FY03/04. Using this approach, construction was completed much faster and costs were kept much lower because the government's year-to-year uncertainty in the availability of funds was eliminated while conforming to the Office of Management and Budget budgetary rules.

On April 1, 2004, NA-10 authorized the Laboratory to proceed with development of the Science Complex. Further analysis, development, and design are currently underway.

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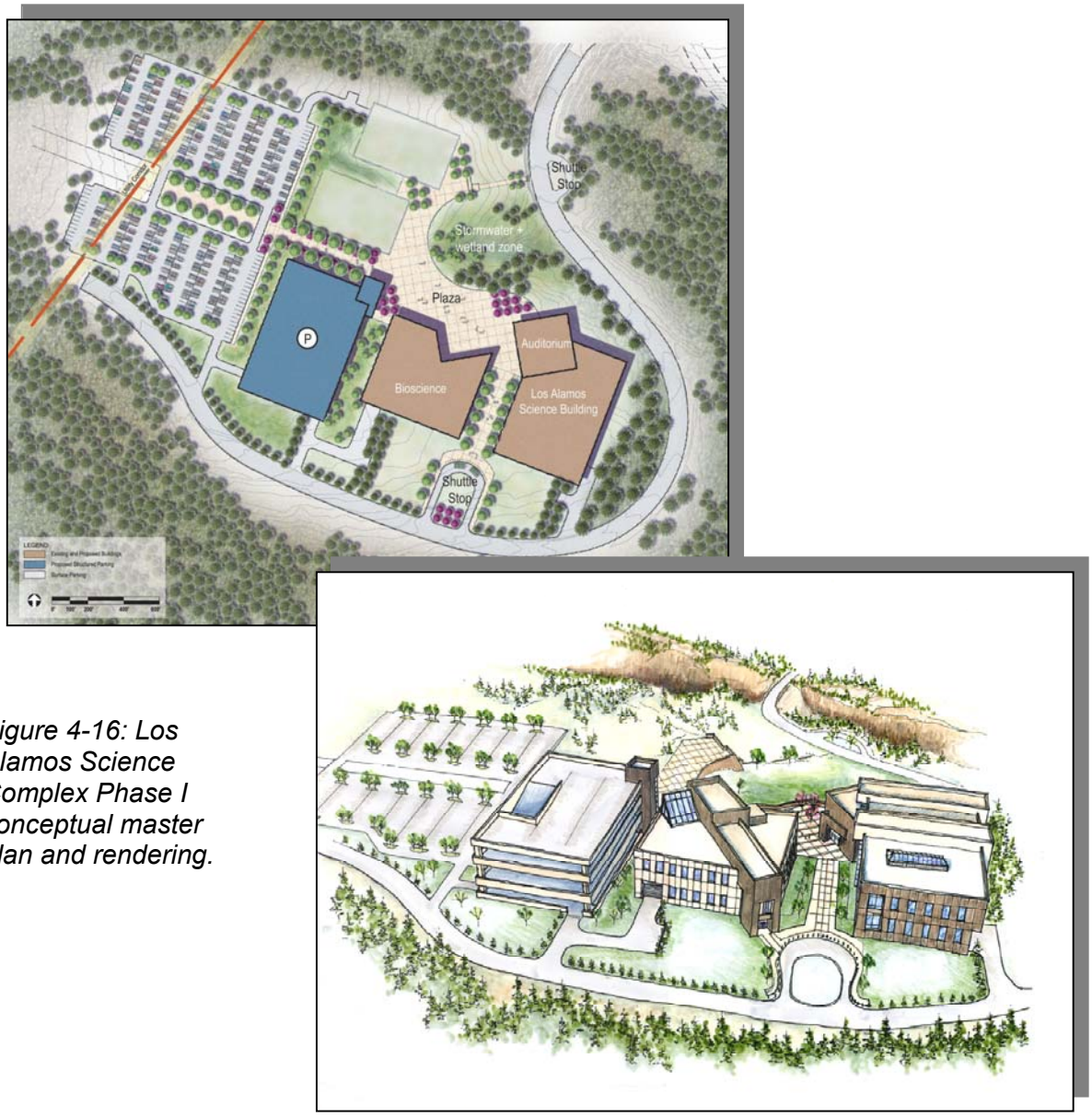

Figure 4-16: Los Alamos Science Complex Phase I conceptual master plan and rendering.

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4.7.6 Integrated Nuclear Planning (INP)

NNSA and the Laboratory have established the Integrated Nuclear Planning (INP) effort for integrated planning of nuclear facilities and capabilities. INP, through the recently created INP Project Director position, is chartered to provide an integrated, coordinated plan for the consolidated construction, refurbishment/upgrade, and retirement of nuclear facilities over the next 20 years. INP also includes NNSA membership and participation. Consistent with NNSA programmatic guidance and in support of integrated planning activities, the TA-55 affected project teams are key members and participants of the INP process. Additionally, the Laboratory's SPCC routinely receives briefings from the project directors/leaders and reviews project interactions throughout the Laboratory, including TA-55.

Los Alamos has an aging nuclear materials facility infrastructure spread throughout the Laboratory site. The Laboratory performs critical research and development (R&D) in support of DP missions at a number of sites and nuclear material facilities. Many of these facilities and their associated equipment are in need of upgrades, replacement, or refurbishment. INP provides a means to best ensure that these changes to critical Laboratory facilities are carried out in a coordinated, cost-effective manner.

A variety of consolidation and revitalization/refurbishment activities intended to maintain and upgrade the Laboratory's long-term nuclear capabilities are in the pre-conceptual planning stage. Consolidation of nuclear and non-nuclear facilities to a minimal number of secure areas or functional areas will optimize use of facility capabilities and minimize future costs. Flexibility in the development of concepts for managing both program and facility uncertainties will improve facility usefulness over time. Relocating essential capabilities from aging facilities to upgraded or new facilities will maintain and improve the Laboratory's response to current and future missions.

The INP effort ultimately relies on joint Laboratory and NNSA workshops to validate capabilities, requirements, and priorities. To date, six INP workshops have been held with active participation from Laboratory and NNSA/DOE program, line, safety, and security organizations. The first workshop was held on April 18, 2001 and provided NNSA and the Laboratory a consensus mission set for INP. The second workshop was held July 10–11, 2001, and this workshop provided a "validated list of capabilities" and "project elements" to be included in the CMRR and TA-18 Mission Relocation projects.

Additionally, the workshop chartered the INP Team to propose an integrated plan for addressing capabilities or project elements that are not included in the CMRR or the

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TA-18 Mission Relocation projects but are necessary to meet overall NNSA missions. Specific examples of such project elements included the long-term storage of SNM; radiography of SNM components; infrastructure needs for TA-55; and infrastructure reinvestment and security needs for TA-55.

A third workshop, held July 23–24, 2002, accomplished the following:

- Validated a disposition path for project elements related to supplemental capabilities, site-infrastructure needs and security requirements that are necessary to execute the mission,
- Established Laboratory and NNSA consensus on planning and project coordination between various ongoing INP construction projects,
- Updated NNSA guidance regarding a path forward for INP as it relates to the TYCSP efforts, and
- Addressed coordination needs between INP efforts and other NNSA nuclear construction activities as they relate to NNSA missions.

A fourth workshop, held in early 2003, was limited to discussions regarding the TA-18 mission relocation to the Nevada Test Site. The workshop was also to validate the scope of that project.

The fifth INP workshop, a Laboratory INP/CMRR Preliminary Layout Selection, was held on June 9-10, 2003. The objectives of that workshop were:

- To validate Laboratory recommendations on CMRR preliminary nuclear facilities layout selection,
- To obtain consensus on CMRR Project phasing recommendations in support of a decision by NA-10 to allow Acquisition Execution Plan development, and
- To update NNSA on the status of other INP activities at the Laboratory including discussing the SNM Storage Strategy, NMSSUP Phase II status, and CMR Disposition.

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As with the fifth workshop, the CMRR Project was again the focus of the sixth INP workshop held on August 19-20, 2003 at Los Alamos. The primary goal was to obtain status reports from the three sub-teams established during the fifth workshop and also from the working group performing the CMR Disposition Study.

A seventh workshop to review key nuclear weapons program and security projects, with a focus on protection strategy and authorization basis, is anticipated in early 2005.

Figure 4-17: INP pre-conceptual site plan at TA-55.

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4.7.7 Modern Radiological Complex Planning

The Laboratory's national security mission requires R&D activities that involve radiological materials in all forms, concentrations, and configurations. These include NNSA campaigns such as defense nuclear nonproliferation (NN-20), emergency operations (NN-40), domestic safeguards (SO-20) and corresponding training operations, encompassing activities related to nuclear weapons, non-proliferation and arms control, homeland security, nuclear energy, nuclear waste management, environmental management, nuclear regulation, health and safety, nuclear medicine, and advanced materials science.

The Laboratory's radiological infrastructure is 40 to 60 years old and the ability to continue critical national missions is threatened. The most cost-effective long-term approach is to build a consolidated and integrated radiological science complex that will result in higher efficiency, lower operating costs, and modern capabilities with greater flexibility to respond to changing mission requirements.

The Modern Radiological Complex (MRC) is being planned to accommodate existing national security missions currently being performed in outdated facilities proposed for replacement, including wet chemistry, metallurgy, safeguards (domestic and international), MCP&A, machining and manufacturing, and training schools.

The complex (Figure 4-18) would include a Security Category I underground vault for storage of SNM, eliminating (through underground tunnels) routine material transport on public roads. Also, the complex would be designed to accommodate multiple concurrent radiological activities and Security Categories (III-IV), and temporary Security Category II IAEA training schools. A Nuclear Hazard Category 3 operations building for specific co-located actinide chemistry operations and safeguards activities is also proposed.

This project would retire approximately 620,000 gross square feet of obsolete footprint and decommission 60 deteriorating structures (80% of the Lab's radiological facilities) scattered over five TAs. It would consolidate radiological labs and working spaces to a significantly smaller footprint into approximately 400,000 gross square feet of modern, flexible facilities (in 10 to 12 buildings) suited to a long term mission and efficient operation. Planning, design, and construction is envisioned to be phased over the next 20 years; however, there are no near-term funding strategies.

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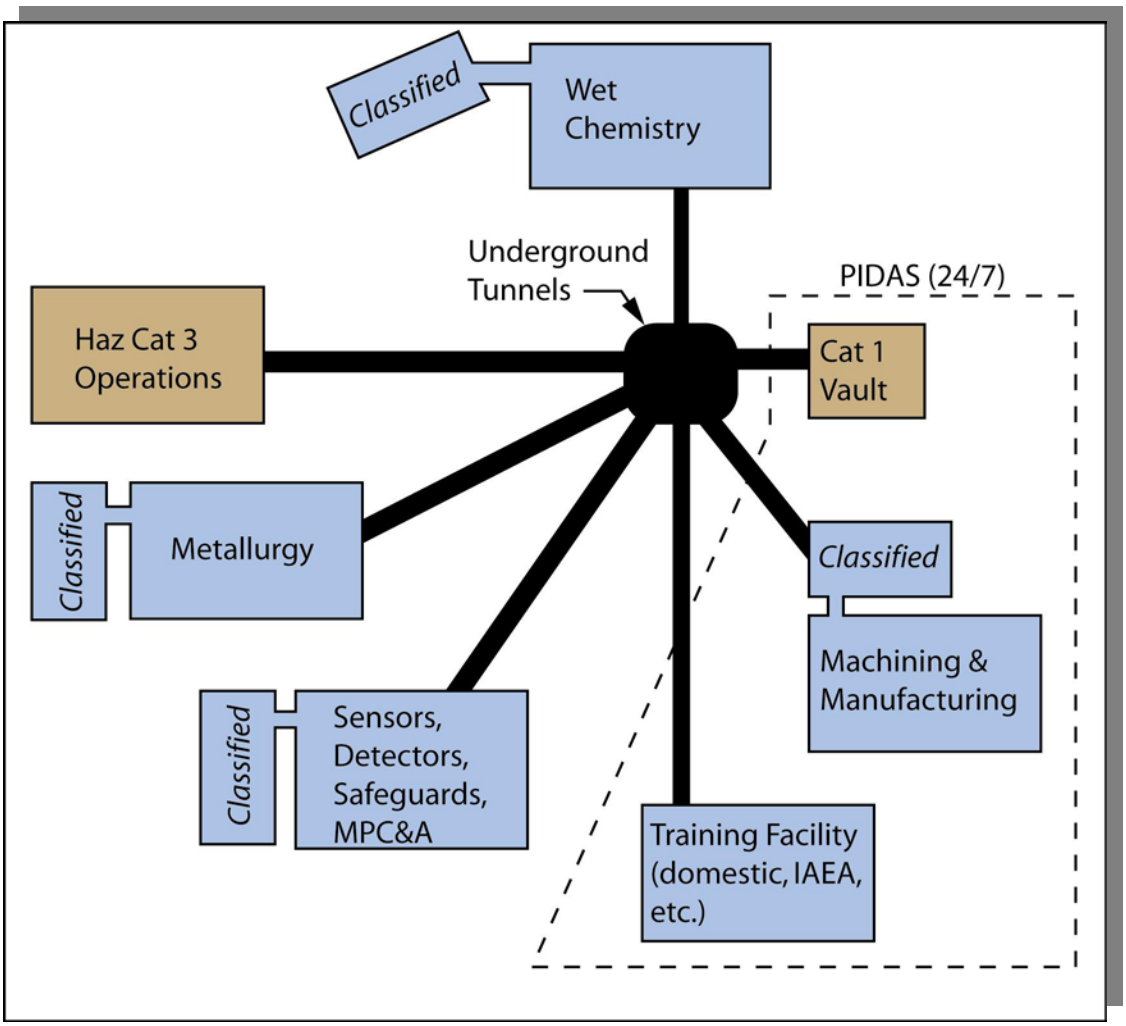
Figure 4-18: Conceptual diagram of a modern radiological complex.



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4.7.8 Nuclear Facilities Consolidation

Efforts continue that will fundamentally change the state of the Laboratory's nuclear facilities. In FY02, the Laboratory's SET recognized the following with regard to nuclear facilities:

- A significant cost premium is associated with operating a nuclear facility due to such activities as Authorization Basis (AB) development, implementation and compliance; quality assurance; Price Anderson Act liabilities; and security,
- Many of the Laboratory's nuclear facilities are large, aging, and do not meet current design codes,
- Some nuclear facilities have overlapping missions while others are undergoing mission changes,
- Improvements are needed in the organizational structure and operating processes and procedures across all nuclear facilities to achieve higher operating efficiencies and cost reductions,
- The Nuclear Safety Management Rule (10 CFR 830 - promulgated in January 2001) requires development of detailed AB documentation, implementing Technical Safety Requirements (TSRs) for all nuclear facilities.

Historically, the Laboratory has maintained approximately 20 nuclear facilities. The following map is a snapshot of the nuclear facilities that were in existence as of April 2000[1], representing over 1.8 million square feet of nuclear space. The reddish color denotes the facilities that did not comply with 10CFR830 safety basis requirements as those requirements were still in draft stage. With few exceptions, each nuclear facility had a safety basis; however, many were prepared under older DOE orders while a few were more recent and declared 10CFR830 compliant.

[1] DOE/LANL List of Los Alamos National Laboratory Nuclear Facilities, PS-OAB-101, Revision 0, April 2000.

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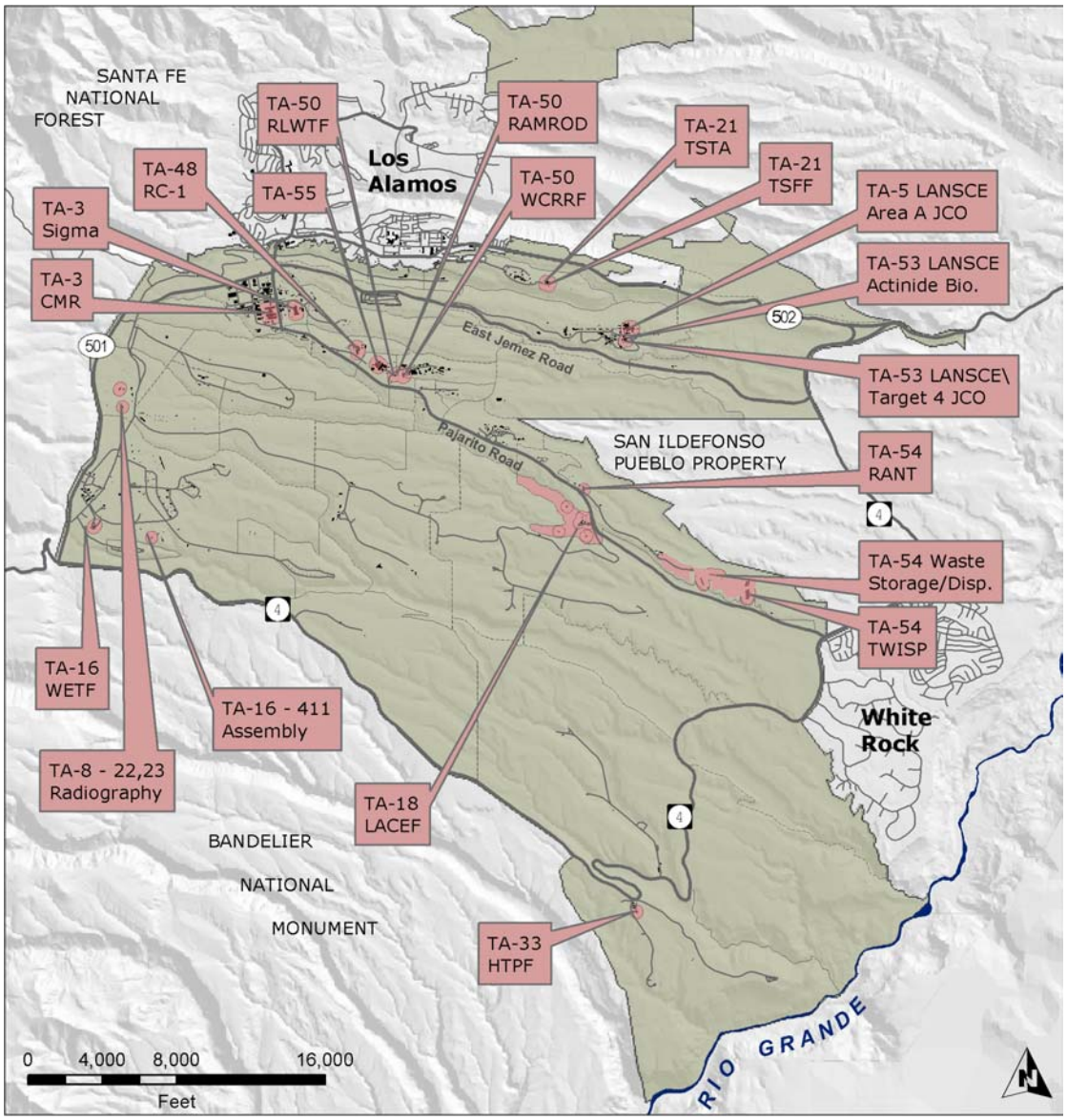

10CFR830 Compliance Status - April 2000

- Facility Does Not Meet 10CFR830
- Facility Meets 10CFR830
- Potential Release Site (Environmental Restoration Project, Published 20040209)
- Transportation Not Controlled in Nuclear Space

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In 2002, the Laboratory began initiatives to significantly streamline the nuclear facility footprint, improve efficiency, and reduce costs.

- The INP process is resulting in the design and construction of new nuclear space to replace several aging facilities,
- Under the Facility Revitalization Project, some consolidation of missions and facility management occurred. Standardized processes and procedures will be implemented to operate these facilities more efficiently,
- A number of facilities that reached end of mission life accelerated de-inventory of radiological materials, and
- Several divisions recognized the limited nature of nuclear work in some facilities and consolidated activities and removed facilities from the nuclear listing.

The next map is a snapshot of the current nuclear facility status. The following developments have occurred:

- Nuclear facilities that represent operating areas with structures (i.e., nuclear square footage) are noted with a rectangular symbol and were addressed in prior TYCSPs.
- Transportation was added as a "nuclear facility" in 2002 since the Nuclear Safety Management Rule explicitly called out transportation activities within the definition of a facility.
- A new category of environmental remediation sites, "Facilities," represented by a triangle, was identified in 2003. There are 11 ER sites being considered for remediation that exceed nuclear categorization thresholds, however none of these are actual operating sites with occupied facilities.

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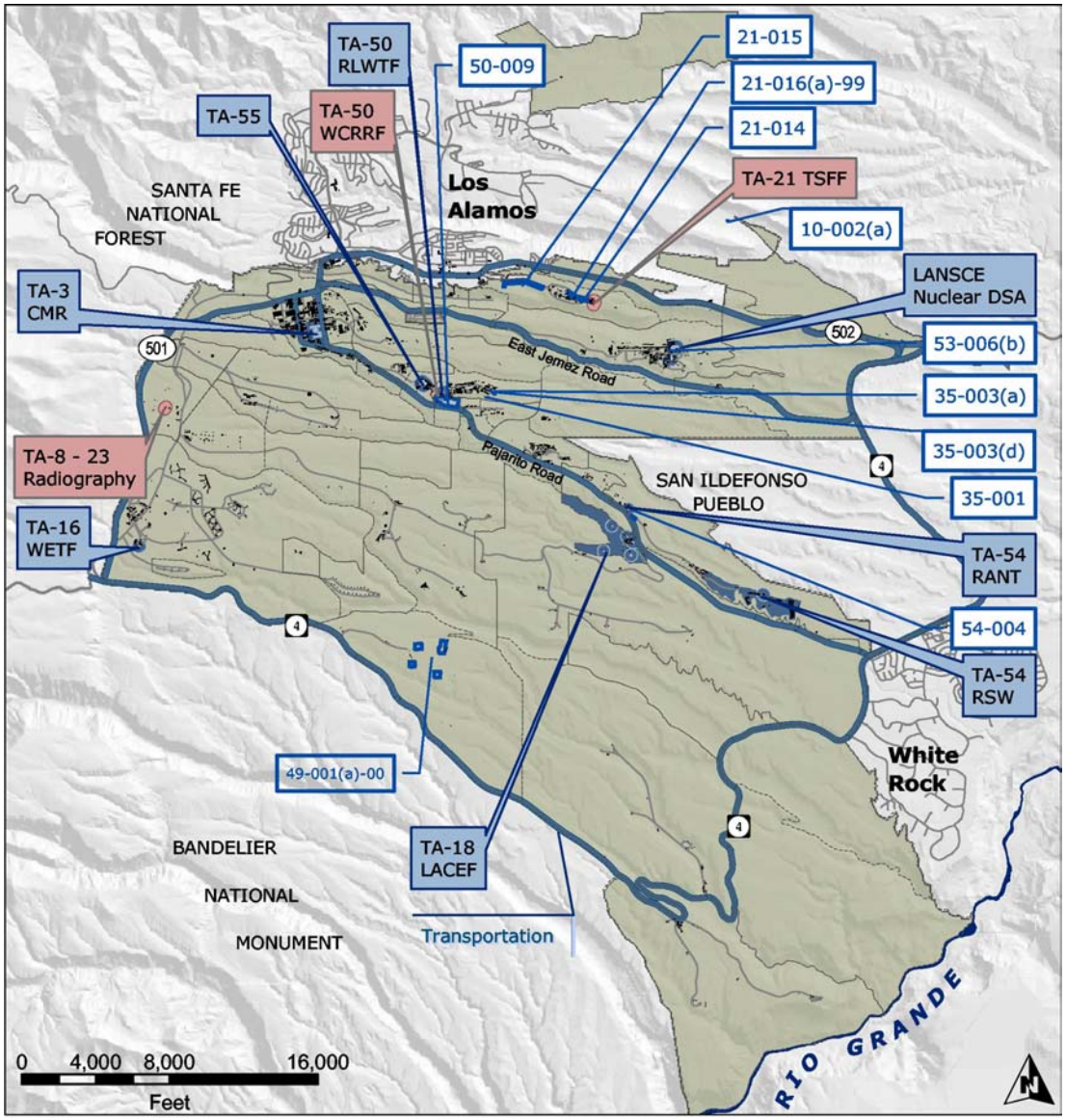

10CFR830 Compliance Status - February 2004

Facility Does Not Meet 10CFR830

Facility Meets 10CFR830

Potential Release Site (Environmental Restoration Project, Published 20040209)

Transportation Not Controlled in Nuclear Space

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In FY03, AB submittals required by 10 CFR 830 were met prior to the deadline. The TA-48, Tritium Systems Test Assembly (TSTA), and RAMROD facilities were all removed from the nuclear facilities listing. Another project, the Transuranic Waste Inspection Project (TWISP), was completed early and removed from the nuclear list. Work continues towards consolidating the LANSCE documentation and the de-inventory of the Tritium Science Fabrication Facility (TSFF) for future demolition. Work also continues towards the CMR replacement project as well as planning for the future disposition of the Los Alamos Critical Experiments Facility (LACEF). Also in FY03, a limited study by the Decision Applications Division concluded that as much as $41M could be saved annually if the consolidation plans are completed.

As of 2004, the number of operating nuclear facilities has been reduced to 14. This reduction is due to the initiatives identified above. These facilities represent approximately 1.3 million square feet of nuclear space, about a 30% reduction from April 2000. Based on further discussions with DOE, there could also be a consolidation of the various AB documents associated with the processes and structures at each site. For example, the LANSCE facility has four existing AB documents being consolidated. The solid waste site, TA-54, has a similar number of separate AB documents, each representing processes within the radioactive waste treatment area. It is expected that consolidation here may also be prudent and will achieve some cost and safety improvements.

The map on the following page shows nuclear facilities that may remain in 2014, including several ER sites for which remediation may not have been completed. The 2014 footprint represents a final transition that places nuclear functions at locations or sites that have specific capabilities. For example, tritium activities would be accomplished at TA-16, actinide work (R&D and manufacturing) would be accomplished within the TA-55 corridor, and accelerator nuclear work at TA-53. The 2014 footprint could be as low as 700,000 square feet, approximately a 60% decrease from the 2000 footprint. Any new nuclear facility proposed in the future should fit within the functional capabilities depicted in Figure 3.

These numbers could change as future planning by DOE and the Laboratory continue and as missions and plans continue to evolve. Due to the synergism of the initiatives briefly outlined above, the Laboratory should continue to affect an improved nuclear end state within the horizon of this TYSCP.

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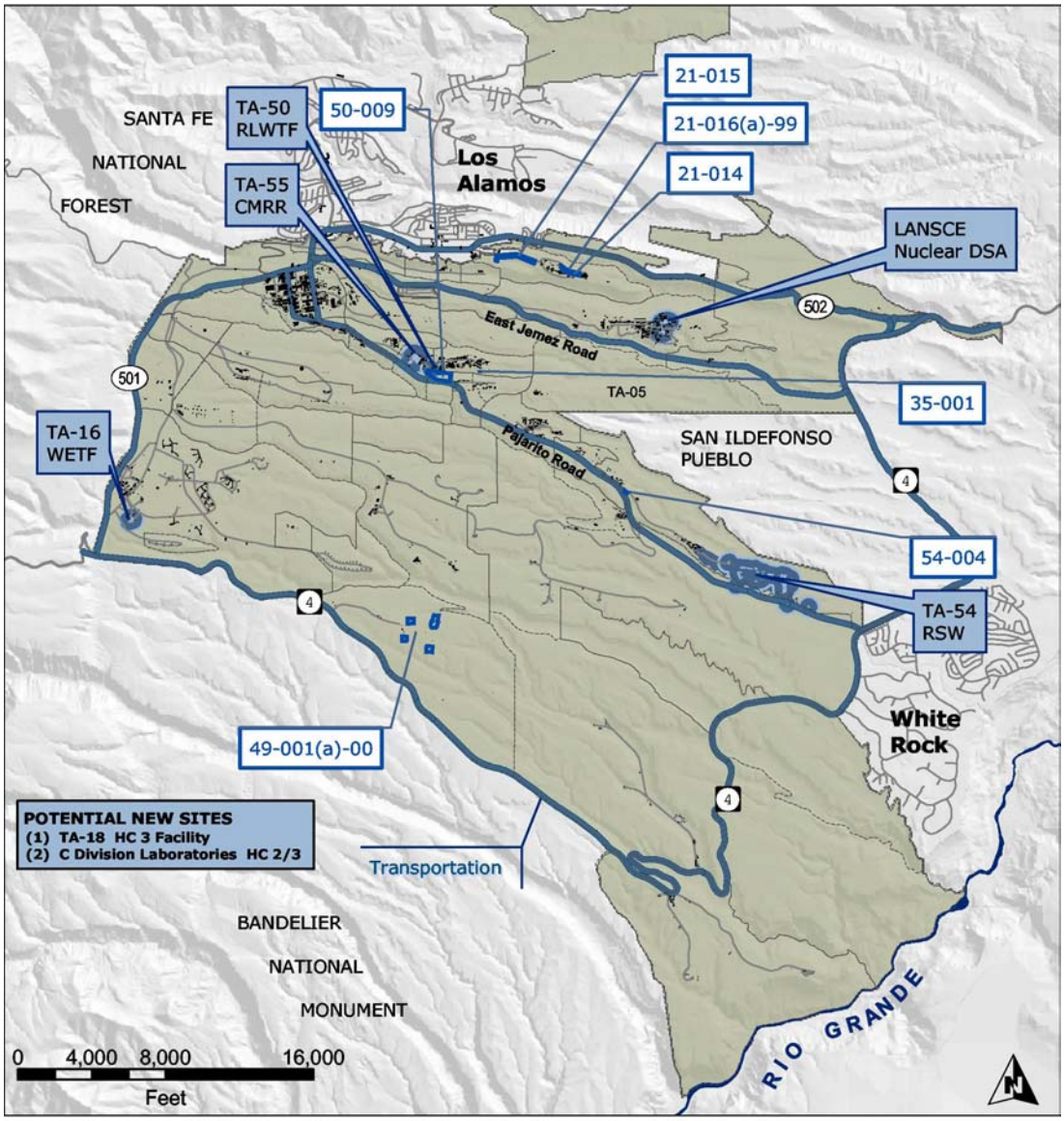

10CFR830 Compliance Status - 2014

Facility Does Not Meet 10CFR830

Facility Meets 10CFR830

Potential Release Site (Environmental Restoration Project, Published 20040209)

Transportation Not Controlled in Nuclear Space

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4.7.9 Nuclear Materials Storage

The safe, secure storage of SNM is essential to accomplish the Laboratory's missions. There are numerous programmatic initiatives and associated funding sources that utilize SNM, including the following:

- Pit Manufacturing – NA-11 sponsorship,
- ARIES – NA-26,
- Special Recovery Line (SRL) – NA-12,
- DNFSB Recommendations 94-1/00-1, 97-1 – NA-12,
- Certification – NA-11,
- DYNEX – NA-11,
- Surveillance – NA-11,
- Tritium Activities – NA-12,
- Pu238 Activities – NA-12/NE,
- Criticality Experiments – NNSA/others,
- Emergency Response – multiple, and
- 94-1 R&D – EM.

This wide variety of programs and funding sources requires a strategic plan for nuclear materials management and storage. A classified report, "Strategic Nuclear Materials Storage Plan for Los Alamos National Laboratory" (LA-CP-02-218), provides a detailed look at planned programmatic activities at the Laboratory and the impacts on SNM storage. The capacity of the new CMRR SNM storage capabilities is being sized to meet reasonably anticipated forecasts identified in current and recently completed programmatic evaluation analysis and reports, as reflected in the results of Critical Decisions issued by the DOE Energy System Acquisition Advisory Board process.

There are currently two Security Category I nuclear storage sites at Los Alamos, TA-55 and TA-18, and numerous Security Category III/IV storage locations across the Laboratory. For planning purposes, Category I sites are of the most interest. In the present configuration, the TA-55 vault is designed for plutonium storage with a much smaller inventory of enriched uranium. The inventory in the vaults at TA-18 is primarily enriched uranium with a small amount of plutonium. However, new NNSA guidance issued in April 2004 directs the de-inventory of the TA-18 site to a Security Category III status by October 2005.

The major programs that will contribute to the continuing growth of the nuclear materials inventory at the Laboratory are: ARIES, SRL, surveillance, and, possibly Pu238. The

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current configuration and capacity of the TA-55 vault is inadequate to meet the projected storage requirements, unless material can be moved to other NNSA sites. Specific needs are for increased capacity for both large item storage, including pits, and 3013-type containers. The projected growth in inventory is primarily in 3013-type containers, but there is a steady increase in the requirement for large storage locations. Changes during the past year in the planned nuclear materials requirements for the NA-26 Materials Disposition Program should alleviate some of the pressure for the storage of 3013 types containers. Specifics are still under development.

The long-term storage requirements for nuclear materials are being incorporated into the planning for the CMR Replacement facility. This facility is presently planned to house a storage vault and a day, or working, vault. The capacity of these new storage capabilities will be adequate to meet all of the forecasted needs. With respect to TA-18, the DOE guidance is to move the critical assemblies and associated materials to the Design Assembly Facility (DAF) at the Nevada Test Site (NTS). The nuclear material required to support other missions currently performed at TA-18 will be moved to TA-55 for some duration and then possibly relocated to the DAF. A small, but still Cat I, quantity of material at TA-18 has been declared excess. This material will be handled and repackaged with the intent of shipping to Y-12. The remaining material is associated with the Category III/IV activities such as the SHEBA assembly.

The Category III/IV quantities of material do not pose a storage concern, although siting the operations using these materials will require storage appropriate to the amount and form of the material. The remainder of the material will still constitute a Category I quantity. As such, it must be stored in facilities that meet certain safety and security requirements. Clearly, one such facility is TA-55, although this option is unattractive due to the storage issues with the existing and planned inventory. Other Los Alamos options include continuing storage at the TA-18 site or the construction of new storage capability. A final option is to ship this material, a majority of which is enriched uranium, to other DOE contractors such as the Y-12 site.

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4.7.10 Los Alamos County Sanitary Landfill Site Screening Activities

The Los Alamos County sanitary landfill is currently under interim regulatory status with the New Mexico Environment Department. In lieu of bringing the landfill up to modern permit standards, the NMED Solid Waste Bureau has given the county until December 2006 to close the existing landfill.

In response to a County request, the Laboratory and DOE agreed to consider a new County-operated municipal landfill on DOE property. A site screening study was published that describes the screening process and the ten sites considered by a County, Laboratory, and DOE team (LA-UR-03-1349). An environmental assessment of two potential sites plus other options was completed to the 75% stage. The two sites in the EA are the TA-61 "Borrow Pit" on East Jemez Road across from the entrance to LANSCE and the TA-60 East Sigma Mesa Shelf site located just off the east end of Sigma Mesa on Eniwetok Road.

New managers of the County's Public Works Department and Solid Waste Division have requested a delay in the publication of the EA to allow a careful review of the EA, solid waste options, and the two sites. The County expects to complete the conceptual plan for the landfill facilities and site feasibility study by November 2004. Discussions are underway to initiate the completion of the EA.

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FACILITIES & INFRASTRUCTURE PROJECTS

5.1 OVERVIEW OF SITE PROJECT PRIORITIZATION AND COST PROFILE

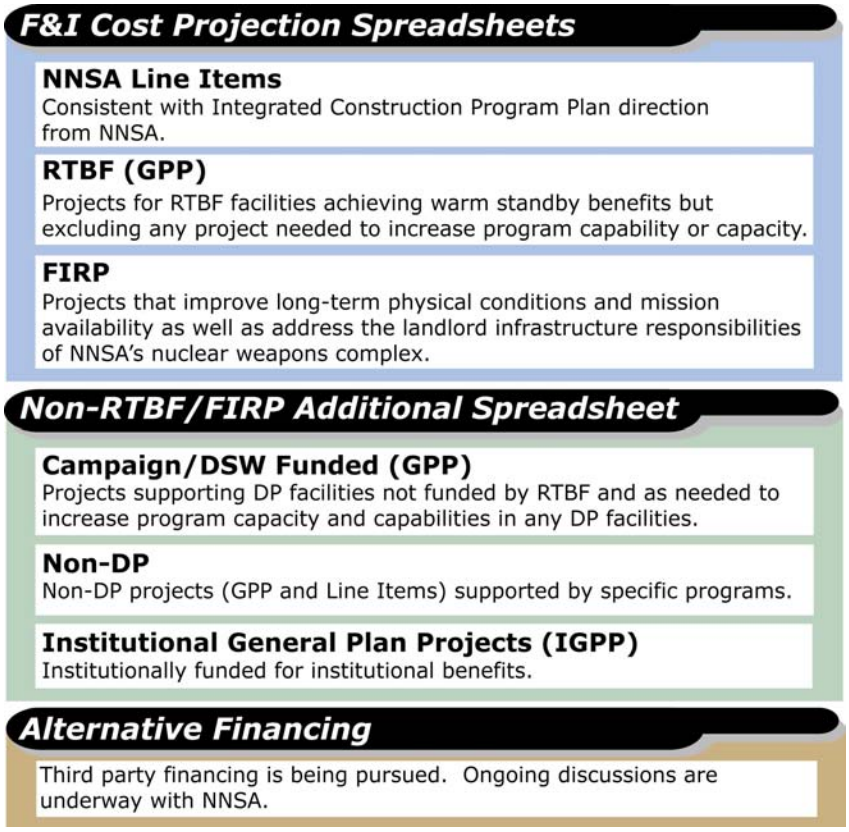
This TYCSP includes the following three facility and infrastructure spreadsheets required by the guidance:

- Line items supporting DP (reported under RTBF, DSW, and Campaigns),
- Proposed line items,
- RTBF/Operations of Facilities (excluding line items),
- Facilities and Infrastructure Recapitalization Program (FIRP) (excluding utility line items), and
- Non-RTBF/Non-FIRP projects, including Campaign/DSW (non-line item); non-DP; and IGPPs.

The DP line items are consistent with the March 12, 2004 direction provided in the Integrated Construction Program Plan (ICPP).

For FIRP funded recapitalization projects, the Facilities and Infrastructure Recapitalization Rating Matrix determines project prioritization. Each project was rated in each category of Health and Safety, Environmental and Waste Management, Safeguards and Security, and Mission and Investment. Per the guidance, the higher score of the

Figure 5-1: Construction project funding sources.



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individual categories was used. In the case of projects with the same score, ranking was based on the category with Safety being the highest and Mission and Investment being the lowest. In the case of projects with the same score in the same category, ranking was based on secondary category scores.

Regarding RTBF, the Office of Infrastructure, Facilities, and Construction (IFC) relies on the Stockpile Complex Modeling and Analysis Group (D-2) for prioritization. D-2 has developed a methodology for creating quantitative measures of costs, benefits, and risks for prioritizing projects in a systematic and auditable manner.

The D-2 prioritization methodology is based on multiattribute preference theory. Multiattribute preference theory provides a logical, consistent basis for solving prioritization problems and is a generalization of cost-benefit analysis. The practical application of multiattribute preference theory relies on three basic steps. First, the specific objectives of the decision maker are identified and grouped into a set of evaluation categories. Second, the contribution of each of the competing projects to each of the evaluation categories is measured. Finally, the results for each project are aggregated to give a single score. These aggregate scores then are used to prioritize the projects.

Note that the prioritization process is highly interactive. The concerned parties (decision makers, project managers, etc.) are involved at every step. Although a prioritized list of projects is the final result of the process, other useful results include the identification of the main determinants of project differentials and analyses of the sensitivity of the results to model inputs.

The IFC Office issues a call for proposals annually in order to continue to validate the list of projects included in the spreadsheets. The proposals have recently been limited to the top three proposals of each division. Proposals are aligned with potential funding sources identified in Table 5-1 for prioritization. Typically, the number of projects far exceeds available funding. Projects not funded in a given fiscal year are shifted to subsequent years. They are then revalidated against new proposals received after subsequent calls for proposals.

Challenges associated with all funding sources include execution as planned, recognizing projects cannot begin until funding is received. In years when funding is delayed due to continuing resolutions or other issues, projects are at risk of higher than planned uncosted and/or uncommitted balances. This is especially critical for projects implementing best-value, design-build procurement approaches. Projects

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using design-bid-build acquisition strategies often plan design in one year followed by construction in the next to reduce the risk of uncosted balances.

As noted above, proposals are aligned with potential funding sources. It is critical that the clarity of the purpose of each funding source is maintained in order to best serve the missions of the funding sponsors.

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5.2 Significant Project Additions and Deletions

The following table shows significant project additions and deletions from Attachment A of the FY04 TYCSP and is arranged by funding source. To illustrate less significant changes, those projects in Attachment A that have had changes to their titles or funding profiles since the FY04 TYCSP are highlighted in blue text. New projects are also shown in blue text.

Table 5-1: Significant project additions and deletions since FY04 TYCSP.

Project Number	Project Name	Addition or Deletion?	Reason for Change
Line Item Projects			
LANL-07-001	LANSCE Refurbishment	Addition	Project objective is to increase facility reliability and availability and reduce operating and maintenance cost.
LANL-06-023	Radioactive Liquid Waste Collection System Maintenance	Addition	Project objective is to reduce deferred maintenance and address potential safety and environmental deficiencies.
LANL-06-022	LANSCE High Voltage Distribution Replacement	Deletion	Deleted profile as FIRP program elected not to fund.
RTBF Projects			
LANL-03-111	Shock and Vibration Lab	Addition	Moved from FIRP sheet.
LANL-05-127	Electronics/Data Systems Building	Addition	Moved from FIRP sheet.
LANL-09-182	Construct JNE Training Facility	Addition	New GPP office building required to meet mission needs.
LANL-10-194	Construct Test Engineering Facility	Addition	New GPP laboratory building required to meet mission needs.
LANL-10-183	Construct Nuclear Safeguards Training Center	Addition	New GPP office building required to meet mission needs.
LANL-11-191	Construct Secure Dissolving Rad Chemistry Building	Addition	New GPP laboratory building required to meet mission needs.

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Table 5-1 Continued

Project Number	Project Name	Addition or Deletion?	Reason for Change
FIRP Projects			
Various	Deferred Maintenance Bundles	Addition	Able to group many smaller projects targeting individual buildings and/or system types (HVAC, electrical, roofs, etc.) into bundles for a given TA. As FIRP planning for the out-years develops, individual projects within each bundle will be identified.
LANL-R-05-04	IM Division Office Building Replacement	Addition	Consolidates personnel and eliminates approximately $4.5M in deferred maintenance.
LANL-10-185	Shock and Vibration Lab	Deletion	Moved to RTBF sheet; did not meet FIRP funding criteria.
LANL-07-184	Electronics/Data Systems Building	Deletion	Moved to RTBF sheet; did not meet FIRP funding criteria.
Non-RTBF/Non-FIRP Projects			
LANL-05-321	Relocate Radio Shop	Addition	New prioritized IGPP project.
LANL-05-322	Relocate Roads & Grounds	Addition	New prioritized IGPP project.
LANL-06-327	CFO Division & Accounting Building	Addition	New prioritized IGPP project.
LANL-06-328	Computer Science Laboratory	Addition	New prioritized IGPP project.
Various	Various “LANL GPP – New Construction Projects”	Addition	New proposed projects resulting from institutional GPP project call.

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5.3 LINE ITEM HIGHLIGHTED PROJECTS

This section presents a review of 12 selected line item projects. Together these projects represent a substantial investment by NNSA and are absolutely vital to maintain and provide the capabilities to meet present and future NNSA missions. Most of these projects are currently in the planning stages, and the bulk is sponsored by DP and NNSA Facilities and Operations.

A summary is provided in Table 5-2 while Figure 5-3 provides an integrated cost and schedule summary.

These projects provide the following fundamental benefits that will be realized over the next 10 to 15 years:

Figure 5-2: The 12 line item projects are aligned with NNSA/DOE priorities and programs and maintain and improve the Laboratory's capabilities.

- Improving security to protect vital assets against increased threats,
- Providing better worker and public safety and protection of the environment,
- Revitalizing and replacing old, unreliable infrastructure, thus reducing operational and programmatic costs through facility consolidation,
- Reducing and eliminating the deferred maintenance backlog, and
- Improving technical capabilities to satisfy new programs and perform work more efficiently and safely.

NNSA and the Laboratory are working closely to develop each project to ensure that the scope, estimated costs, and schedules are integrated with NNSA programmatic drivers and deliverables. This is accomplished through the INP process and the ICPP. Each project is also closely coordinated with NNSA organizational elements, through their corresponding overarching programs, including RTBF, Safeguards and Security (S&S), and FIRP.

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Although safety, security, and capability improvements are always an emphasis and goal of the line item program, more efficient use of operating and programmatic funds is an important objective. Due to aging (and in many instances unreliable) infrastructure and facility systems, an inordinate proportion of resources and management attention to maintain and operate them is necessary. This situation diverts funds and attention from programmatic activities, the core Laboratory mission. These facility and infrastructure investments, when complete, will result in a more balanced resource allocation and management focus.

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Table 5-2: Features and benefits of selected line item projects.

Project	Feature / Description	Benefits: Improved Security	Better Worker & Public Safety	Revitalize Infrastructure & Reduce Ops Cost	Reduce Deferred Maintenance	Improve Technical Capability
RTBF						
National Security Sciences Building	Provides new, modern facility to replace aging SM-43. Will house weapons design, theoretical/computation and management.	X	X	X	X	X
CMR Replacement	New state-of-the-art actinide chemistry and research facility sited at TA-55 to replace existing and aging CMR. TA-55 location will make nuclear operations more efficient and consolidated.	X	X	X	X	X
Radioactive Liquid Waste Treatment Facility Upgrade	Upgrades process capabilities to improve capacity, compliance, and waste minimization.		X	X	X	
TA-55 Reinvestment Project	Will replace aging mechanical, electrical, and other systems to extend facility lifetime by at least 30-40 years and enable cost effective operations.		X	X	X	
DX High Explosives Characterization	Replacement facility to consolidates HE chemistry operations from 25 different facilities (~50 yrs old and failing) into a new flexible, reliable facility.		X	X	X	X
Weapons Manufacturing Support Facility	Relocate and replace machining capabilities in TA-3 with new, modern consolidated facilities at S-Site, in close proximity to other ESA operations.		X	X	X	X
LANSCE-R	Refurbish and revitalize accelerator vital to SSP and R&D programs to improve long-term reliability and operability.		X	X	X	X
S&S						
Security Perimeter	Establishes physical separation and access controls between public areas and Laboratory core area through vehicle entry/exit control and road realignment.	X	X			
NMSSUP Phase II	Replaces and improves physical security features at TA-55 to respond to new threat scenarios. Fully integrated with Phase I (controls and data backbone).	X		X		
FIRP						
Power Grid Infrastructure Project	Construct a third power line to serve the site. Provides a redundant source of power, eliminates single point failures. Reduces lost time and costs due to outages; improve reliability and maintenance.		X	X	X	
Other DP / Programmatic						
Radiography Facility	Install radiography capabilities in existing facility (PF-41) at TA-55. Will result in more secure and cost effective NDE of Pu and other nuclear assemblies.	X	X	X		X
Center for Stockpile Stewardship Research (CSSR)	Provides new, modern facility to replace aging and temporary structures. Completes theoretical/computational core in TA-3.		X	X	X	X

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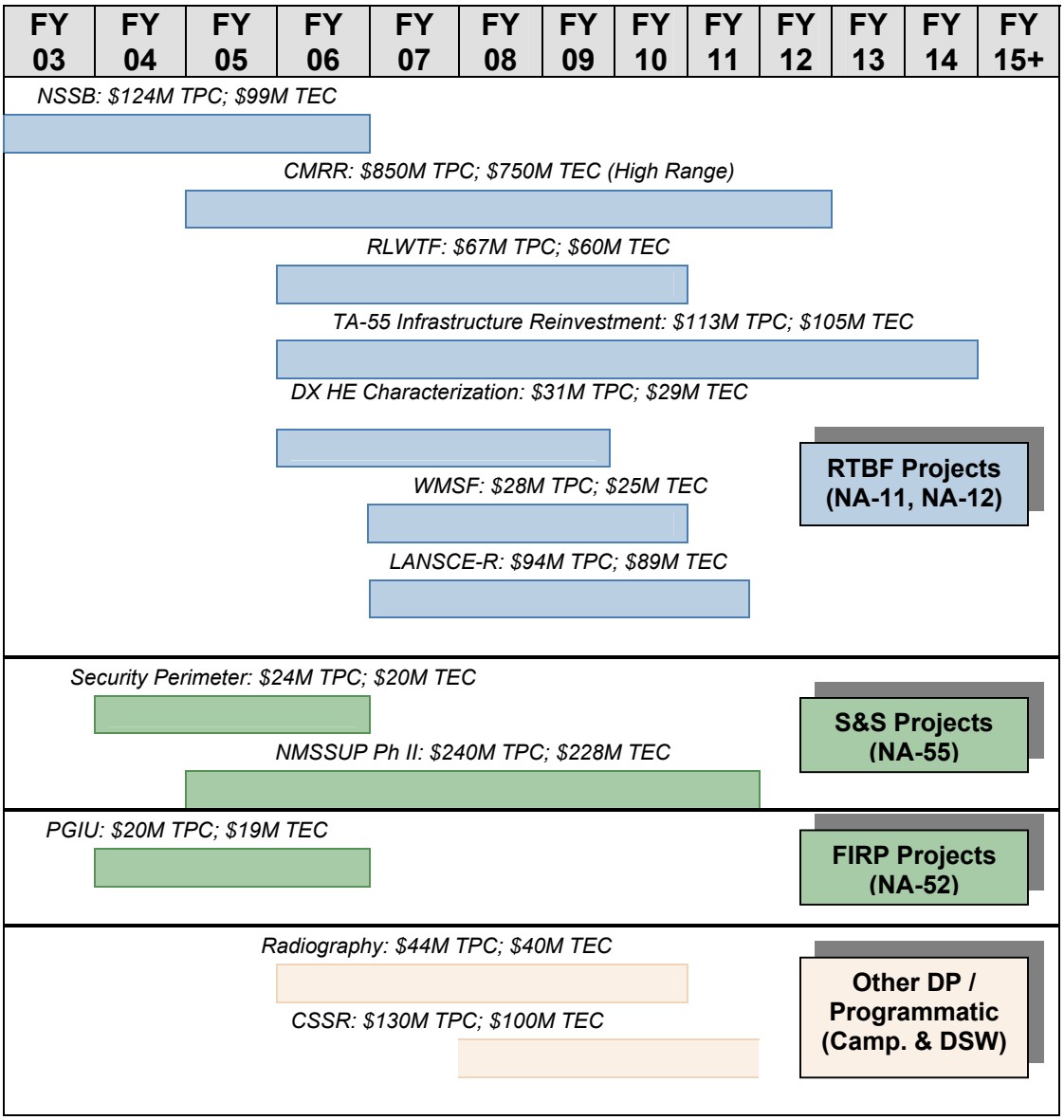
Figure 5-3: Integrated cost and schedule summary. (Note: Amounts are rounded to the nearest $1M; high cost ranges shown.)



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5.3.1 Readiness in Technical Base and Facilities (RTBF) Projects

RTBF projects are sponsored through the Deputy Administrator for Defense Programs, NA-10, and specifically through NA-11 and NA-12. The RTBF mission is to ensure that the prescribed facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile, and each of these projects supports that requirement.

5.3.1.1 National Security Sciences Building (NSSB)

The highest priority of the SSP is to ensure the operational readiness of the nuclear weapons stockpile. The NSSB Project will support this by replacing the 45-year-old SM-43 Administration Building with a new facility fully compliant with current safety requirements. The NSSB Project will provide modern, safe, productive facilities for theoretical and applied physics, computational science, program management and general management, all of which contribute to ensuring stockpile readiness. Functional, safety, and security obsolescence of the existing SM-43 building is the impetus for the NSSB, and the project scope also includes a new facility for DOE-LASO.

Figure 5-4: NSSB will be located in the TA-3 core.

The NSSB Project will continue the development of the theoretical-computational core in TA-3 that was started in FY99 with the Metropolis Center and NISC projects. The project includes construction of approximately 275,000 square feet of office space to house approximately 700 employees, including Central Records Management operations. A parking structure for 400 vehicles is included, as is a 600-seat auditorium. The SM-43 building (315,000 square feet) will be decommissioned and demolished as part of the project.

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The NSSB Project solves the following problems:

- **Improves Occupant Safety:** SM-43 has the highest level of occupancy of any Laboratory facility and does not meet current DOE, Uniform Building Code seismic, or NFPA requirements. In an earthquake, it is anticipated that SM-43 would experience extensive failures and could collapse. The NSSB will be structurally safe and code compliant.
- **Increases System Reliability:** SM-43 systems are near failure, unreliable due to age, and can no longer satisfy occupancy demands. System failures are disrupting programmatic work. NSSB will provide consistent reliability and availability.
- **Reduces Cost of Operations:** SM-43 cannot be operated indefinitely without significant upgrade investments. Further investment to SM-43 is impractical and estimated to exceed $100M. NSSB is the most cost effective solution.
- **Tightens Security:** Security concerns and requirements have changed dramatically in the last 45 years and changes cannot be economically implemented in SM-43. NSSB will be designed to satisfy today's (and future) physical and cyber security needs.
- **Enhances the Work Environment:** NSSB will dramatically improve the "human factor." Current working conditions have negative impacts on current staff and the Laboratory's ability to retain existing personnel and recruit new staff. NSSB will provide an attractive, appealing, and functional work environment.

NSSB Quick Facts and Status:
- 275,000 gross square feet
- Houses 700 (~9% of total staff)
- TEC = $99M
- TPC = $124M
- Start Design: 3Q FY03
- Start Construction: 1Q FY04
- Move-in: 2Q FY06
- Status: Construction underway; on schedule and budget

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5.3.1.2 Chemistry, Metallurgy, and Research Replacement Project

The capabilities needed to execute the NNSA mission activities require facilities to handle actinide and other radioactive materials in a safe and secure manner. Of primary importance are the capabilities located within the CMR Building and the Plutonium Facility (located at TA-3 and -55, respectively). These facilities process, characterize, and store SNM. Most of the Laboratory's mission support functions require analytical chemistry, material characterization, and actinide research and development support capabilities and capacities that currently exist within the CMR Building and are not available elsewhere. Other unique capabilities are located at the Plutonium Facility. Work is sometimes moved between the CMR Building and the Plutonium Facility in order to use the full suite of capabilities these two facilities provide.

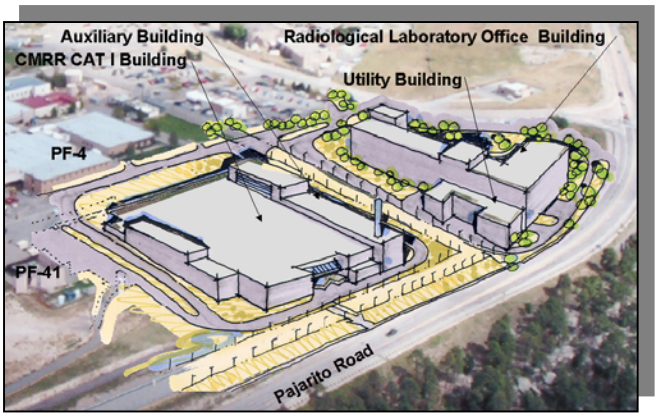

Figure 5-5: Proposed CMRR.

CMRR Quick Facts and Status:
- Cat I & Cat II SNM Facilities
- Cold Lab & Offices
- TEC = $750M
- TPC = $850M
- Start Design: FY05
- Start Construction: FY08
- Move-in: FY12 (early finish)
- Conceptual Design complete; CD-1 pending

Mission critical CMR capabilities support NNSA's stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities conducted at the Laboratory. The 50-year old CMR Building has many systems and structural components in need of upgrades, refurbishment, or replacement. Recent studies identified a seismic fault trace located beneath the CMR Building, which greatly enhances the level of structural upgrades needed at the CMR Building to meet current structural seismic code requirements for a Hazard Category 2 nuclear facility. Performing the needed repairs, upgrades, and systems retrofitting for long-term use of the CMR Building would be extremely difficult and cost prohibitive. Over the long-term, NNSA cannot continue to maintain

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the critical support capabilities in the CMR Building at an acceptable level of risk to public and worker health and safety without severe operational restrictions.

NNSA needs the physical means for accommodating the continuation of the CMR Building's functional, mission-critical CMR capabilities beyond 2010 in a safe, secure, and environmentally sound manner. At the same time, NNSA should also take advantage of consolidating like activities for the purpose of operational efficiency. It is also prudent to provide extra space for future anticipated capabilities or activities requirements.

The CMR Replacement Project will construct a new facility at TA-55 to house the existing CMR Building capabilities. Currently envisioned are two buildings, a combination radiological laboratory, office, and utility building and a SNM Category I and II building. At a minimum, the buildings would be designed to operate for the next 50 years.

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5.3.1.3 Radioactive Liquid Waste Treatment Facility (RLWTF) Upgrade

This project will improve the RLWTF at TA-50 by improving reliability and process capability to meet projected regulatory requirements for discharge. The RLWTF is over 35 years old and many process and facility systems (e.g., electrical, mechanical, HVAC) are at the end of their design life and require upgrades and/or replacement.

Design alternatives include eliminating clarification processes and increasing utilization of filtration and reverse osmosis. Another improvement will include on-site evaporation capability. These features will make treatment processes more efficient. Effluent discharge standards are becoming more restrictive and the upgrades need to take this into account to the extent feasible. Further, the project will allow for future flexibility and adaptability to future changes in regulatory requirements through the use of modular process treatment equipment and piping configuration.

Figure 5-6: A modern RLWTF is essential to reliable nuclear operations for TA-55.

Project alternatives to be considered during the conceptual design phase will include renovation of the existing facility or construction of a new facility. Factors to be weighed and carefully evaluated in alternative selection will include the ability to effectively comply with current codes and standards, risks associated with renovation, and the ability to provide future flexibility.

RLWTF Project Quick Facts and Status:

- Integrate new processes in coordination with existing facility and operations
- TEC = $60M
- TPC = $67M
- Start Design: FY06
- Start Construction: FY07
- Complete: FY10
- Status: CD-0 package in development; submit for approval summer 2004

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5.3.1.4 TA-55 Infrastructure Reinvestment Project

The TA-55 Reinvestment Project will revitalize aging and obsolete facility and safety systems to ensure continuing support of NNSA's Stockpile Stewardship Mission, including the following critical activities conducted at TA-55:

Figure 5-7: TA-55 infrastructure will be revitalized to increase reliability and cost effective operations.

- Manufacturing plutonium components,
- Surveillance and disassembly weapons components,
- Actinide materials science and processing research and development,
- Plutonium recovery from pit production and surveillance,
- War reserve plutonium metal recovery and production,
- Vault storage of nuclear materials, and
- Waste processing.

TA-55 Reinvestment Quick Facts and Status:
- Focus on facility infrastructure systems
- Accomplish project without prolonged disruptions to programs and activities
- TEC = $105M
- TPC = $113M
- Start Design: FY06
- Start Construction: FY08
- Complete: FY14
- Status: CD-0 package in development; submit summer 2004

TA-55 is the premiere nuclear and plutonium facility in the nation and was constructed in the mid-1970s. It consists of a high security Category I SNM laboratory and processing facility as well as various support structures and systems. It is the most modern and well-equipped nuclear facility at the Laboratory; however, it is aging and critical systems are beginning to require excessive maintenance. As a result, the facility is experiencing increased operating costs and reduced system availability. An investment over the near term to upgrade electrical, mechanical, safety, facility controls, and other selected systems will enable continued operation to satisfy mission objectives and programmatic milestones cost effectively for the next 30 to 40 years.

The goal of this project is to enable TA-55 to meet present and future nuclear component manufacturing, research and development, and related requirements for

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the stockpile while simultaneously meeting all safety and security requirements. This project will ensure that the right TA-55 facility infrastructure systems are in place to manufacture and certify the nuclear weapons stockpile safely and effectively and perform nuclear R&D. The scope of this project will be coordinated through the INP process and close coordination with NA-12.

5.3.1.5 DX HE Characterization Project

The DX HE Characterization Consolidation Project will replace materials characterization and analytical chemistry capabilities in support of the SSP. This project is necessary to maintain and improve the HE characterization, analytical, and experimental capabilities at Los Alamos. Existing facilities are obsolete, unreliable, and are increasingly expensive to operate, causing disruptions to programmatic work. This project will make operations more efficient and reliable through provision of a modern facility. Objectives are to reduce operating costs; improve working conditions for personnel; enhance safety and environmental compliance efficiency by replacing many administrative controls with engineered features. Further, functions currently occupying 25 facilities will be consolidated to a single facility, thus making management and maintenance more efficient and reducing operating costs.

DX HE Characterization Quick Facts and Status:
- Size: 45,000 gross square feet
- TEC = $29M
- TPC = $31M
- Start Design: FY06
- Start Construction: FY07
- Complete: FY09
- Status: CD-0 package developed; CD-0 package pending approval fall 2004

HE characterization, analysis, and testing are a pivotal functions the Laboratory provides to the SSP. Weapons systems undergo changes as a function of age, handling, or maintenance, which in turn may affect the performance or safety of the weapons. To assure safety and reliability, a great deal of the experimental effort is focused on HE components. To satisfy the mission requirement, the Laboratory must have reliable and functional capabilities to conduct HE analysis.

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5.3.1.6 Weapons Manufacturing Support Facility

This project (formerly entitled "ESA Shops Replacement") will consolidate metals fabrication, radiological and salt component machining and inspections capabilities, and advanced manufacturing technology development and related support personnel into a single 50,000 square foot facility. The new facility will replace the current weapons functions provided by two facilities, TA-3-39 and TA-3-102.

WMSF Quick Facts and Status:
- Replace existing, oversized shop facilities at TA-3 with more efficient capability
- TEC = $25M
- TPC = $28M
- Start Design: FY07
- Start Construction: FY08
- Complete: FY10
- Status: CD-0 package in development; submit 2Q FY05

While extremely busy during the Cold War, these facilities have much more capacity than is needed. Built in the mid 1950s, these oversized, inefficient, antiquated facilities do not provide the necessary support to the Laboratory and have become a financial burden to ESA. They lack auxiliary systems necessary to support anticipated program needs and their current locations create logistical problems for the effective interaction of ESA projects. The functions to be reconfigured by the new facility include the following:

- **Non-Hazardous Machining Operations:** This includes machining and fabrication, test and inspection, and advanced manufacturing capabilities required for weapons. Some of these capabilities require a temperature-controlled environment.
- **Hazardous Machining Operations:** This part of the facility will retain the existing hazardous radiological machining. The levels of machining operations will be the same as those currently conducted in TA-3-102. Equipment used is similar to that found in the cold machining portion of the facility, but will be designed with the necessary environmental controls to facilitate handling of radiological materials.
- **Support Offices:** This portion of the facility will house personnel involved in the machining operations and advanced manufacturing and inspection.

Demolition of the existing facilities TA-3-39 and TA-3-102 will be accomplished under a complementary FIRP project with a projected TPC of $17M. Demolition will commence after the new shops are commissioned and will be complete in FY10.

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5.3.1.7 LANSCE Refurbishment Project

LANSCE is a national user facility that produces intense sources of pulsed protons and spallation neutrons for defense and civilian research and applications. LANSCE is presently used for research in condensed-matter science and engineering, accelerator science, nuclear science, fundamental nuclear physics, radiography, and the production of radioactive isotopes. This broad array of accelerator uses has matured over 32 years of facility operation with the result that LANSCE is the largest NNSA user facility.

Figure 5-8: LANSCE performs a wide array of SSP activities and has been operational since 1972.

LANSCE supports DP in areas of Stockpile Stewardship such as proton radiography, materials science and nuclear science; the Office of Science in areas of neutron scattering and nuclear physics; and the Office of Nuclear Engineering, Science and Technology in the area of radioactive isotope production for medical and industrial use.

LANSCE-R Quick Facts and Status:
- Revitalize 30 year old accelerator complex vital to SSP
- TEC = $89M
- TPC = $94M
- Start Design: FY07
- Start Construction: FY08
- Complete: FY11
- Status: CD-0 package in development

Over the past few years, LANSCE has become a workhorse for Stockpile Stewardship and it is clear that the demand for neutrons and protons is increasing. Both NNSA and DOE have affirmed the importance of having LANSCE operational as a reliable facility for the next decade and beyond. LANSCE has been operational since 1972, is aging, and requires investment to keep operating. This was confirmed by an independent team from Lawrence Berkeley Laboratory.

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The LANSCE Refurbishment Project addresses the following priorities:

- Increasing the overall beam availability and reliability in a manner that is sustainable over the longer term,
- Enhancing the cost effectiveness of the operation by system improvements that increase reliability and maintainability,
- Upgrading facility equipment where necessary to address code compliance or end-of-life issues that could severely impact beam availability,
- Increasing H- beam intensity to reduce operating costs, and
- Accomplishing the above with minimal disruption to the scheduled user programs.

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5.3.2 Safeguards and Security Projects

These projects are sponsored by NA-52, the Office of Safeguards and Security, within NA-50, Associate Administrator, Facilities and Operations.

5.32.1 Security Perimeter Project

As a result of the events of September 11th, the nature of terrorist threats has changed significantly in terms of the potential magnitude of the attack as well as terrorist motivations, targets, and methods. The most recent attacks appeared to be intent on maximizing disruption, destruction and casualties, and include the willingness to conduct suicide attacks. In recognition of this increased threat, the Laboratory and NNSA security and management have determined that there is a critical need to upgrade the physical protection around critical assets at the core of the site.

The Security Perimeter Project Quick Facts and Status:
- Selected road realignments and modifications
- TEC = $20M
- TPC = $24M
- Start Design: 1Q FY05
- Start Construction: 2Q FY05
- Complete: 2Q FY06
- Status: CD-1 in 1Q FY04

This project provides the Laboratory the ability to isolate the core area of the site from unscreened vehicle access in order to protect vital national security assets, government property, and human life from possible terrorist activity. This project will provide the capability to enact a graded closure of the core area of the site depending on the NNSA Security Condition levels in effect at the time. During elevated threat conditions, all but emergency and designated government vehicles may be prevented from entering the core area of the site. Staffed access control stations with vehicle queuing approaches, necessary utilities, and security equipment will be required to screen vehicles and provide the capability of closing off vehicle access if required.

The scope of work includes the following:

- **Access Control Stations:** New access control stations will be constructed off of East Jemez Road and on West Jemez Road at the "back gate" area near NM-4. They will provide primary vehicle access into the core area. Two existing stations will also be modified.

- **Road Closures:** In order to assure that vehicle traffic routes through the access control stations, Diamond Drive must be permanently closed to unscreened vehicle traffic by physical separation of the road. West Jemez Road (State Route 501) will also be closed to unscreened vehicle traffic. West Road and the Ski Hill

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Road will be isolated from West Jemez Road by vehicle gates and barriers. The commuter bus area and existing parking lots must be accommodated. Emergency vehicle access will be maintained where required to assure response times remain low so that life and property saving actions can be taken in a timely manner.

- **Ski Hill Road:** Approximately one and one-half miles of new road must be constructed to connect West Road and the existing Ski Hill Road to maintain public access and provide an alternative evacuation route. An existing abandoned road will be modified for this purpose. Vehicle barriers and fence will be used to prevent vehicle access onto West Jemez Road. The existing Ski Hill Road and West Road will be isolated from West Jemez Road. Gates will be installed at two locations for this purpose and for future emergency access or egress routes.

- **Relocation and Demolition:** Minor relocation and demolition of existing structures and utilities will occur but will depend on the exact routing of roads and structures. Final routing of the roads will not occur until detailed design, but the general route is set.

Figure 5-9: Security Perimeter Project TA-3 access control.

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5.3.2.2. Nuclear Materials Safeguards and Security Project (NMSSUP), Phase II

The overall objective of the NMSSUP is to upgrade and replace the existing physical security system to address the new protection strategy requirements and deteriorating physical security infrastructure. Planning for NMSSUP was initiated with a DOE security assessment in 1996. The assessment found that extensive upgrades were necessary to meet new threats. Phase I installed the data and communications backbone for the security system to the central and secondary alarm stations. Phase II will address the security system at TA-55, the Laboratory's key nuclear facility that houses and processes Category I quantities of SNM. TA-55 is particularly important as it is the proposed site for consolidation of nuclear missions for the laboratory, including the CMRR Project.

Figure 5-10: Physical security systems are deteriorating and require upgrades to counteract age and defend against new threats.

NMSSUP Phase II Quick Facts and Status:

- PIDAS and physical security modifications
- Interior and exterior systems
- TEC = $228M (high range)
- TPC = $240M (high range)
- Start Design: 3Q FY05
- Start Construction: 2Q FY07
- Complete: FY11
- Status: CD-1 decision pending 2Q FY05

Phase II includes the upgrade or replacement of the existing exterior intrusion detection and assessment system and installation of interior intrusion detection, assessment, delay, access control and security communications equipment for TA-55. Access control facilities for the Protected Area and Material Access Area will be replaced or upgraded. These systems will be integrated with the Argus security control system that has been installed under NMSSUP Phase I.

The vulnerabilities and corresponding design concept for Phase II has been and will continue to be thoroughly evaluated in the context of stricter security requirements since the September 11th events. When complete, Phase II will significantly improve the security posture at TA-55 while making operations more cost effective. The maintenance backlog on aging systems will be reduced and/or eliminated through replacement with new systems.

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5.3.3 Facilities and Infrastructure Recapitalization Program (FIRP) Projects

FIRP applies new, increased, direct appropriations to address maintenance and infrastructure activities that will significantly improve the long-term physical and infrastructure conditions and mission availability. FIRP projects are vital to mission accomplishment, yet they are not tied to a specific Campaign or weapons program. Because of their crosscutting nature, they have not previously achieved priority within strictly programmatic budget reviews. The following FIRP projects highlight long-term needs and priorities.

Power Grid Infrastructure Upgrades (PGIU) Project

The PGIU Project will provide improvements to the electrical infrastructure, which is currently prone to single point failures due to a lack of redundancy. This project has been part of the NNSA planning strategy for several years. It will construct a new 115 kV transmission line approximately 10 miles long across DOE administered property. It will originate at a new Southern Technical Area (STA) Substation and proceed northwesterly through the central portion of the site to the West Technical Area (WTA) Substation. The project will reduce deferred maintenance items associated with the Eastern Technical Area (ETA) Substation. The ETA equipment has not received critical maintenance and repairs due to the inability to de-energize the ETA. With this project, the existing Norton and Reeves lines, as well as the new line, can be individually de-energized to perform critical maintenance, without impact to the Laboratory.

Figure 5-11: The PGIU Project will eliminate single point failure modes, as shown above.

PGIU Project Quick Facts and Status:
- TEC = $19M
- TPC = $20M
- Design & Const: FY05
- Complete: FY06
- Status: CD-1 approved December 2003; CD2/3 pending November 2004

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Completion of this project will eliminate single point failures that isolate the Laboratory from electrical power entirely. NNSA's DP guidance explicitly states that reliable facilities capable of supporting mission demands, while meeting security, health, safety, environmental, and operating requirements, are essential to mission success. The existing electrical transmission facilities are considered marginal because they are susceptible to a total loss of service (through single point failures) under certain conditions and do not meet industry standards. The current transmission line configuration and insufficient reliability pose continued increased operational risk to NNSA and the Laboratory. This situation developed partly out of funding constraints and prioritization issues over the past 30 years.

5.3.4 Other DP / Programmatic Funded Projects

Two projects not included in the current ICPP but under consideration by Laboratory management include a Radiography Facility at TA-55 and the final cornerstone of the TA-3 revitalization, the Center for Stockpile Stewardship Research (CSSR).

5.3.4.1 TA-55 Radiography Facility

The proposed Radiography Facility for sealed nuclear components is planned to be located in PF-41 at TA-55. PF-41 is an existing but unused building within the TA-55 PIDAS. The Radiography Facility will be located in the southern end of the basement and will require approximately 65% of the basement for the facility and associated support functions. The facility will house several high-energy x-ray systems suitable for high-energy radiography applications. This facility will be used primarily for the radiography of sealed nuclear components and will serve Pit Production Programs and Pit Surveillance Programs. The project will construct modifications to PF-41 to meet appropriate nuclear facility requirements.

Radiography Quick Facts and Status:
- Renovate basement of PF-41 at TA-55
- 4 X-ray machines
- TEC = $40M
- TPC = $44M
- Start Design: FY06
- Start Construction: FY08
- Complete: FY10
- Status: CD-0 package in development, submit fall 2004

The completed facility will be a long-term, flexible solution for TA-55 sealed nuclear component radiography. Currently, radiography is conducted at TA-8 where extensive temporary safety and security measures must be established each time an examination is made. These temporary measures are very expensive and time consuming and are not suitable for the long term efficiency, safety, and security of the plutonium and pit programs.

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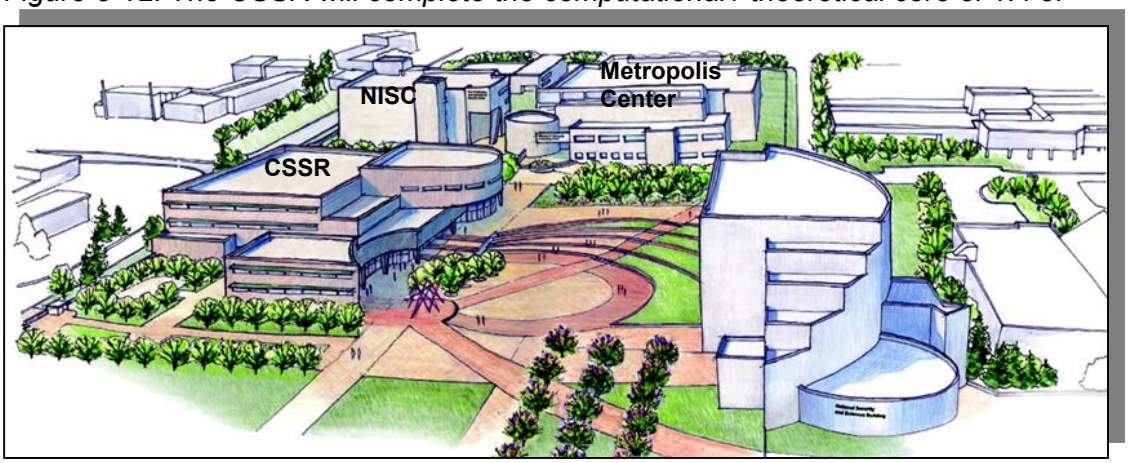
5.3.4.2 Center for Stockpile Stewardship Research (CSSR)

This line item project will provide approximately 300,000 square feet of office and light laboratory space and, along with the Metropolis Center and NSSB, complete the theoretical and computational research core in TA-3. The CSSR will consolidate staff currently located throughout TA-3 in temporary structures or aging permanent buildings in poor and failing condition. Approximately 700 staff whose work directly supports the Stockpile Stewardship Program will be housed in the facility.

Like the NSSB, the CSSR will solve existing operational problems and provide many long-term benefits. Safety, security and employee morale will be improved by providing modern, well-designed laboratories and workspaces. Productivity will be greatly enhanced by co-locating like functions and organizations. As a cornerstone of the TA-3 revitalization, the CSSR will positively impact the Laboratory's ability to recruit new personnel and retain existing staff.

The project scope will also include funding for D&D of vacated structures, which will save operating and maintenance costs, allow the Laboratory to meet the Congressional "one for one" space requirement, and improve the overall form of TA-3. The CSSR is anticipated to be a design build project with an FY08 construction start.

Figure 5-12: The CSSR will complete the computational / theoretical core of TA-3.



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5.4 FACILITIES AND INFRASTRUCTURE COST PROJECTION SPREADSHEETS

The Laboratory accomplishes critical infrastructure development, renovations, and upgrades through line item (LIP), general plant (GPP), capital equipment, and expense-funded projects. The tables in Attachment A were developed in accordance with DOE/NNSA guidance and format requirements and line organization and program office input. The spreadsheets reflect the prioritized project list and capture all facility and infrastructure-related projects in order of funding type, then by general priority within the funding types. Funding profiles are shown for FY04 through FY14. Footnotes provide clarification where necessary at the end of the list.

Primary categories of projects and costs provided are as follows:

- Existing and proposed line item construction,
- Other Project Costs (OPC) for existing and proposed line item construction,
- Preliminary Engineering and Design (PE&D) for proposed line item construction,
- Capital equipment,
- Expense,
- GPP,
- Institutional, and
- D&D.

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ATTACHMENT A

Attachment A
Facilities and Infrastructure Cost Projection Spreadsheets

The Facilities and Infrastructure Cost Projection Spreadsheets provide prioritized lists of the projected NNSA facilities and infrastructure projects and activities and burdened costs for FY04-FY14 and actuals for FY03. The projects and activities included in these spreadsheets reflect FIRP funding ending in FY11 and are consistent with the FYNSP and the latest Integrated Construction Program Plan (ICPP).

The spreadsheets are as follows:

1. **A-1 Line Item Spreadsheet**: This spreadsheet includes all NNSA Line Items for RTBF, FIRP, and Safeguards and Security (S&S).
2. **A-2: Proposed Line Item Projects**: This spreadsheet proposes additional line item projects that are either above the FYNSP profile and/or are not reported in the current ICPP (dated March 12, 2004).
3. **A-3: RTBF/Operations of Facilities** (excludes Line Items): This spreadsheet includes facilities and infrastructure projects associated with Operations of Facilities within the RTBF category. RTBF/Operations of Facilities represents baseline funding necessary to ensure safe, secure, reliable facility operations on a daily basis.
4. **A-4: FIRP** (excludes utility line items): This spreadsheet includes projects that target deferred maintenance reduction and meet certain rating and scoring criteria. Since FIRP specifically targets deferred maintenance reduction, proposed projects that do not substantially reduce the site's FY03 Deferred Maintenance Baseline (as reported in its FY04 TYCSP) may not be accepted for funding. Projects were prioritized per the guidance using the Facilities and Infrastructure Recapitalization Rating Matrix, with each project rated in each category of Health & Safety, Environmental & Waste Management, Safeguards & Security, and Mission & Investment. FIRP funding will end in FY11 per Congressional language.
5. **A-5: Non-RTBF/Non-FIRP**: This spreadsheet includes facilities and infrastructure projects associated with non-NNSA tenant programs and activities and projects that are Campaign/DSW (non-line item) and IGPPs.

Included this year are two new data columns, *Deferred Maintenance Reduction* and *Gross Square Footage*. The Deferred Maintenance Reduction column identifies the amount of deferred maintenance reduced from the FY03 deferred maintenance baseline

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by executing the projects. The Gross Square Footage column identifies the amount of total new GSF that will either be constructed or eliminated as a result of the projects.

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: LANSCE Refurbishment / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
David Crandall, NA-11, 202-586-0586
Susan Seestrom, ADWP, 505-665-4454

Federal and Contractor Project Manager(s):
Eugene Colton, LASO, (505) 667-4241

Project Description:
The Los Alamos Neutron Science Center (LANSCE) Refurbishment Project addresses five main priorities: 1.) increasing the overall beam availability and reliability in a manner that is sustainable over the longer term, 2.) enhancing the cost effectiveness of the operation by system improvements that increase reliability and maintainability, 3.) upgrading facility equipment where necessary to address code compliance or end-of-life issues that could severely impact beam availability, 4.) increasing H^- beam intensity to reduce operating costs, and 5.) accomplishing the above with minimal disruption to the scheduled user programs.

Current Proposed/Actual Project Schedule:
A CD-0 package is preparation and a CD-0 is planned for FY05.

Project Justification (Program Requirements):
The LANSCE is a national user facility that produces intense sources of pulsed protons and spallation neutrons for defense and civilian research and applications. LANSCE is presently used for research in condensed-matter science and engineering, accelerator science, nuclear science, fundamental nuclear physics, radiography, and the production of radioactive isotopes. This broad array of accelerator uses has matured over 32 years of facility operation with the result that LANSCE is the largest NNSA user facility. LANSCE supports Defense Programs (DP) in areas of Stockpile Stewardship such as proton radiography, materials science and nuclear science; the Office of Science (OS) in areas of neutron scattering and nuclear physics; and the Office of Nuclear Engineering (NE), Science and Technology in the area of radioactive isotope production for medical and industrial use.

Over the past few years, LANSCE has become a workhorse for Stockpile Stewardship and it is clear that the demand for neutrons and protons is increasing. Both NNSA and

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DOE have affirmed the importance of having LANSCE operational as a reliable facility for the next decade and beyond. LANSCE has been operational since 1972, is aging, and requires investment to keep operating. LANSCE reliability is deteriorating and thus increased risks to safety and programmatic activities will increase without these planned upgrades.

Alternatives Developed/Available to Meet Program Requirements:
LANSCE is a unique facility and if it is to continue to operate past the near term, there are no alternatives to this project.

Proposed Funding Profile ($K):

	Funding	Prior	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
OPC	$6,200				$1,800	$3,600	$200	$200	$200	$200
PED	$10,000						$7,000	$3,000		
LI	$76,700						$4,000	$24,100	$29,300	$19,300
TEC	$86,700	0	0	0	0	$1,000	$11,000	$27,100	$29,300	$19,300
TPC	$92,900	0	0	0	$1,800	$4,600	$11,200	$27,300	$29,500	$19,500

Projected Annual Operating Costs:
Details are unknown at this time, but this project is anticipated to significantly reduce operating and maintenance costs at the LANSCE facility.

Project Site/Facility Space Utilization:
LANSCE refurbishments and improvements would occur within existing facilities and building infrastructure.

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: Radioactive Liquid Waste (RLW) Collection System Maintenance / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
Bruce Scott, NA-52, (202) 586-0092
Larry Goen, ADO-IFC, Los Alamos National Laboratory, (505) 665-6847

Federal and Contractor Project Manager(s):
Herman LeDoux, LASO, (505) 667-9875

Project Description:
The proposed project will involve the remediation of 65 radioactive liquid waste (RLW) collection system manholes. Each manhole requires 1) renovation of containment coating, seals and grouting inside manhole, 2) replacement of stainless steel transition pieces and associated valves, and 3) replacement of flow meters.

Current Proposed/Actual Project Schedule:
Planning funding in FY05 will help determine if the project needs should be addressed as a series of expense projects, GPPs or a line item funded project. If a line item project is most appropriate, a CD-0 will be planned for late FY05.

Project Justification (Program Requirements):
This mission essential project significantly reduces deferred maintenance by addressing serious potential safety and environmental deficiencies. Currently, secondary containment cannot be assured and secondary system transitions may leak. Isolation valves do not seal completely. Should these manholes have to be taken out of service for these deficiencies, this mission essential collection system would not be available for service to TA-55, CMR, Sigma Complex and other major RLW generators at the Laboratory.

Alternatives Developed/Available to Meet Program Requirements:
None identified that will meet program requirements.

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Proposed Funding Profile ($K):

	Funding	Prior	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
OPC	$1,500				$400	$500	$200	$100	$100	$200
PED	$1,900						$1,100	$800		
LI	$7,700							$4,000	$3,700	
TPC	$11,100				$400	$500	$1,300	$4,900	$3,800	$200

Projected Annual Operating Costs:
TBD

Project Site/Facility Space Utilization:
The RLW Collection System Maintenance project involves a replacement in-kind renovation as a means of significantly reducing deferred maintenance and addressing potential safety and environmental

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: TA-55 Radiography Facility / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
Jerry Freedman, NA- 118, 202-586-4761
Brett Kniss, PADNWP, (505) 667-1929

Federal and Contractor Project Manager(s):
Jeff Johnson, NMT-4, Los Alamos National Laboratory, (505) 665-8412

Project Description:
The proposed Radiography Facility at TA-55 is planned to be located in PF-41. PF-41 is an existing, but unused building within the TA-55 PIDAS. The facility will house several high-energy x-ray systems suitable for high-energy radiography applications. Radiography of sealed nuclear components is required for the Pit Production and Pit Surveillance Programs. PF-41 will require renovation to meet appropriate nuclear facility requirements for the proposed activities. Safety and security infrastructure and general upgrades are required. The programs require radiography capability of 15 MV (or higher), 2 MV, 450 kV, and 225 kV. Such X-ray equipment capable of achieving these requirements will be procured from specialty vendors. This project will provide a long-term solution for the Laboratory's sealed nuclear component radiography.

Current Proposed/Actual Project Schedule:
The CD-0 package is being prepared and a CD-0 is planned for November 2004.

Project Justification (Program Requirements):
The Laboratory has the responsibility for ensuring the safety and reliability of weapons systems in the stockpile for the foreseeable future. This includes implementing a pit production mission for up to 20 pits per year. Non-destructive examinations (NDE) using x-ray radiography, dye penetrant, and ultrasonic examinations are a necessary component of these operations to identify material defects and verify assembly configurations. The pit surveillance program (PSP) examines approximately 15 pits per year; this is expected to increase to about 25 pits per year as stockpile life extension programs are implemented. Final radiography on "pits" manufactured at Los Alamos and radiography of surveillance pits (those removed from the stockpile for destructive examination) is currently performed in Building 23 at TA-8. That facility is over 40 years old and does not have the permanent safety and security features required for cost effective operations;

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it is not suitable for the long term. NDE at TA-8 requires secure transport and extensive temporary security measures, which are labor intensive and inefficient.

The response to recent attacks and threats to security have significantly increased demands on the Laboratory's protective force resources. If adequate protective force resources are not available to safeguard assemblies during radiographic examinations, then PMP and PSP milestones will be adversely affected. Protection of nuclear assemblies during transportation and examination at TA-8 may no longer be practical after the response plans for the revised threat scenarios are implemented. Prudent planning to minimize the programmatic and schedule risk for the manufacturing and surveillance programs requires this project be initiated as soon as possible. This project will (1) reduce the programmatic and schedule risk associated with anticipated changes in the safeguards and security requirements for protecting nuclear assemblies during transportation and examination outside the PIDAS at TA-55; (2) provide improved protection for workers and the environment in the event of accidental releases; and (3) be commensurate with the Laboratory goal of consolidating nuclear operations around TA-55.

The TA-55 Radiography Facility would address programmatic requirements by accomplishing the following:

1. Reduce the programmatic and schedule risk associated with anticipated changes in the safeguards and security requirements for protecting nuclear assemblies during transportation and examination outside the PIDAS at TA-55;
2. Provide improved protection for workers and the environment in the event of accidental releases; and
3. Would be commensurate with the Laboratory goal of consolidating nuclear operations around TA-55.

The project would furthermore provide the following benefits:

- Safer, more secure method and facility to perform NDE on Pu assemblies,
- Reduced transportation from TA-55; eliminate temporary protective measures at TA-8,
- Reduced security costs, and
- Payback within 4 years of project completion.

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Alternatives Developed/Available to Meet Program Requirements:
No Build Alternative: Continuing to use existing TA-8 facility has high costs and risks associated with it. Construct New Facility Instead of Renovation of PF-41: Will be evaluated during conceptual design.

Proposed Funding Profile ($K):

	Funding	Prior	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
OPC	$4,200			$500	$2,000	$500	$200	$500	$500	
PED	$3,000					$2,000	$1,000			
LI	$37,000							$9,000	$16,000	$12,000
TEC	$40,000	0	0	0	0	$2,000	$1,000	$9,000	$16,000	$12,000
TPC	$44,200	0	0	$500	$2,000	$2,500	$1,200	$9,500	$16,500	$12,000

Projected Annual Operating Costs:
Unknown at this time, but this project is anticipated to save significant operating costs associated with transportation and security requirements for using the existing TA-8 facility.

Project Site/Facility Space Utilization:
The TA-55 Radiography Facility would be sited in PF-41 at TA-55. PF-41 is an existing, but unused building within the TA-55 PIDAS. The project would require renovation of approximately 65% of the basement space of PF-41.

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: Center for Stockpile Stewardship Research / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
NNSA Program Manager/Sponsor TBD
Susan Seestrom, ADWP, (505) 665-4454

Federal and Contractor Project Manager(s):
Pam French, P-DO, Los Alamos National Laboratory, (505) 667-8505

Project Description:
The Center for Stockpile Stewardship Research (CSSR) project will consolidate, and relocate critical operations necessary for continued support of the Stockpile Stewardship Mission. It will contain approximately 300,000 square feet, on 3-4 levels of office, light laboratory, analytical facilities and support/common areas. This will be a joint occupancy building including appropriate groups from Physics Division (P), Theoretical Division (T) and Computer and Computational Science Division (CCS). It will be constructed at TA-3, within the central core and inside the security fence perimeter.

Current Proposed/Actual Project Schedule:
CD-0 is planned for FY05.

Project Justification (Program Requirements):
This project is necessary to maintain, improve and consolidate portions of the Stockpile Stewardship activities including: quantum information and science, physics, computational research, theoretical and strategic experimental capabilities at Los Alamos National Laboratory. Current activities are conducted in scattered, 30 to 50 year old facilities, which are obsolete, and increasingly expensive to operate. This project will make operations more efficient and reliable through provision of a modern facility, which will consolidate operations and functions from numerous facilities and structures spread throughout several Technical Areas. This project is not a radiological facility. Operating costs will be reduced due to consolidation of space and use of modern, *Energy Star* equipment and controls. Working conditions for occupants will be improved by use of proper lighting, HVAC and ergonomic equipment and furniture. Several existing structures and facilities, which will no longer be required as a result of the consolidation,

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will be decommissioned and demolished under the Facilities and Infrastructure Revitalization Program (FIRP) and other programs as directed by the NNSA.

Alternatives Developed/Available to Meet Program Requirements:
None identified that will meet program requirements.

Proposed Funding Profile ($K):

	Funding	Prior	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10
OPC	$4,000					$2,000	$500	$500	$1,000	
PED	$5,000						$5,000			
LI	$100,000						$10,000	$50,000	$40,000	
TEC	$105,000									
TPC	$109,000					$2,000	$15,500	$50,500	$41,000	

Projected Annual Operating Costs:
Details are unknown at this time, but overall operating costs are project to be lower due to demolition of older facilities replaced by this project.

Project Site/Facility Space Utilization:
The CSSR facility is planned in a location that includes 40,000 square feet of existing structures at TA-3. The existing structures will be removed to accommodate the construction of the proposed CSSR facility. In addition, a yet to be determined number of other facilities will be demolished when the CSSR is complete.

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Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2003 Actual Cost (7)	FY 2003 Appropriation (7)	FY 2004 (8)	FY 2005 (9)	FY 2006 (10)	FY 2007 FYNSP (11)	FY 2008 FYNSP (12)	FY 2009 FYNSP (13)	FY 2010 (14)	FY 2011 (15)	FY 2012 (16)	FY 2013 (17)	FY 2014 (18)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																						
F	National Security Sciences Building **(29)**	03-D-102	NA11	EA-FONSI	21.3	275.0	OPC	**23,700**	3,000	538	300	100	2,900	12,100	5,300							
							PE&D	**-**	-			-	-									
							LI	**98,705**	-	2,524	11,652	49,705	37,348									
							Total (TPC)	**122,405**	**3,000**	**3,062**	**11,952**	**49,805**	**40,248**	**12,100**	**5,300**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
1	CMR Replacement Project **(30)**	04-D-125	NA12	EIS-ROD	50.8	100.0	OPC	**100,000**	5,253	10,853	5,000	10,609	6,500	6,291	5,290	7,664	2,664	4,887	18,105	21,884		
							PE&D	**66,500**	-			9,500	13,675	29,000	14,325							
							LI	**683,500**	-			9,941	24,000	71,000	123,700	160,600	168,000	126,259				
							Total (TPC)	**850,000**	**5,253**	**10,853**	**5,000**	**30,050**	**44,175**	**106,291**	**143,315**	**168,264**	**170,664**	**131,146**	**18,105**	**21,884**	**-**	**-**
2	TA-18 Mission Relocation Project **(25)**	04-D-128	NA11	EIS-ROD	8.4	0.0	OPC	**-**		5,957												
							PE&D	**15,015**	7,424			1,591	6,000									
							LI	**95,924**	-			8,768	-	22,000	22,000	22,000	21,156					
							Total (TPC)	**110,939**	**7,424**	**5,957**	**-**	**10,359**	**6,000**	**22,000**	**22,000**	**22,000**	**21,156**	**-**	**-**	**-**	**-**	**-**
3	Radioactive Liquid Waste Treatment Facility Upgrade **(31)**	LANL-06-021	NA11	EA-TBD	14.0	TBD	OPC	**2,000**				1,000	1,000									
							PE&D	**3,000**	-					3,000								
							LI	**17,000**	-						17,000							
							Total (TPC)	**22,000**	**-**	**-**	**-**	**1,000**	**1,000**	**3,000**	**17,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
4	TA-55 Infrastructure Reinvestment	LANL-06-015	NA12	CX-TBD	TBD	0.0	OPC	**5,250**	1,000		1,000	1,000	250	250	250	250	250	250	250	250	250	-
							PE&D	**10,000**	-				-	5,000	5,000							
							LI	**95,000**	-						-	12,000	12,000	12,000	12,000	12,000	12,000	23,000
							Total (TPC)	**110,250**	**1,000**	**-**	**1,000**	**1,000**	**250**	**5,250**	**5,250**	**12,250**	**12,250**	**12,250**	**12,250**	**12,250**	**12,250**	**23,000**
5	High Explosives Characterization **(32)**	05-D-140 1	NA11	EA-FONSI	1,470.0	32.0	OPC	**1,200**	-	-	250	750	200									
							PE&D	**2,000**	-				2,000									
							LI	**18,000**	-					9,000	9,000							
							Total (TPC)	**21,200**	**-**	**-**	**250**	**750**	**2,200**	**9,000**	**9,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
6	Weapons Manufacturing Support Facility (Formerly ESA Fabrication Facility Replacement)	LANL-06-005	NA11	EA-FONSI	24.4	50.0	OPC	**1,800**	-			250	750	200	200	200	200					
							PE&D	**3,000**	-					3,000								
							LI	**15,000**	-						8,000	7,000						
							Total (TPC)	**19,800**	**-**	**-**	**-**	**250**	**750**	**3,200**	**8,200**	**7,200**	**200**	**-**	**-**	**-**	**-**	**-**
7	Support Services Consolidation	LANL-07-019	NA11	EA-TBD	TBD	TBD	OPC	**-**	-													
							PE&D	**1,500**	-			1,000	500									
							LI	**14,000**	-						14,000							
							Total (TPC)	**15,500**	**-**	**-**	**-**	**1,000**	**500**	**-**	**14,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																						
1	Power Grid Infrastructure Upgrade	05-D-602	FIRP	EA-FONSI	7.0	0.0	OPC	**1,500**		1000	1000	250	-	125	125							
							PE&D	**-**														
							LI	**18,500**					10,000	8,500								
							Total (TPC)	**20,000**	**-**	**1,000**	**1,000**	**250**	**10,000**	**8,625**	**125**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	LANSCE High Voltage Distribution Replacement **(33)**	LANL-06-022	FIRP	CX-TBD	18.2	0.0	OPC															
							PE&D															
							LI															
							Total (TPC)															

Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2003 Actual Cost (7)	FY 2003 Appropriation (7)	FY 2004 (8)	FY 2005 (9)	FY 2006 (10)	FY 2007 FYNSP (11)	FY 2008 FYNSP (12)	FY 2009 FYNSP (13)	FY 2010 (14)	FY 2011 (15)	FY 2012 (16)	FY 2013 (17)	FY 2014 (18)
C. Safeguards & Security (S&S) Line Items																						
F	NMSSUP Phase 1	99-D-132	FS	CX	0	0.0	OPC	**15,400**	12,100	2,125	2,200	800	300	-								
							PE&D	**-**	-													
							LI	**60,862**	48,560	8,860	8,641	3,661										
							Total (TPC)	**76,262**	**60,660**	**10,985**	**10,841**	**4,461**	**300**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
1	Security Perimeter Project	LANL-05-017	FS	EA-FONSI	0	TBD	OPC	**4,020**	1,250	2,500	1,250	500	520	500								
							PE&D	**-**	-													
							LI	**20,000**	-			-	20,000	-								
							Total (TPC)	**24,020**	**1,250**	**2,500**	**1,250**	**500**	**20,520**	**500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	NMSSUP Phase 2	05-D-170.1	FS	CX	TBD	TBD	OPC	**12,000**	-	1,900	1,900	5,900	1,700	300	200	200	200	200	1,400			
							PE&D	**45,000**	-				10,000	35,000								
							LI	**183,000**	-					-	45,000	50,000	44,000	44,000				
							Total (TPC)	**240,000**	**-**	**1,900**	**1,900**	**5,900**	**11,700**	**35,300**	**45,200**	**50,200**	**44,200**	**44,200**	**1,400**	**-**	**-**	**-**
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																						
F	DARHT (Phase 1 & 2)	LANL-98-003	NA11	EIS-ROD	N/A	8.3	OPC	**10,107**	10,107													
							PE&D	**-**	-													
							LI	**259,481**	259,481													
							Total (TPC)	**269,588**	**269,588**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
E. Nuclear Nonproliferation (NN) Line Items																						
F	Nonproliferation and International Security Center	LANL-00-008	NN	EA-FONSI	N/A	163.4	OPC	**4,343**	4,335			8										
							PE&D	**-**														
							LI	**58,769**	58,769													
							Total (TPC)	**63,112**	**63,104**	**-**	**-**	**8**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL (All NNSA Costs For Site Line Items)					**1,614**	**628.7**		**1,976,176**	**411,279**	**36,257**		**105,333**	**138,043**	**205,666**	**273,390**	**263,914**	**250,770**	**187,596**	**31,755**	**34,134**	**12,250**	**23,000**
E. Non NNSA Line Items (OFFICE OF SCIENCE)																						
F	Los Alamos CINT Gateway	LANL-02-010	Off. Of Science	CX	-	34.0	OPC	**230**			30		100	100								
							PE&D	**600**		475	600											
							LI	**18,100**			2400	8700	5550	1,450								
							Total (TPC)	**18,930**	**-**		**3,030**	**8,700**	**5,650**	**1,550**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL (All OFFICE OF SCIENCE Costs For Site Line Items)					**0**	**34.0**		**18,930**	**-**		**3,030**		**5,650**	**1,550**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Attachment A-2
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
PROPOSED Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Funding Type (4)	Total (5)	Prior Years Funding (6)	FY 2003 Actual Cost (7)	FY 2004 [2] (8)	FY 2005 [3] (9)	FY 2006 (10)	FY 2007 (11)	FY 2008 (12)	FY 2009 (13)	FY 2010 (14)	FY 2011 (15)	FY 2012 (16)	FY 2013 (17)	FY 2014 (18)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																					
1	LANSCE Refurbishment **(35)**	LANL-07-001	NA11	CX-TBD	TBD	TBD	OPC	**6,200**			-	1,800	3,600	200	200	200	200				
							PE&D	**10,000**						7,000	3,000						
							LI	**76,700**						4,000	24,100	29,300	19,300				
							Total (TPC)	**92,900**	**-**	**-**	**-**	**1,800**	**3,600**	**11,200**	**27,300**	**29,500**	**19,500**	**-**	**-**	**-**	**-**
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																					
1	Radioactive Liquid Waste (RLW) Collection System Maintenance **(35)**	LANL-06-023	FIRP	CX-TBD	11.1	0.0	OPC	**1,500**				400	500	200	100	100	200				
							PE&D	**1,900**						1,100	800						
							LI	**7,700**							4,000	3,700					
							Total (TPC)	**11,100**	**-**	**-**	**-**	**400**	**500**	**1,300**	**4,900**	**3,800**	**200**				
C. Safeguards & Security (S&S) Line Items																					
	No "Safeguards & Security Line Items" proposed						OPC														
							PE&D														
							LI														
							Total (TPC)														
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																					
1	Radiography Facility, TA-55 **(34) (35)**	LANL-06-241	Pit Manufacturing and Certification	EA-TBD	0.0	0.0	OPC	**4,200**			500	2,000	500	200	500	500	-				
							PE&D	**3,000**					2,000	1,000	-						
							LI	**37,000**					-	-	9,000	16,000	12,000				
							Total (TPC)	**44,200**	**-**	**-**	**500**	**2,000**	**2,500**	**1,200**	**9,500**	**16,500**	**12,000**	**-**	**-**	**-**	
2	Center for Stockpile Stewardship Research, TA-3 (35)	LANL-07-094	TBD	EA-TBD	TBD	400.0	OPC	**4,000**					2,000	500	500	1,000					
							PE&D	**5,000**						5,000							
							LI	**100,000**						10,000	50,000	40,000					
							Total (TPC)	**109,000**	**-**	**-**	**-**	**-**	**2,000**	**15,500**	**50,500**	**41,000**	**-**	**-**	**-**	**-**	
3	Advanced Hydrotest Facility	LANL-12-018	TBD	EIS-TBD	TBD	TBD	OPC	**200,014**	-	-	-	-	-	-	-	16,894	26,157	36,047	42,071	39,347	39,498
							PE&D	**-**				-	-	-							
							LI	**246,378**					-	-	-	-	-		35,231	77,044	134,103
							Total (TPC)	**446,392**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**16,894**	**26,157**	**36,047**	**77,302**	**116,391**	**173,601**
E. Nuclear Nonproliferation (NN) Line Items																					
	No "Nuclear Nonproliferation Line Items" proposed						OPC														
							PE&D														
							LI														
							Total (TPC)														
TOTAL (All NNSA Costs For Proposed Site Line Items)					TBD	400.0		**703,592**	**-**	**-**	**500**	**4,200**	**8,600**	**29,200**	**92,200**	**107,694**	**57,857**	**36,047**	**77,302**	**116,391**	**173,601**
F. Non NNSA Line Items (OFFICE OF SCIENCE)																					
	No "Non NNSA Line Items (Office of Science)" proposed																				
TOTAL (Office Of Science Costs For Proposed Site Line Items)																					
G. Non NNSA Line Items (OFFICE OF TRANSPORTATION)																					
1	Fuel Cell Facility	LANL-07-013	Off. Of Transportation	EA-TBD	TBD	38.0	OPC	**1,500**					1,500								
							PE&D	**-**													
							LI	**50,000**						30,000	20,000						
							Total (TPC)	**51,500**	**-**	**-**	**-**	**-**	**1,500**	**30,000**	**20,000**	**-**	**-**	**-**	**-**	**-**	
TOTAL (Office Of Transportation Costs For Proposed Site Line Items)					TBD	38.0		**51,500**	**0**	**0**	**0**	**0**	**1,500**	**30,000**	**20,000**	**0**	**0**	**0**	**0**	**0**	**0**

Attachment A-3
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
RTBF/Operations of Facilities for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (20)	Funding Type (4)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total	Prior Years	FY 2003 Actual Cost [1] (8)	FY 2004 (8)	FY 2005 (9)	FY 2006 FYNSP (10)	FY 2007 FYNSP (11)	FY 2008 FYNSP (12)	FY 2009 (13)	FY 2010 (14)	FY 2011 (15)	FY 2012 (16)	FY 2013 (17)	FY 2014 (18)
F	Fire Suppression Yard Main Replacement (TA-55)	LANL-97-047	NA12	CX	E	TBD	0	**24,665**	24,665	4,331											
F	Monitoring Well Project (NA)	LANL-98-048	NA11	CX	E	TBD	0	**53,000**	27,000	4,813	10,000	12,800	3,200								
F	Electrical Infrastructure Safety Upgrade (TA-3-40)	LANL-02-071	NA11	CX	GPP	TBD	0	**1,856**	1,856	1,252	0										
F	TA-21 HIC Move to TA-16-202	LANL-02-090	NA11	CX-TBD	GPP	TBD	0	**1,521**	1,521	847											
F	Weapons Plant Support Building	LANL-02-093	NA11	EA-FONSI	GPP	TBD	23.0	**8,165**	5,000	1,635	3,165										
F	WETF 1.6 MVA Generator Installation	LANL-02-092	NA12	CX-TBD	GPP	TBD	0	**1,700**	1,284	230	186										
F	TA-16 Intersection	LANL-02-107	NA11	CX	GPP	TBD	0	**2,837**	1,537	59	1,300										
F	TA-15 Electrical Distribution Upgrade	LANL-02-126	NA11	CX	GPP	TBD	-	**2,200**	1,800	1,300	400										
F	Pajarito Road Access Control Stations	LANL-03-068	NA11	EA-FONSI	GPP	TBD	0.6	**4,700**	4,600	516	3,830										
F	PF-4 Switchgear Installation (TA-55)	LANL-04-216	NA11	CDC-TBD	FGPP	TBD	-	**2,900**			400	2,500									
1	Installation of an Anchor Ranch Gate (TA-22)	LANL-05-312	NA-11	CX-TBD	GPP	TBD	TBD	**5,000**				400	4,600								
2	TA-16-202 Renovation/Tritium Consolidation	LANL-05-320	NA12	CX-TBD	GPP	TBD	0	**2,650**			270	2,380									
3	Construct Neutron Production Target System	LANL-06-120	NA11	SWEIS	GPP	TBD	0	**1,300**					1,300								
4	TA-8 Radiography Upgrades	LANL-06-304	NA11	CX-TBD	GPP	TBD	0	**3,500**					3,500								
5	Renovate MPF-3 Sector R and MPF-1 Basement	LANL-06-215	NA11	CX-TBD	GPP	TBD	0	**4,080**					600	3,480							
6	Construct Calibration Laboratory	LANL-07-145	NA12	EA-FONSI	GPP	TBD	12.0	**4,750**						3,050							
7	Construct Data Systems Facility	LANL-07-184	NA12	CX-TBD	GPP	TBD	TBD	**5,000**						5,000							
8	RLW WAC Compliance	LANL-07-305	NA11	CX-TBD	GPP	-	-	**5,000**						1,470	3,530						
9	Construct Vessel Facility 1of 4	LANL-08-128	NA12	CX	GPP	TBD	6.7	**4,750**							4,750						
10	Construct Classified Detonator Storage Facility	LANL-08-012	NA11	CX-TBD	GPP	TBD	TBD	**3,120**							3,120						
11	Construct LANSCE Lab/Office Building	LANL-08-216	NA11	CX-TBD	GPP	TBD	18.0	**5,000**							2,700	2,300					
12	Construct Medium/Heavy Lab At TA-22	LANL-08-153	NA12	EA-PREP	GPP	TBD	6.0	**3,680**							3,200	480					
13	BTF-Upgrades to FMS and VAV systems	LANL-08-014	NA12	CX-TBD	GPP	TBD	0	**2,000**							300	1,700					
14	Move Existing Vessel To TA-22	LANL-09-167	NA12	EA-PREP	GPP	TBD	0	**1,500**								1,500					
15	Construct TA-37 Classified HE Storage Facility	LANL-09-009	NA11	CX-TBD	GPP	TBD	2.0	**3,200**								3,200					
16	Construct Vessel Facility 2 of 4	LANL-09-152	NA12	CX	GPP	TBD	4.2	**2,500**								2,500					
17	TA-16-202 Renovation/Tritium Consolidation	LANL-09-020	NA12	CX-TBD	GPP	TBD	0	**2,650**								2,650					
18	Construct Vessel Facility 3 of 4	LANL-09-143	NA12	CX	GPP	TBD	4.2	**5,400**								5,000	400				
19	Construct JNE Training Facility	LANL-09-182	NA12	CX-TBD	GPP	TBD	TBD	**5,000**								1,870	3,130				
20	Construct Test Engineering Facility	LANL-10-194	NA12	CX-TBD	GPP	TBD	TBD	**3,500**									3,500				
21	Gas Gun Relocation TA-40 To TA-22	LANL-10-176	NA12	CX-TBD	GPP	TBD	0	**3,000**									3,000				
22	Construct Detonator Storage Facility	LANL-10-192	NA12	CX-TBD	GPP	TBD	TBD	**5,000**									5,000				
23	Construct Shock and Vibration Lab	LANL-10-185	NA12	CX-TBD	GPP	TBD	TBD	**5,000**									5,000				
24	Construct Electronics Facility	LANL-10-193	NA12	CX-TBD	GPP	TBD	TBD	**3,000**									1,270	1,730			
25	Construct Nuclear Safeguards Training Center	LANL-10-183	NA12	CX-TBD	GPP	TBD	TBD	**5,000**									3,700	1,300			
26	TA-16-200 Facility Upgrades	LANL-11-011	NA11	CX-TBD	GPP	TBD	0	**5,000**										5,000			
27	Facility Bomb Proofing (TA-22)	LANL-11-175	NA12	CX-TBD	GPP	TBD	0	**4,000**										4,000			
28	Construct Secure Dissolving Rad Chemistry Building	LANL-11-191	NA12	CX-TBD	GPP	TBD	TBD	**5,000**										5,000			
29	Construct Joint DX/ESA Conference Facility	LANL-11-181	NA12	CX-TBD	GPP	TBD	5.0	**2,000**										2,000			
30	Construct Parking Lots (TA-22)	LANL-11-102	NA-11	CX-TBD	GPP	TBD	0	**1,700**										1,700			
31	Construct Vessel Facility 4 of 4	LANL-11-160	NA12	CX-TBD	GPP	TBD	4.2	**2,500**										2,500			
32	Radial Bridge Crane (LANSCE)	LANL-11-318	NA12	CX-TBD	GPP	TBD	-	**2,700**										2,700			
33	Construct Replacement Machine Shop (TA-22)	LANL-11-166	NA12	EA-PREP	GPP	TBD	10.0	**4,000**										1,570	2,430		
34	Construct Central Classified Storage Facility	LANL-12-194	NA12	CX-TBD	GPP	TBF	-	**5,000**											5,000		
35	Post-FIRP Investment	Various	TBD	TBD	GPP	TBD	-												22,820	33,275	36,600
TOTAL RTBF/Operations of Facilities (facilities & infrastructure reported under this category)						TBD	**95.9**	**230,024**	**69,263**	**14,983**	**19,551**	**18,080**	**13,200**	**13,000**	**17,600**	**21,200**	**25,000**	**27,500**	**30,250**	**33,275**	**36,600**

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	Project Number (4)	NEPA Status (20)	Funding Type (3)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total (5)	Prior Years (6)	FY 2003 Actual Cost (7)	FY 2004 (8)	FY 2005 (9)	FY 2006 FYNSP (10)	FY 2007 FYNSP (11)	FY 2008 FYNSP (12)	FY 2009 (13)	FY 2010 (14)	FY 2011 (15)
F	LANSCE Chiller Replacement	LANL-R-03-01	CX	GPP	4,304	0	**4,472**	4,472	1,521								
F	Beryllium Tech Facility - Cartridge Filter House Instal	LANL-R-03-02	CX-TBD	GPP	2,200	3.1	**2,550**	2,200	322	(1,500)	1,850						
F	Electrical Infrastructure Safety Upgrade (TA-3-261)***(21)**	LANL-R-03-03	CX	GPP	1,544	0	**3,500**	1,000	-	1,500	1,000						
F	Electrical Infrastructure Safety Upgrade (TA-8-21)*	LANL-R-03-04	CX-TBD	GPP	938	0	**1,404**	328	247	1,076							
F	Electrical Infrastructure Safety Upgrade (TA-43-1)*	LANL-R-03-05	CX-TBD	GPP	2,889	0	**2,430**	2,430	-								
F	TA-16-260 Reconfiguration*	LANL-R-03-06	CX-TBD	GPP	7,654	4	**4,967**	1,052	837	3,915							
F	Hydrotest Design Facility	LANL-R-03-07	CX-TBD	GPP	682	17.4	**5,000**	5,000	3								
F	Shock & Vibration Laboratory PROJECT CANCELLED	LANL-R-03-08	EA-FONSI	GPP	-	0	**-**	5,000	5,000	(5,000)							
F	FWO Office Building	LANL-R-03-09	CX-TBD	GPP	74	18.0	**5,000**	5,000	1,093								
F	CCF Electrical Upgrades	LANL-R-03-10	CX-TBD	GPP	400	0	**400**	100	-	300							
F	HRL-1 HVAC	LANL-R-03-11	CX-TBD	GPP	533	0	**1,180**	400	2	450	330						
F	TA-46-24 Roof Replacement	LANL-R-03-12	CX-TBD	GPP	235	0	**600**	600	47								
F	Roofing Assessment	LANL-R-03-13	CX-TBD	GPP	-	0	**1,000**	1,000	148								
F	FY03 FIRP Funded D&D	LANL-D-03-01	CX-TBD	E	-	-119.5	**9,186**	9,186	1,455								
F	FY04 Planning	LANL-P-03-01	N/A	E	-	0	**1,985**	1,985	452								
F	TA-50 Stem Wall Repair	LANL-R-04-01	CX	E	405	0	**400**			400							
F	WETF Systems Refurbishment	LANL-R-04-02	CX	GPP	7,536	0	**4,877**	411	2	2,757	1,709						
F	Deferred Maintenance Small Projects	LANL-R-04-03	CX	GPP	4,000	0	**5,000**			5,000							
F	Vulnerable Building Replacement - DX Shock & Detonation	LANL-R-04-04	EA-FONSI	GPP	196	18.0	**5,202**	202	-	620	4380						
F	TA-16 WE Campus Grading, Drainage & Utilities	LANL-R-04-05	EA-FONSI	GPP	244	0	**4,912**	435	-	4,477							
F	Electrical Infrastructure Safety Upgrade (TA-46-31)*	LANL-R-04-06	CX	GPP	2,000	0	**3,780**			3,260	520						
F	TA-50 Caustic Tank Replacement*	LANL-R-04-07	CX	GPP	605	0	**750**			750							
F	MCC Replacement at CMR	LANL-R-04-08	CX	GPP	1,200	0	**1,100**			1,100							
F	Generator/Load Bank Installation at TA-55	LANL-R-04-09	CX	GPP	1,000	0	**1,750**			1,750							
F	Electrical Infrastructure Safety Upgrade (TA-3-40)*	LANL-R-04-10	CX	GPP	1,000	0	**1,562**			1,562							
F	Roof Replacement TA-53-1, TA-8-21, TA-59-1*	LANL-R-04-11	CX	E/GPP	390	0	**390**			390							
F	Deferred Maintenance Intermediate Projects	LANL-R-04-12	CX	E/GPP	1,492	0	**1,746**			1,746							
F	Deferred Maintenance TA-16-410/411	LANL-R-04-13	CX	GPP	3,550	0	**4,250**			750	3,500						
F	TA-3 Sidewalks	LANL-R-04-14	CX	E/GPP	335	0	**335**			335							
F	FY04 FIRP Funded D&D	LANL-D-04-01	CX	E	TBD	-81.1	**9,100**			9,100							
F	FY05 Planning	LANL-P-04-01	N/A	E	-	0	**570**	300		270							
1	TA-16-193 Reconfiguration	LANL-R-05-01	EA-FONSI	GPP	7,362	0	**4,889**	162	-	663	2,064	2,000					
2	Deferred Maintenance Small Projects 05-01	LANL-R-05-02	CX-TBD	E/GPP	4,000	0	**5,000**				5,000						
3	Deferred Maintenance Intermediate Projects 05-01	LANL-R-05-03	CX-TBD	E/GPP	4,000	0	**5,000**				5,000						
4	RAMP Roofing Support	LANL-R-05-04	CX-TBD	E/GPP	2,300	0	**1,219**				1,219						
5	Reconfigure TA-39-98, Close 39-2,39-103, 39-07	LANL-R-05-05	CX-TBD	GPP	1,538	0	**1,681**	150		231	1,300						
6	Lujan Center Ventilation and Cooling Upgrade	LANL-R-05-06	CX	GPP	900	0	**935**			130	805						
7	IM-Division Office Building Replacement	LANL-R-05-07	CX-TBD	GPP	4,535	0	**5,300**			300	4,000	1,000					
8	HVAC/Electrical Upgrade, MPF-6	LANL-R-05-08	CX-TBD	GPP	2,990	0	**3,813**			62		3,751					
9	FY05 FIRP Funded D&D	LANL-D-05-01	CX-TBD	E	TBD	-78	**11,300**				11,300						
10	FY06 Planning	LANL-P-05-01	N/A	GPP/E	-	0	**1,986**				1,986						
11	Deferred Maintenance Small Projects 06-01	LANL-R-06-02	CX-TBD	GPP/E	4,000	0	**5,000**					5,000					
12	Deferred Maintenance Small Projects 06-02	LANL-R-06-03	CX-TBD	GPP/E	4,000	0	**5,000**					5,000					
13	Deferred Maintenance Intermediate Projects 06-01	LANL-R-06-04	CX-TBD	GPP/E	4,000	0	**5,000**					5,000					
14	RAMP Roofing Support	LANL-R-06-05	CX-TBD		1,500	0	**800**					800					
15	Deferred Maintenance Intermediate Projects 06-02	LANL-R-06-06	CX-TBD		4,000	0	**3,400**					3,400					
16	RLW Collection System	LANL-R-06-14	CX-TBD		11,100	0	**11,000**				800	3,000	3,000	3,000	1,200		
17	Electrical Infrastructure Safety Upgrade (TA-35-2)*	LANL-R-06-07	CX-TBD	GPP	2,059	0	**4,059**	341		388			3,330				
18	TA-3-32 & TA-3-34 Revitalization (MST)	LANL-R-06-08	CX-TBD	GPP	2,090	0	**2,700**					2,700					
19	Electrical Infrastructure Safety Upgrade (TA-46-1)	LANL-R-06-09	CX	GPP	332	0	**3,304**			414		2,890					
20	Electrical Infrastructure Safety Upgrade (TA-53-2)*	LANL-R-06-10	CX	GPP	1,382	0	**3,565**			515		3,050					

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	Project Number (4)	NEPA Status (20)	Funding Type (3)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total (5)	Prior Years (6)	FY 2003 Actual Cost (7)	FY 2004 (8)	FY 2005 (9)	FY 2006 FYNSP (10)	FY 2007 FYNSP (11)	FY 2008 FYNSP (12)	FY 2009 (13)	FY 2010 (14)	FY 2011 (15)
21	TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion	LANL-R-06-11	CX-TBD	GPP	78	0	**2,741**	140	-	201			2,400				
22	Electrical Infrastructure Safety Upgrade (TA-48-1)	LANL-R-06-12	CX-TBD	GPP	2,000	0	**4,850**			225		2,400	2,000				
23	Replace High Voltage Electrical Panels TA-48-1*	LANL-R-06-13	CX	GPP	1,800	0.1	**4,134**			454			3,680				
11	Electrical Infrastructure Safety Upgrade (TA-15-183)	LANL-R-06-01	CX-TBD	GPP	1,035	0	**2,300**					400	1,900				
12	Electrical Infrastructure Safety Upgrade (TA-3-32)	LANL-R-06-02	CX-TBD	GPP	864	0	**1,920**					320	1,600				
24	FY06 FIRP Funded D&D	LANL-D-06-01	CX-TBD	E	TBD	-98	**13,300**					13,300					
25	FY07 Planning	LANL-P-06-01	N/A	GPP/E	-	0	**2,880**					2,880					
26	Electrical Infrastructure Safety Upgrade (TA-35-27)	LANL-R-07-01	CX-TBD	GPP	1,206	0	**2,680**						480	2,200			
27	Electrical Infrastructure Safety Upgrade (TA-33-114)	LANL-R-07-02	CX-TBD	GPP	981	0	**2,180**						380	1,800			
28	Deferred Maintenance Bundle 07-01	LANL-R-07-03	CX-TBD	GPP/E	3,840	0	**4,800**						4,800				
29	Deferred Maintenance Bundle 07-02	LANL-R-07-04	CX-TBD	GPP/E	3,840	0	**4,800**						4,800				
30	Deferred Maintenance Bundle 07-03	LANL-R-07-05	CX-TBD	GPP/E	3,840	0	**4,800**						4,800				
31	Deferred Maintenance Bundle 07-04	LANL-R-07-06	CX-TBD	GPP/E	3,840	0	**4,800**						4,800				
32	Deferred Maintenance Bundle 07-05	LANL-R-07-07	CX-TBD	GPP/E	3,840	0	**4,800**						4,800				
33	Deferred Maintenance Bundle 07-06	LANL-R-07-08	CX-TBD	GPP/E	3,760	0	**4,700**						4,700				
34	Deferred Maintenance Bundle 07-07	LANL-R-07-09	CX-TBD	GPP/E	3,760	0	**4,700**						4,700				
35	Deferred Maintenance Bundle 07-08	LANL-R-07-10	CX-TBD	GPP/E	1,462	0	**1,828**						1,828				
36	FY07 FIRP Funded D&D	LANL-D-07-01	CX-TBD	E	TBD	-86	**16,800**						16,800				
37	FY08 Planning	LANL-P-07-01	N/A	GPP/E	-	0	**5,890**						5,890				
38	Electrical Infrastructure Safety Upgrade (TA-3-39)	LANL-R-08-01	CX-TBD	GPP	1,859	0	**4,130**							750	3,380		
39	Electrical Infrastructure Safety Upgrade (TA-35-46)	LANL-R-08-02	CX-TBD	GPP	770	0	**1,710**							450	1,260		
40	Deferred Maintenance Bundle 08-01	LANL-R-08-03	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
41	Deferred Maintenance Bundle 08-02	LANL-R-08-04	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
42	Deferred Maintenance Bundle 08-03	LANL-R-08-05	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
43	Deferred Maintenance Bundle 08-04	LANL-R-08-06	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
44	Deferred Maintenance Bundle 08-05	LANL-R-08-07	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
45	Deferred Maintenance Bundle 08-06	LANL-R-08-08	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
46	Deferred Maintenance Bundle 08-07	LANL-R-08-09	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
47	Deferred Maintenance Bundle 08-08	LANL-R-08-10	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
48	Deferred Maintenance Bundle 08-09	LANL-R-08-11	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
49	Deferred Maintenance Bundle 08-10	LANL-R-08-12	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
50	Deferred Maintenance Bundle 08-11	LANL-R-08-13	CX-TBD	GPP/E	3,840	0	**4,800**							4,800			
51	Deferred Maintenance Bundle 08-12	LANL-R-08-14	CX-TBD	GPP/E	1,072	0	**1,340**							1,340			
52	FY08 FIRP Funded D&D	LANL-D-08-01	CX-TBD	E	TBD	-83	**17,400**							17,400			
53	FY09 Planning	LANL-P-08-01	N/A	GPP/E	-	0	**5,880**							5,880			
54	Electrical Infrastructure Safety Upgrade (TA-3-102)	LANL-R-09-01	CX-TBD	GPP	1,053	0	**2,340**							600	1,740		
55	Electrical Infrastructure Safety Upgrade (TA-39-2)	LANL-R-09-02	CX-TBD	GPP	801	0	**1,780**							450	1,330		
56	Deferred Maintenance Bundle 09-01	LANL-R-09-03	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
57	Deferred Maintenance Bundle 09-02	LANL-R-09-04	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
58	Deferred Maintenance Bundle 09-03	LANL-R-09-05	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
59	Deferred Maintenance Bundle 09-04	LANL-R-09-06	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
60	Deferred Maintenance Bundle 09-05	LANL-R-09-07	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
61	Deferred Maintenance Bundle 09-06	LANL-R-09-08	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
62	Deferred Maintenance Bundle 09-07	LANL-R-09-09	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
63	Deferred Maintenance Bundle 09-08	LANL-R-09-10	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
64	Deferred Maintenance Bundle 09-09	LANL-R-09-11	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
65	Deferred Maintenance Bundle 09-10	LANL-R-09-12	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
66	Deferred Maintenance Bundle 09-11	LANL-R-09-13	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
67	Deferred Maintenance Bundle 09-12	LANL-R-09-14	CX-TBD	GPP/E	3,840	0	**4,800**								4,800		
68	Deferred Maintenance Bundle 09-13	LANL-R-09-15	CX-TBD	GPP/E	2,640	0	**3,300**								3,300		
68	Deferred Maintenance Bundle 09-14	LANL-D-09-16	CX-TBD	E	TBD	0	**3,200**								3,200		
69	FY09 FIRP Funded D&D	LANL-D-09-01	CX-TBD	E	TBD	-14	**15,400**								15,400		
TOTAL (FIRP)					**240,154**	**(158)**	**436,132**	**41,894**	**11,129**	**38,591**	**46,763**	**56,891**	**76,688**	**86,670**	**88,410**	**-**	**-**

Attachment A-5
Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL
($000s)

Priority (1)	Description (2)	Project Identification No. (3)	Program Sponsor	NEPA Status (31)	Funding Type (4)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total (5)	FY 2003 Actual Cost (7)	FY 2004 (8)	FY05 (9)	FY06 (10)	FY07 (11)	FY08 (12)	FY09 (13)	FY10 (14)	FY11 (15)	FY12 (16)	FY13 (17)	FY14 (18)
	Cerro Grande Rehabilitation GPPs (22)																			
F	Pajarito Road Gas Line	LANL-01-038	CGRP	CX	G CG		0	4,000	3,500											
	TOTAL for CERRO GRANDE REHAB GPPs					-	**0**	**4,000**	**3,500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	ER Expense Projects																			
F	Monitoring Well Project	LANL-98-049	ER	CX	E		0	35,500	6,000	6,000										
	TOTAL for ER EXPENSE PROJECTS					**-**	**0**	**35,500**	**6,000**	**6,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	NNSA GPPs																			
F	Firing Point Beryllium Mitigation, TA-15-312	LANL-03-096	NA11	CX-TBD	G		0	5,000	5,000											
F	Stockpile Support Building	LANL-03-114	NA11	CX-TBD	G		18.0	5,000	5,000											
	TOTAL NNSA GPPs					**-**	**18**	**10,000**	**10,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	Threat Reduction GPPs																			
1	Homeland Security Building	LANL-03-131	TR	CX-TBD	G		18.0	5,000	5,000											
	TOTAL for Threat Reduction GPPs					-	**18.0**	**5,000**	**5,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	LANL GPPs - Facility & Utility Maintenance Actions (23)																			
TBD	Perform WE Campus and Safety Upgrade	LANL-04-167	INST	CX-TBD	G			5,000		250	3,750	1,000								
TBD	Upgrade of HVAC & Installation Chem Fume Hoods (B Div)	LANL-04-276	INST	CX-TBD	G			1,200		65	1,135									
TBD	Roadside Safety - Obstacles & Guardrails	LANL-04-156	INST	CX-TBD	G		0	2,000		500	1,000	500								
TBD	East Jemez Road Widening	LANL-05-329	INST	CX-TBD	G		0	8,000			8,000	-								
TBD	Sidewalk/Curb Trip Mitigation	LANL-05-327	INST	CX-TBD	G		0	600			600									
TBD	ADA Compliance	LANL-05-328	INST	CX-TBD	G		0	850			850									
TBD	Mill & Overlay - Secondary Roads & Parking Lots	LANL-05-331	INST	CX-TBD	G		0	1,000			1,000					-				
TBD	Install West Jemez Road Shoulders	LANL-05-171	INST	CX-TBD	G		0	650			650			-						
TBD	Intersection Upgrades - East Jemez & SR 4	LANL-05-332	INST	CX-TBD	G		0	750			750						-			
TBD	Intersection Upgrades - East Jemez At TA-72	LANL-05-333	INST	CX-TBD	G		0	750			750						-			
INST	TA-3/58 Gravity Line	LANL-05-207	INST	CX-TBD	G		-	535			535									
INST	TA-3 CMR Sewer Relief Project	LANL-05-201	INST	CX-TBD	G		-	630			630	-								
INST	115kV Transmission System Protection	LANL-05-193	INST	CX-TBD	E		-	1,000			1,000	-								
INST	Replace TA-35 13.2kV Switchgear	LANL-05-325	INST	CX-TBD	E		-	1,000			1,000							-		
TBD	Sign Upgrades	LANL-05-330	INST	CX-TBD	G		0	550			300	250	-							
INST	Replace 13.8 kv cables	LANL-05-195	INST	CX-TBD	E		-	2,500			500	500	500	500	500					
TBD	IM-9 Relocation and construction of VTR (TA-3)	LANL-05-321	INST	CX-TBD	G			2,400			1,800	600								
TBD	Reburbish Basement MPF-1	LANL-05-258	INST	CX-TBD	G			2,500			350	2,100								
INST	Safety Upgrades To 13.2kV Circuits	LANL-05-186	INST	CX-TBD	E		-	8,000			1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000		
INST	Replace Old 13.8kV Switchgears	LANL-05-188	INST	CX-TBD	E		-	6,000		-	1,500	1,500	1,500	-	1,500					
INST	Replace 115kv oil circuit breakers	LANL-05-189	INST	CX-TBD	E		-	2,100		-	300	300	300	300	300	300	300			
INST	Water Leak Survey, Condition Assessment, Upgrades	LANL-05-184	INST	CX-TBD	E		-	1,400	-	-	350	350	350	350						
INST	TA-43-01 Distributed Boiler Plant	LANL-06-208	INST	CX-TBD	G		-	2,800				2,800								
INST	Additional Express Feeders from WTA to TA-3	LANL-06-338	INST	CX-TBD	G		-	5,000				5,000	-							
INST	Uncross NL & RL 115kV Lines	LANL-06-198	INST	FONSI	E		-	1,000				1,000	-							
INST	TA-53 Substation 115kV Ring Bus Upgrade	LANL-06-196	INST	CX-TBD	E		-	2,000				2,000								
INST	Replace Elevated 4" Gas Line, TA-53	LANL-06-187	INST	CX-TBD	E		-	600			-	600								
INST	Replace White Rock 115kv Ring Bus Components	LANL-06-192	INST	CX-TBD	E		-	1,000	-	-		1,000								
INST	Upgrade 90 MVAR SVC Capacitor	LANL-06-204	INST	CX-TBD	G		-	1,500	-	-		1,500								
TBD	Replace Traffic Signals	LANL-06-210	INST	CX-TBD	G		0	1,000		-		1,000								
TBD	Repair R Site Road	LANL-06-326	INST	CX-TBD	G		0	2,800		-		2,800								
TBD	Repair TA-53 Sidewalks	LANL-06-170	INST	CX-TBD	G		0	500				250	250	-						
TBD	TA-55 Chiller Upgrade	LANL-06-269	INST	CX-TBD	G		-	5,000				2,500	2,500							
TBD	TA-55 Stack Emission System Upgrade	LANL-06-270	INST	CX-TBD	G		-	5,000				500	500	2,000	2,000					
INST	Power Plant - Cooling Tower Piping Replacement	LANL-06-199	INST	CX-TBD	E		-	1,000			-	500	500			-				
INST	Repair/ReplaceTA-03 Underground Ducts & Manholes	LANL-06-323	INST	CX-TBD	E		-	5,000				2,500	2,500			-	-			
INST	Reconductor 13.2kV Circuits	LANL-06-190	INST	CX-TBD	E		-	4,500				1,500		1,500		1,500				
INST	TA-70 345/115kV Substation	LANL-07-212	INST	CX-TBD	G		-	5,000					5,000		-					
TBD	Mill & Overlay Pajarito Road	LANL-07-336	INST	CX-TBD	G		0	1,300					1,300						-	-
TBD	New TA-51/54 Intersection	LANL-07-146	INST	CX	G		0	4,100			-		4,100							
TBD	Repair Anchor Ranch Road South	LANL-07-147	INST	EA-PREP	G		0	1,400			-		1,400							
TBD	Pajarito Rd. TA-59 To TA-64 Access & Parking	LANL-07-162	INST	CX-TBD	G		0	800					800							

Attachment A-5
Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL
($000s)

Priority (1)	Description (2)	Project Identification No. (3)	Program Sponsor	NEPA Status (31)	Funding Type (4)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total (5)	FY 2003 Actual Cost (7)	FY 2004 (8)	FY05 (9)	FY06 (10)	FY07 (11)	FY08 (12)	FY09 (13)	FY10 (14)	FY11 (15)	FY12 (16)	FY13 (17)	FY14 (18)
INST	Replace Power Plant Feed Water Piping	LANL-07-191	INST	CX-TBD	E		-	500			-		500							
INST	Add 3rd 115kV transformer TA-53	LANL-07-194	INST	CX-TBD	E		-	2,500			-		2,500							
INST	Add 3rd 115kV Transformer TA-03	LANL-07-337	INST	CX-TBD	G		-	2,500			-		2,500							
INST	Replace TA-03-2261 115/13.2kV Substation	LANL-07-203	INST	CX-TBD	E		-	10,000					5,000	5,000						
TBD	W. Jemez From Casa Grande to West Road	LANL-08-155	INST	CX-TBD	G		0	2,000				-		2,000						
TBD	Upgrade Eniwetok To Sigma Mesa	LANL-08-168	INST	CX-TBD	G		0	2,000						2,000						
TBD	Construct West Jemez Overpass At TA-3	LANL-08-182	INST	CX-TBD	G		0	2,000						2,000		-				
INST	Replace TA-53 (2) 115kV Transformers	LANL-08-197	INST	CX-TBD	E		-	4,300				-	-	300	2,000	2,000				
INST	TA-70 115/13.8kV Substation	LANL-08-211	INST	CX-TBD	G		-	5,000						5,000						
INST	Replace TA-53-0937 115/13.2kV Substation	LANL-08-320	INST	CX-TBD	E		-	7,000						3,500	3,500					
INST	Reconductor Norton Line	LANL-09-200	INST	CX-TBD	E		-	600		-	-	-	-		600		-			
INST	Replace TA-03-0058 Cooling Tower	LANL-09-206	INST	CX-TBD	G		-	4,500							4,500					
INST	Refurbish Power Plant Turbine #2	LANL-10-385	INST	CX-TBD	E		-	5,000		-	-					2,500	2,500			
INST	Replace TA-06-0129 115/13.2kV Substation	LANL-10-322	INST	CX-TBD	E		-	5,000								2,500	2,500			
INST	Replace TA-53-0070 13.2kV Switchgear	LANL-12-324	INST	CX-TBD	E		-	5,000									2,500	2,500		
INST	TA-3 Power Plant Backpressure Turbine	LANL-13-213	INST	CX-TBD	G		-	2,000							-				2,000	
TBD	CCF/LDCC Cooling and Power Improvements	TBD	INST	CX-TBD	G			1,800												
TBD	TA-3-261 Retrofit HVAC VAV Boxes	TBD	INST	CX-TBD	G			2,300												
TBD	Co-Location of IM Technical Groups	TBD	INST	CX-TBD	G			2,500												
TBD	Procure & Install Electronic Mobile Compact Shelving	TBD	INST	CX-TBD	G			5,000												
TBD	Upgrade Facility Inside Communication Infrastructure	TBD	INST	CX-TBD	G			2,000												
	Total LANL Facility & Utility Maintenance GPPs					**0**	**0**	**174,215**	**0**	**815**	**27,750**	**33,550**	**33,000**	**25,450**	**15,900**	**9,800**	**8,800**	**3,500**	**2,000**	**0**
	LANL GPPs - Construction Projects (24)																			
F	Construct Conflict Simulation Lab	LANL-03-124	INST	CX-TBD	G			2,100												
F	Conversion of PF-4 Packing/Unpacking Room	LANL-04-172	C	CX-TBD	G			2,200												
F	Construct TA-64 PTLA Building	LANL-04-168	INST	CX-TBD	G			1,500												
F	TA-8 Connector Road	LANL-03-131	INST	CX-TBD	GPP			**4,300**	4,065	4,065	235									
F	West Jemez Upgrade	LANL-04-133	INST	CX	G			2,800		2,740										
F	TA-33 Bunker Refurbishment	LANL-04-167	INST	CX-TBD	GPP			2,400												
F	Kirby Building TA-03-23	LANL-04-205	INST	CX-TBD	G			1,200	600	594										
TBD	Construct BSL-2 Lab/Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Distributed Boiler Plant	TBD	INST	CX-TBD	G			5,000												
TBD	Construct C Division Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct CCS Open Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct DARHT Change Facility	TBD	INST	CX-TBD	G			5,000												
TBD	Construct DARHT Office Facility	TBD	INST	CX-TBD	G			5,000												
TBD	Construct WE Campus Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct HSR Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Space Science Building (NISC A)	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Plant Physiology & Chemistry - Secure Facility	TBD	INST	CX-TBD	G			5,000												
TBD	Construct HSR Office Building (TA-59)	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Space Science Building (NISC A)	TBD	INST	CX-TBD	G			5,000												
TBD	Construct LANSCE Office/Lab (Next to TA-53-4)	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Risk Reduction Building (TA-21)	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Open (Unclassified) Building (TA-22)	TBD	INST	CX-TBD	G			5,000												
TBD	FWO Office Building (TA-63)	TBD	INST	CX-TBD	G			5,000												
TBD	Refurbishment of 5K Ton Press Building	TBD	INST	CX-TBD	G			5,000												
TBD	Upgrade/Finish Space in Material Science Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Badge Office	TBD	INST	CX-TBD	G			5,000												
TBD	Construct SUP Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct RRES Division Stewardship Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Theoretical Division Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Computer Science Laboratory	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Performance Surety Office Building	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Replacement of Fire Station #1	TBD	INST	CX-TBD	G			5,000												
TBD	Construct Homeland Security Support Facility	TBD	INST	CX-TBD	G			5,000												
TBD	Build TA-48/RC-45 Clean Chemistry Laboratory Addition	TBD	INST	CX-TBD	G			2,800												
TBD	Construct Fire Department Apparatus Garage	TBD	INST	CX-TBD	G			4,000												
	Total LANL GPPs - Construction Projects					**-**	**-**	**153,300**	**600**	**3,334**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

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Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL
($000s)

Priority (1)	Description (2)	Project Identification No. (3)	Program Sponsor	NEPA Status (31)	Funding Type (4)	Deferred Maintenance Reduction (26)	GSF Added (+) or Eliminated (-) X1000 (27)	Total (5)	FY 2003 Actual Cost (7)	FY 2004 (8)	FY05 (9)	FY06 (10)	FY07 (11)	FY08 (12)	FY09 (13)	FY10 (14)	FY11 (15)	FY12 (16)	FY13 (17)	FY14 (18)
	***Institutional GPPs (IGPP)* (23)**																			
F	Construct Parking Structure	LANL-03-243	INST	CX-TBD	IGPP	-	-	5,240	2,510	2,730										
F	Badge Office Communication Lines	LANL-03-144	INST	CX-TBD	IGPP	-	-	680	380	300										
F	Construct Surface Parking Lots	LANL-04-314	INST	CX-TBD	IGPP	-	-	1,210	800	370	40									
1	Construct Clinic Parking Lot	LANL-05-420	INST	CX-TBD	IGPP	-	-	420			420									
2	Relocate Radio Shop	LANL-05-421	INST	CX-TBD	IGPP	-	-	2,100			2,100									
3	Relocate Roads & Grounds	LANL-05-422	INST	CX-TBD	IGPP	-	-	2,100			2,100									
4	Construct Office Building Replacement #1 **(36)**	LANL-05-424	INST	CX-TBD	IGPP	TBD	-	5,000			2,500	2,500								
5	Construct Office Building Replacement #2	LANL-05-425	INST	CX-TBD	IGPP	TBD	-	5,000			2,500	2,500								
6	Construct Office Building Replacement #3	LANL-06-426	INST	CX-TBD	IGPP	TBD	-	5,000				2,500	2,500							
7	Construct Office Building Replacement #4	LANL-06-427	INST	CX-TBD	IGPP	TBD	-	5,000				2,500	2,500							
8	Construct Office Building Replacement #5	LANL-06-428	INST	CX-TBD	IGPP	TBD	-	5,000				2,300	2,700							
9	Construct Office Building Replacement #6	LANL-06-429	INST	CX-TBD	IGPP	TBD	-	5,000				2,300	2,700							
10	Construct Office Building Replacement #7	LANL-07-430	INST	CX-TBD	IGPP	TBD	-	5,000					2,150	2,850						
11	Construct Office Building Replacement #8	LANL-07-431	INST	CX-TBD	IGPP	TBD	-	5,000					2,150	2,850						
12	IGPP Project TBD	LANL-08-432	INST	CX-TBD	IGPP	TBD	-							4,000						
	IGPP Planning										340	400	300	300						
	TOTAL IGPPs					**-**	**-**	**51,750**	**3,690**	**3,400**	**10,000**	**15,000**	**15,000**	**10,000**	**-**	**-**	**-**	**-**	**-**	**-**
	Decommissioning and Demolition Charges												*Demolition Notes*							
	SM-43 D&D	LANL-06-DD-13	NA	CX-TBD	D		(315.0)	0	292	85	1,558	11,271	5,266	D&D of the existing 315,00 S.F.> SM-43 structure is being funded as an OPC cost of the National Security Sciences Building Line Item Project.							
	Potential D&D Transfer of Responsibility To EM																			
	TSTA	LANL-TBD-DD-16	EM	CX-TBD	D		(16.4)	0					Transfer of the 16,350 SF TSTA Facility from the Office of Science to EM is currently being negotiated. The negotiated costs and schedules for D&D is unknown at this time.							
	DP-West	LANL-TBD-DD-17	EM	CX-TBD	D		(87.6)	0					Transfer of DP-West at TA-21 from DP to EM is currently being negotiated. Negotiated costs and schedules for D&D is unknown at this time. Total SF is 87,600.							
	TSFF	LANL-TBD-DD-18	EM	CX-TBD	D		(48.5)	0					Transfer of the 48,452 SF TSFF facility at TA-21 from DP to EM is anticipated to be proposed for FY04. Negotiated costs and schedules for D&D is unknown at this time.							
	TOTAL DECOMMISSIONING & DEMOLITION CHARGE					**-**	**(467.5)**	**0**	**292**	**85**	**1,558**	**11,271**	**5,266**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
	TOTAL OF NON RTBF/ FIRP FACILITY COSTS FOR LANL					**-**	**(431.5)**	**433,765**	**29,082**	**13,634**	**39,308**	**59,821**	**53,266**	**35,450**	**15,900**	**9,800**	**8,800**	**3,500**	**2,000**	**-**

NNSA Facilities and Infrastructure Cost Projection Spreadsheets
Notes

Column (1) Priority. Each of the funding types (Line Item, RTBF/Operations of Facilities, and FIRP) is prioritized in sequential order (from 1 to xyz) for site facilities and infrastructure projects/activities. For funded projects – an "F" is shown in the priority column.
Column (2) Official Project Name.
Column (3) Project Number/Project Identification Number.
Column (4) Funding Type. The type of funding associated with each activity/project, as applicable using the following abbreviations:
LI = Existing Capital Funded Line Item Project
OPC = Other Project Costs
PE&D = Project Engineering & Design
E = Expense
GPP = General Plant Project
GPE = General Purpose Equipment
IGPP = Institutional General Plant Projects
M = Direct Maintenance

Column (5) Total. On the Line Item Spreadsheets, the total (cumulative) cost associated with each existing and proposed line item project for each funding type listed. Under "Total", is the Total Project Cost (TPC) associated with each "Proposed Line Item" and "Existing Line Item" project. TPC is the sum of the LI and PE&D plus the OPC.
Column (6) Prior Years Funding. On the Line Item Spreadsheet, the actual prior years funding associated with the project (sum of the prior years funded through FY 2002 actual) for each funding type listed.
Columns (7) FY 2003 Actual and Appropriation. The FY 2003 cost and appropriation associated with the project. FY 2003 Appropriation column added so that totals will be consistent with ICPP.
Column (8) FY 2004. Data for FY 2004 is consistent with the Guidance Site Funding Profile for LANL.
Column (9) FY 2005. Data for FY 2005 is consistent with the Guidance Site Funding Profile for LANL.
Columns (10) – (13) FY 2006 – FY 2009 FYNSP. The site's Future Years Nuclear Security Program (FYNSP) constrained case for Fiscal Years 2006 – 2010.
Columns (14) – (18) FY 2010 – FY 2014. Provides a requirements based case that is constrained by a 2% annual inflation- based assumption or, in the case of Line Items, the Integrated Construction Program Plan's out-year projections.

Footnotes
(20) Levels of NEPA Status are EIS-ROD - an EIS was drafted and Record of Decision issued; EIS Draft - an EIS was drafted and issued for public comment; EIS PREP - an EIS has been determined to be needed and is currently being prepared; EIS-TBD - a determination for need of EIS is not yet complete but an EIS is anticipated; SWEIS - the project is in the Site Wide Environmental Impact Statementl; EA-FONSI - an environmental assessment was completed with a Finding Of No Significant Impact; EA-PREP - an environmental assessment is in progress; EA-TBD - an environmental assessment has not been conducted but is anticipated; CX - the proposed activity has been determined to be categorically excluded from requiring further NEPA analysis; CX-TBD - the planned activity is anticipated to be within categorical exclusion.
(21) Project titles with an asterisk (*) denote a Replacement in Kind project.
(22) CGRP is emergency funding as a result of the Cerro Grande Fire.
(23) Institutional GPPs are projects LANL is currently considering for proposal.
(23) Non-facility construction projects, including utility and infrastructure projects.
(24) GPP construction projects that meet mission needs but currently do not have a funding source identified. Prioritization and funding determination to be developed.
(25) Project is being revamped as Criticality Experiments Facility and funding profile expected to change significantly.
(26) Deferred Maintenance per CAIS in $1000
(27) Gross Square Feet added or eliminated.
(28) Not Used
(29) FY06-FY07 OPCs include institutional funding for SM-43 demolition.
(30) Project funding profiles within Attachment A-1 reflect the latest approved ICPP per TYCSP guidance except for the CMRR project. The funding profile provided here reflects the most recent NA-10 guidance.
(31) Increased funding (~55M TEC) is projected in July 2004 Draft ICPP.
(32) CD-0 submittal estimate range is $28M-$43M TPC. Construction start has now been deferred until FY07.
(33) The FIRP program has declined to fund this project due to the fact that it does not meet the criterion of an improvement to a site-wide utilities system. The project name remains where it is on the line item list in order to be consistent with the latest ICPP. Other sources of potential funding are being considered. The FIRP project list in this draft TYCSP has been adjusted to reflect that FIRP funding is no longer anticipated for this project.
(34) FY06 PED funding proposed from RTBF. FY07 funding and beyond proposed from Pit Program.
(35) Construction Project Information Sheet is included in submittal.
(36) Office Building Replacement projects will be targeted at eliminating temporary structures, including trailers and transportables.

ATTACHMENT B

Attachment B
Exhibit 1b
FIRP Prioritized List of Recapitalization Projects
FY05 and FY06

The Laboratory has prioritized and ranked FIRP Recapitalization and Facility Disposition projects in accordance with the project selection criteria identified in the guidance. The FIRP projects for FY05 and FY06 are consistent with the Laboratory's FYNSP FIRP funding profile. FIRP targets deferred maintenance reduction projects and, as funding allows, those infrastructure investments needed to extend facility lifetimes, reduce the risk of unplanned facility system and facility equipment failures or increase operational efficiencies and effectiveness. Since FIRP specifically targets deferred maintenance reduction, proposed projects that do not substantially reduce the Laboratory's FY03 Deferred Maintenance Baseline (as reported in the FY04 TYCSP) may not be accepted for funding.

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Attachment B
Exhibit 1b
Facilities and Infrastructure Recapitalization Program (FIRP) Prioritized List of Recapitalization Projects

Project Identification Number	Project	Prioritization Score	Priority	Amount of Deferred Maintenance Project Reduces ($K)	Amount of Deferred Maintenance Reduction Associated w/ Mission Essential Facilities & Infrastructure ($K)	TEC[2] ($K)
FY05 Prioritized Projects						
LANL-R-04-13	Deferred Maintenance TA-16-410/411[1]	65	1	$3,550	$3,550	$3,500
LANL-R-04-02	WETF Systems Refurbishment[1]	60	2	$6,036	$6,036	$1,709
LANL-R-05-01	TA-16-193 Reconfiguration	60	3	$7,536	$7,536	$4,165
LANL-R-05-02	Deferred Maintenance Small Projects 05-01	60	4	$4,000	$3,200	$5,000
LANL-R-05-03	Deferred Maintenance Intermediate Projects 05-01	60	5	$4,000	$3,200	$5,000
LANL-R-05-04	RAMP Roofing Support	60	6	$2,300	$2,300	$1,219
LANL-R-05-05	Reconfigure TA-39-98, Close 39-2,39-103, 39-07	60	7	$1,538	$1,588	$1,300
LANL-R-05-06	Lujan Center Ventilation and Cooling Upgrade	60	8	$900	$900	$805
LANL-R-05-07	IM-Division Office Building Replacement	50	9	$4,535	$0	$5,000
LANL-R-03-03	EISU TA-3-261[1]	50	10	$1,544	$0	$1,000
LANL-R-04-06	EISU TA-46-31[1]	50	11	$3,300	$0	$920
LANL-R-04-04	DX Shock & Detonation Physics Facility[1]	50	12	$196	$196	$4,380
LANL-R-03-02	BTF Cartridge Filter House Addition[1]	50	13	$0	$0	$1,850
LANL-R-03-11	HRL-1 HVAC Upgrades[1]	40	14	$175	$0	$330
LANL-R-05-08	HVAC/Electrical Upgrades, MPF-6	60	15	$2,990	$2,990	$3,571
FY06 Prioritized Projects						
LANL-R-06-02	Deferred Maintenance Small Projects 06-01	60	1	$4,000	$3,200	$5,000
LANL-R-06-03	Deferred Maintenance Small Projects 06-02	60	2	$4,000	$3,200	$5,000
LANL-R-06-04	Deferred Maintenance Intermediate Projects 06-01	60	3	$4,000	$3,200	$5,000
LANL-R-06-05	RAMP Roofing Support	60	4	$1,500	$1,500	$800
LANL-R-06-06	Deferred Maintenance Intermediate Projects 06-02	60	5	$4,000	$3,200	$5,000
LANL-R-06-14	RLW Collection System	60	6	$11,100	$11,100	$11,000
LANL-R-06-07	Electrical Infrastructure Safety Upgrade (TA-35-2)	50	7	$2,059	$0	$3,330
LANL-R-06-08	TA-3-32 & TA-3-34 Revitalization (MST)	50	8	$2,090	$0	$2,700
LANL-R-06-09	Electrical Infrastructure Safety Upgrade (TA-46-1)	50	9	$332	$0	$2,890
LANL-R-06-10	Electrical Infrastructure Safety Upgrade (TA-53-2)	50	10	$1,382	$0	$3,050
LANL-R-06-11	TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion	50	11	$78	$78	$2,400
LANL-R-06-12	Electrical Infrastructure Safety Upgrade (TA-48-1)	50	12	$2,000	$0	$4,400
LANL-R-06-13	Replace High Voltage Electrical Panels TA-48-1	50	13	$1,800	$0	$3,680

Notes:
[1]These projects received prior year funding.
[2]TEC is the funding to be received in the given FY.

Attachment B
Exhibit 1b
Facilities and Infrastructure Recapitalization Program (FIRP) Prioritized List of Recapitalization Projects

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ATTACHMENT C

Attachment C
Summary of Current Condition and Future Condition

This table is based on FYNSP/fiscal constraints and reflects the best business judgment of the Laboratory based on life-cycle analyses. In general, the expectation is that mission essential facilities and infrastructure are moving toward the good/ excellent categories and deferred maintenance is addressed with a goal of near term stabilization.
"Future" is defined as the condition as of FY14.

Condition Categories

- **Excellent –** Deferred maintenance is < 2% of replacement plant value.
- **Good –** Deferred maintenance is 2 < 5% of replacement plant value.
- **Adequate –** Deferred maintenance is required at a cost 5 < 10% of replacement plant value.
- **Fair –** Deferred maintenance is required at a cost 10 < 25% of replacement plant value.
- **Poor –** Major deferred maintenance required at a cost 25 < 60% of replacement plant value.
- **Fail –** Replacement is required because deferred maintenance cost is ≥60% of replacement plant value.
- **None –** Additional category to capture those facilities for which there is no condition currently listed in FIMS.

Use Categories

The facility use categories of Administrative (Office), Storage, Industrial/Production/Process, Research & Development, and Service Buildings (does not include service structures) are consistent with FIMS.

"Other" includes the following: Post Office, Hospital, Prison, School, Other Institutional Uses, Housing, Trust Buildings, Transportation Systems, Catchall for General Services Administration (GSA) and Other Known Assets, Service Structures, Communication Type Systems, or Distribution Systems.

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Use Category	Summary of Current (FY04) Facility Condition Percentage in Excellent, Good, Adequate, Fair, Poor, or Fail Condition Total Square Footage = 8,914,275											
	Excellent		Good		Adequate		Fair		Poor		Fail	
	FY04 TYCSP[2]	FY05 TYCSP[3]	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP
Administrative	4.2%	5.2%	1.8%	1.0%	3.3%	1.4%	10.3%	4.6%	8.6%	2.9%	3.5%	7.8%
Industrial / Production / Process	9.2%	3.4%	3.8%	0.5%	3.2%	2.9%	1.5%	0.9%	2.8%	2.2%	3.7%	1.5%
Research & Development	0.5%	1.5%	0.8%	0.5%	0.7%	3.0%	1.5%	0.6%	1.4%	1.3%	0.6%	0.9%
Service Buildings[1]	3.8%	4.9%	3.1%	11.5%	3.4%	5.3%	3.8%	7.3%	1.4%	9.3%	0.5%	1.3%
Storage	9.0%	1.9%	1.5%	0.6%	1.8%	0.7%	3.1%	2.7%	2.8%	2.5%	3.8%	1.0%
Other	0.2%	5.8%	0.0%	0.0%	0.1%	0.3%	0.2%	0.1%	0.2%	2.3%	0.0%	0.2%
TOTAL	**26.9%**	**22.8%**	**11.0%**	**14.2%**	**12.6%**	**13.6%**	**20.3%**	**16.1%**	**17.1%**	**20.5%**	**12.2%**	**12.7%**
Projected Sitewide Facility Condition Index (FCI) = 9.5%												

[1]Service Buildings DO NOT include services structures (structures that provide a service support function that is close to the point of consumption, for example, gasoline pumps)
[2]FY2004 TYCSP is for the FY2003 baseline
[3]FY2005 TYCSP is for the FY2004 baseline

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Use Category	Summary of Future (FY14) Facility Condition Percentage in Excellent, Good, Adequate, Fair, Poor, or Fail Condition Total Square Footage = 9,100,994[4]											
	Excellent		Good		Adequate		Fair		Poor		Fail	
	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP
Administrative	6.9%	22.3%	1.8%	0.6%	3.0%	0.5%	10.2%	1.3%	8.0%	0.1%	3.4%	0.3%
Industrial / Production / Process	9.1%	7.2%	2.7%	0.4%	3.5%	0.5%	1.5%	0.4%	2.6%	0.0%	3.5%	0.1%
Research & Development	1.2%	6.3%	0.8%	0.2%	0.8%	0.2%	1.3%	0.2%	0.8%	0.1%	0.5%	0.5%
Service Buildings	4.2%	28.0%	3.0%	5.1%	3.6%	6.8%	3.6%	0.6%	1.4%	0.3%	0.4%	0.0%
Storage	8.5%	7.8%	1.5%	0.4%	1.9%	0.7%	3.0%	0.0%	2.6%	0.2%	3.8%	0.1%
Other	0.5%	8.7%	0.0%	0.0%	0.1%	0.0%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%
TOTAL	**30.4%**	**80.4%**	**9.8%**	**6.7%**	**12.9%**	**8.7%**	**19.7%**	**2.5%**	**15.7%**	**0.7%**	**11.6%**	**1.0%**
Projected Sitewide Facility Condition Index (FCI) = 2.3%												

[1]Service Buildings DO NOT include services structures (structures that provide a service support function that is close to the point of consumption, for example, gasoline pumps)
[2]FY2004 TYCSP is for the FY2003 baseline
[3]FY2005 TYCSP is for the FY2004 baseline
[4]The majority of the difference between Current and Future Total Square Footage results from the construction of the new CMRR project without the removal of CMR until beyond FY14.

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ATTACHMENT D

Attachment D
Summary Facility Utilization

The table below summarizes facility utilization by total square footage. Data were obtained from the Laboratory's FIMS database and through interviews with Laboratory division management. Also included are those excess facilities that are currently tracked in FIMS. The Laboratory, in concurrence with DOE-Albuquerque, does not track a certain subset of buildings, e.g. sheds, transportainers, fabric structures, etc. in FIMS. However, these buildings go through the Laboratory's excess space process, but their gross square footage is not included here.

- **Active Facilities –** Operating (facility required for current and ongoing needs)
- **Spare Facilities –** Operational Standby (future programmatic use other than cleanup expected)
- **Excess Facilities –** Includes Shutdown Pending Deactivation and Decontamination (D&D), Shutdown Pending Transfer, D&D in progress, and Deactivation. Excludes facilities that are Operating Pending D&D.
- **Other –** Operating under an Outgrant, Transfer to Another Federal Facility, Operating Pending D&D. Excludes Sale and Demolished facilities.

Asset Utilization Index (AUI)

AUI is DOE's corporate measure of facilities and land holdings against requirements. The index reflects the outcome from real property acquisition and disposal policy, planning, and resource decisions. The index is the ratio of the area of operating facilities or land holdings justified through annual utilization surveys (numerator) to the area of all operational and excess facilities or land holdings without a funded disposition plan (denominator). The AUI is derived from data in FIMS obtained from annual utilization surveys. Ratings are assigned to AUI range measures, and the AUI improves as excess facilities are eliminated and consolidation increases space utilization.

AUI Range	AUI Rating
1.00 > 0.98	Excellent
0.98 > 0.95	Good
0.95 > 0.90	Adequate
0.90 > 0.75	Fair
0.75 >	Poor

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Use Category	Facility Utilization Percentage of Total Square Footage Total Square Footage = 8,914,275							
	Active		Standby		Excess		Other	
	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP	FY04 TYCSP	FY05 TYCSP
Administrative	25%	23%	0%	0%	0%	0%	0%	0%
Storage	9%	11%	0%	0%	0%	0%	0%	0%
Industrial / Production / Process	7%	7%	0%	0%	1%	1%	0%	0%
Research & Development	38%	38%	0%	0%	2%	2%	0%	0%
Service Buildings	10%	9%	0%	0%	0%	1%	0%	0%
Other	8%	9%	0%	0%	0%	0%	0%	0%
TOTAL	**97%**	**96%**	**0%**	**0%**	**3%**	**4%**	**0%**	**0%**
Sitewide Asset Utilization Index (AUI) = 0.919								
NNSA Asset Utilization Index (AUI) = 0.921								

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ATTACHMENT E

Attachment E-1
NNSA Excess Facilities Disposition Plan Spreadsheet

The Excess Facilities Disposition Plan spreadsheet (Attachment E-1) captures all NNSA facilities that are currently excess to the DOE, including those facilities that are either in the process of being transferred or will be transferred in the future to the Office of Environmental Management for cleanup, and those that will become excess in the FY04 – FY14 period. Facilities proposed for FIRP D&D funding in FY05 and FY06 are prioritized and ranked on this spreadsheet, and prior year (FY02 and FY03) excess facilities data are also reported. Gross square footage data was pulled from FIMS on March 11, 2004.

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Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2005 and FY2006 FIRP Only)	Priority Rank (FY 2005 and FY 2006 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2005 and FY 2006 FIRP Only) ($000s)	Deferred Maintenance Reduction (FIRP Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes
RTBF	03-0105	Sherwood Building			42,380								
RTBF	03-0452	Office Building			2,179								
RTBF	03-1597	Trailer			720								
RTBF	16-0255	Trailer			679								
RTBF	16-0296	Trailer			672								
RTBF	16-0297	Trailer			672								
RTBF	16-0298	Trailer			672								
RTBF	16-0459	Trailer			720								
RTBF	16-0924	Trailer			853								
RTBF	16-1156	Transportable			1,440								
RTBF	16-1157	Trailer			1,680								
RTBF	16-1158	Trailer			840								
CGRP	21-0030	Laboratory Building			1,102								
CGRP	21-0059	Storage Building			201								
CGRP	21-0061	Storage Building			1,729								
CGRP	21-0065	Storage Building			407								
CGRP	21-0066	Storage Building			196								
CGRP	21-0254	Storage Building			125								
CGRP	33-0001	Storage Building			450								
CGRP	33-0002	Storage Building			450								
CGRP	33-0040	Storage Building			335								
CGRP	33-0090	Guard House			148								
CGRP	46-0087	Pump House			1,247								
FIRP	03-1554	Trailer			840								
FIRP	03-1712	Trailer			672								
FIRP	03-1761	Trailer			980								
OTHER	53-0061	Utility Building			204								
OTHER	53-0063	Utility Building			374								
OTHER	53-0065	Utility Building			388								
OTHER	35-0470	Trailer			744								
OTHER	53-0422	Trailer			430								
OTHER	53-0449	Trailer			501								
OTHER	53-0470	Trailer			498								
OTHER	53-0975	Trailer			480								
OTHER	57-0004	Utility Building			521								
OTHER	57-0019	Computer Building			1,440								
OTHER	57-0073	Trailer			192								
			FY02 ARCHIVED TOTAL		**68,161**								
FIRP	03-1520	Trailer			720								
FIRP	03-1567	Trailer			672								
FIRP	03-1593	Trailer			719								
FIRP	03-1699	Trailer			980								
FIRP	03-1746	Trailer			720								
FIRP	03-1747	Trailer			980								
FIRP	03-1749	Trailer			980								
FIRP	63-0105	Trailer			665								
FIRP	63-0106	Trailer			715								
FIRP	63-0115	Trailer			1441								
FIRP	16-0195	Service Station			3384								
FIRP	16-0206	Storage Building			300								
FIRP	16-0208	Storage Building			791								
FIRP	16-0220	X-Ray Building			3445								
FIRP	16-0221	Rest House			4073								
FIRP	16-0222	Dark Room Building			8868								
FIRP	16-0223	Rest House			3751								

Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2005 and FY2006 FIRP Only)	Priority Rank (FY 2005 and FY 2006 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2005 and FY 2006 FIRP Only) ($000s)	Deferred Maintenance Reduction (FIRP Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes
FIRP	16-0224	X-Ray Building			5580								
FIRP	16-0225	Rest House			4978								
FIRP	16-0226	X-Ray Building			4372								
FIRP	16-1482	Steam Plant			900								
FIRP	16-0390	Basket Wash Facility			613								
FIRP	03-0447	NTS Tower			2843								
FIRP	03-1483	NTS Tower			4133								
CGRP	02-0001	Omega West Reactor			21337								
CGRP	02-0063	Boiler House			500								
CGRP	02-0089	Storage Building			160								
CGRP	02-0090	Storage Building			84								
CGRP	15-0050	Staff Shop			2206								
CGRP	33-0086	Laboratory Building			6784								
CGRP	33-0238	Decontamination Trailers			600								
CGRP	41-0004	Partial Laboratory			18760								
CGRP	41-0016	Guard House			87								
CGRP	41-0030	Office Building			22730								
CGRP	41-0053	Guard House			310								
CGRP	61-0024	Blower House			102								
CGRP	61-0025	Stack Monitoring Building			80								
IGPP	03-0374	Drum Storage Shed			1305								
OTHER	03-1730	Trailer			720								
OTHER	03-1734	Trailer			720								
OTHER	03-1770	Trailer			320								
OTHER	33-0281	Trailer			958								
OTHER	33-0282	Trailer			672								
OTHER	48-0031	Trailer			500								
OTHER	53-0810	Trailer			420								
OTHER	57-0061	Trailer			203								
OTHER	57-0065	Trailer			203								
			FY03 ARCHIVED TOTAL		**136,384**								
FIRP	*03-0100*	*OFFICE BLDG*			*8,712*								**Completed**
FIRP	*03-0287*	*LAB/OFFICE BLDG*			*50,562*								
FIRP	16-0339	STORAGE BLDG			375								**Underway**
FIRP	16-0340	EXPLOSIVES SYNTHESIS			27,665								
FIRP	16-0341	REST HOUSE			4,542								
FIRP	16-0342	BLENDING BLDG			7,385								
FIRP	16-0343	REST HOUSE			4,730								
FIRP	16-0344	DRUM STORAGE			760								
FIRP	16-0345	REST HOUSE			5,064								
FIRP	16-0350	PASSAGEWAY			0								
FIRP	16-0351	PASSAGEWAY			0								
FIRP	16-0352	PASSAGEWAY			0								
FIRP	16-0353	PASSAGEWAY			0								
FIRP	16-0354	PASSAGEWAY			0								
			FY03 FIRP TOTAL		**109,795**								
FIRP	36-0022	Security Division	In Progress	D07	4,410	2004	2004	$528	$449				
FIRP	36-0069	Security Division				2004	2004						
FIRP	36-0076	Security Division				2004	2004						
FIRP	36-0210	Security Division				2004	2004						
FIRP	36-0211	Security Division				2004	2004						
FIRP	03-1527	Security Division				2004	2004						
FIRP	03-1539	Security Division				2004	2004						
FIRP	03-0587	Security Division				2004	2004						
FIRP	03-1769	Security Division				2004	2004						

Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2005 and FY2006 FIRP Only)	Priority Rank (FY 2005 and FY 2006 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2005 and FY 2006 FIRP Only) ($000s)	Deferred Maintenance Reduction (FIRP Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes
FIRP	03-0409	HSR CLINIC	In Progress	D06	13,326	2004	2004	$331	$1,520				
FIRP	03-1635	HSR CLINIC				2004	2004						
FIRP	03-1636	HSR CLINIC				2004	2004						
FIRP	03-1732	MST TRAILER	In Progress	D04	11,822	2002	2003	$604	$255				
FIRP	03-1745	MST TRAILER				2006	2006						
FIRP	03-1553	MST TRAILER				2004	2004						
FIRP	03-1565	MST TRAILER				2004	2004						
FIRP	03-1575	MST TRAILER				2004	2004						
FIRP	03-1739	MST TRAILER				2004	2004						
FIRP	03-1741	MST TRAILER				2004	2004						
FIRP	03-1750	MST TRAILER				2004	2004						
FIRP	03-1544	OFFICE BLDG				2005	2005						
FIRP	03-1545	OFFICE BLDG				2005	2005						
FIRP	03-1760	MST TRAILER				2004	2004						
FIRP	06-0001	STORAGE BLDG	In Progress	D02	5,933	2002	2004	$948	N/A	$10			
FIRP	06-0002	COMPRESSOR BLDG				2002	2004		N/A	$10			
FIRP	06-0003	FABRICATION BLDG				2002	2004		N/A	$10			
FIRP	06-0005	STORAGE BLDG				2002	2004		N/A	$10			
FIRP	06-0006	STORAGE BLDG				2002	2004		N/A	$10			
FIRP	06-0007	STORAGE BLDG				2002	2004		N/A	$10			
FIRP	06-0008	LAB BLDG				2002	2004		N/A	$10			
FIRP	06-0009	FIRING CHAMBER				2002	2004		N/A	$10			
FIRP	15-0020	BRANCH SHOP & LAB BLDG	In Progress	D03	12,659	2002	2006	$771	$80				
FIRP	15-0022	STORAGE BLDG				2002	2006			$10			
FIRP	15-0023	LAB/STORAGE BLDG				2002	2006			$6			
FIRP	15-0030	GUARD STATION				2002	2006						
FIRP	15-0194	PULSE POWER LAB				2002	2006						
FIRP	15-0203	REX LABORATORY				2002	2005						
FIRP	15-0213	PLATFORM				2002	2005			$10			
FIRP	15-0245	REX CONTROL ROOM				2002	2005						
FIRP	16-0007	OFFICE	In Progress	D11	4,653	2004	2004	$440					
FIRP	16-0370	METAL FORMING BLDG		D05	19,594	2002	2004	$2,100	$7,299				
FIRP	21-0001	OFFICE/VAULT	In Progress	D01	11,202	2002	2004	$1,533	$141	$15			
FIRP	21-0021	VAULT (SNM)				2002	2004			$10			
FIRP	21-0228	REPLACEMENT WAREHOUSE				2002	2004			$8			
FIRP	21-0402	STORAGE BUILDING				2002	2004			$4			
FIRP	69-0003	Z INCINERATOR C110694	In Progress	D08	560	2002	2004	$226	$140	$8			
FIRP	03-0246	Z CABLE CONTROL BLDG C116500	In Progress	D12	6,306	2002	2003	$355	$200	N/A			Expedited Project
FIRP	03-0247	Z CABLE STRESSER BLDG C116501				2002	2003						
FIRP	03-0379	Z LEAD POUR & PAINT C116402				2005	2005	$0	$125				
FIRP	59-0002	MODULAR OFFICE BUILDING				2004	2004						
			FY04 FIRP TOTAL		**90,465**								
FIRP	03-0031	CHEMICAL WAREHOUSE	56	4	30,049	2005	2005	$2,985	$1,245				
FIRP	03-0208	ION BEAM EQUIPMENT BLDG	80	2	1,440	1999	2005	$143	$2,116	$30			
FIRP	03-0481	OFFICE BLDG			3,327	2005	2005	$331	$81				
FIRP	03-0482	OFFICE BLDG			3,325	2005	2005	$330	$186				
FIRP	03-1381	OFFICE TRAILER			592	2004	2005	$59	$30				
FIRP	03-1552	OFFICE BLDG			1,994	2005	2005	$198	$5				
FIRP	03-1586	OFFICE BLDG			1,997	2005	2005	$198	$69				
FIRP	03-1949	Ion Beam TRANSPORTAINER			0	1999	2005	$0	N/A	$2			
FIRP	03-2294	ROVER SEMI-TRAILER			0	1999	2005	$0	N/A	$2			
FIRP	03-3072	ROVER SEMI-TRAILER			0	1999	2006	$0	N/A	$2			
FIRP	21-0046	Z WAREHOUSE			1,812	2002	2005	$180	$87				
FIRP	21-0213	LAB SUPPLY WAREHOUSE			1,728	2003	2005	$172	$5				
FIRP	21-0359	OFFICE TRAILER			540	2005	2005	$54	N/A				

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FIRP	21-0361	OFFICE TRAILER			1,680	2005	2005	$167	N/A				
FIRP	21-0365	OFFICE TRAILER			1,680	2005	2005	$167	$14				
FIRP	21-0489	TRAILER			480	2005	2005	$48	$0				
FIRP	53-0549	TRAILER			709	2003	2005	$70	$0				
FIRP	16-0476	CONTROL ROOM			238	1999	2006	$24	$54	$15			
FIRP	16-0477	REST HOUSE	80	5	374	1999	2006	$37	$64	$15			
FIRP	16-0478	HIGH SPEED MACHINING			1,199	1999	2006	$119	$442	$15			
FIRP	09-0035	PROCESS LAB			1,911	2005	2005	$190	$432				Moved from FY09
FIRP	09-0043	PROCESS BUILDING			1,768	2005	2005	$176	$371				
FIRP	15-0046	EXERCISE FACILITY			179	2005	2005	$18	$72				
FIRP	15-0138	BUNKER			0	1999	2006	$0	N/A	$12			
FIRP	15-0140	STORAGE BUILDING			1,210	2005	2005	$120	$66				
FIRP	15-0141	BUNKER			0	1999	2005	$0	N/A	$12			
FIRP	28-0001	MAGAZINE			280	2002	2005	$28	$9	$5			
FIRP	28-0002	MAGAZINE			280	2000	2005	$28	$9	$5			
FIRP	28-0003	MAGAZINE			280	2000	2005	$28	$9	$5			Moved from FY06
FIRP	28-0004	MAGAZINE	80	3	280	2000	2005	$28	$9	$5			
FIRP	28-0005	MAGAZINE			280	2000	2005	$28	$9	$5			
FIRP	39-0101	TRAILER			300	2005	2005	$30	$5				Added per Division on 7/16/04
FIRP	39-0103	TRANSPORTABLE			1,680	2005	2005	$167	$91				Moved from FY06
FIRP	39-0107	TRANSPORTABLE			1,680	2005	2005	$167	$10				
FIRP	40-0002	MAGAZINE			73	2005	2005	$7	$0				
FIRP	40-0003	PREPARATION BLDG			168	2005	2005	$17	$0				Potential DU contamination issues
FIRP	40-0004	FIRING POINT			572	2005	2005	$57	$10				
FIRP	49-0023	BOTTLE HOUSE			256	2000	2005	$25	$90	$10			
FIRP	49-0121	CABLE BLDG			377	2000	2005	$37		$10			
FIRP	16-0540	STEAM PLANT			12,811	2000	2004						
FIRP	16-0457	VALVE HOUSE	48	1	42	2000	2004	$3,200	N/A				Shifted from FY04; Proposed expedited project as ready now for D&D
FIRP	16-0542	GAS REGULATOR BLDG			152	2000	2004						
			FY05 FIRP TOTAL		**77,743**								**TARGET = 101,500**
FIRP	03-0028	OFFICE BLDG			17,174	2007	2007	$1,988	$1,428				
FIRP	03-0510	PHOTO LAB BUILDING	84	1	9,006	2007	2007	$1,043	$2,458				
FIRP	03-1566	TRANSPORTABLE			1,680	2007	2007	$194	$330				
FIRP	03-1559	TRANSPORTABLE			1,688	2007	2007	$195	$281				
FIRP	08-0024	STORAGE BLDG			2,231	2006	2006	$258	$110				ESA Consolidation
FIRP	08-0025	UTILITY BLDG			99	2006	2006	$11	$5				
FIRP	08-0026	STORAGE BLDG			638	2006	2006	$74	$37				
FIRP	08-0028	GUARD STATION			87	2006	2006	$10	$3				
FIRP	08-0029	UTILITY BLDG	76	2	99	2007	2007	$11	$3				ESA Consolidation - Ready in FY06
FIRP	11-0001	STORAGE BLDG			618	2006	2006	$72	$24				ESA Consolidation - Ready in FY06
FIRP	11-0002	CONTROL BUILDING			831	2002	2006	$96	$10	$6			ESA Consolidation - Ready in FY06
FIRP	11-0024	OFFICE/SHOP BLDG			3,685	2006	2006	$427	$46				ESA Consolidation - Ready in FY06
FIRP	11-0033	EQUIPMENT SHELTER			66	2006	2006	$8					ESA Consolidation - Ready in FY06
FIRP	14-0005	STORAGE BUILDING			375	2001	2006	$43		$15			
FIRP	14-0030	EXPLOSIVE PREP BLDG			246	2006	2006	$28	$3				
FIRP	14-0034	CONTROL BUILDING			342	2006	2006	$40	$36				
FIRP	14-0038	STORAGE SHACK			48	1999	2006	$6	$1	$8			Q Site at DX
FIRP	14-0039	STORAGE SHACK			0	2006	2006	$0					
FIRP	14-0040	INSTRUMENTATION BLDG			80	2006	2006	$9	$6				
FIRP	14-0043	ASSEMBLY AND STORAGE BLDG	76	3	1,000	2006	2006	$116					
FIRP	15-0040	OFFICE AND LAB			13,487	2005	2005	$1,561	$3,140				Shifted from FY05 due to DX Division Consolidation Plan timing
FIRP	15-0305	TRANSPORTABLE			3,552	2005	2005	$411	$87				
FIRP	36-0082	TRAILER			665	2006	2006	$66	$33				Potential HE and DU contamination issues
FIRP	40-0019	OFFICE AND LAB			189	1999	2006	$22	$57	$6			
FIRP	40-0023	MACHINE SHOP			8,204	2006	2006	$950	$118				

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FIRP	40-0045	SOLVENT SHED			99	2006	2006	$11					
FIRP	16-0203	LUMBER STORAGE			1,043	2006	2006	$121	$47				ESA Consolidation
FIRP	16-0209	LABORER SHOP			187	2006	2006	$22	$12				ESA Consolidation
FIRP	16-0303	REST HOUSE			5,405	2006	2006	$626	$191				ESA Consolidation
FIRP	16-0897	TRANSPORTABLE			1,452	2006	2006	$168	$62				ESA Consolidation
FIRP	16-0319	OFFICE			334	2006	2006	$39	$14				ESA Consolidation
FIRP	16-0360	SHOP/STORAGE BLDG	56	5	3,911	2006	2006	$453	$118				ESA Consolidation
FIRP	16-0453	STORAGE BLDG			288	2006	2006	$33					ESA Consolidation
FIRP	16-0435	REST HOUSE			4,439	2005	2005	$514	$287				
FIRP	16-0437	REST HOUSE			4,323	2005	2005	$500	$287				Moved from FY05 due to ESA Cosolidation timing
FIRP	16-0294	SHED			0	2003	2005	$0					
FIRP	16-1486	STEAM PLANT BOILER			900	2005	2005	$104					
FIRP	18-0002	GENERAL STORAGE			123	1999	2006	$14					
FIRP	18-0005	GENERAL STORAGE			123	1999	2006	$14					
FIRP	18-0186	OTHER SERVICE BUILDINGS	76	4	36	1999	2006	$4	$3				
FIRP	18-0187	GUARD TOWER			36	1999	2006	$4	$3				
FIRP	18-0188	GUARD TOWER			36	1999	2006	$4	$3				
FIRP	21-0003	LABORATORY BLDG.			4,733	1996	2006	$548	$32				
FIRP	21-0004	LABORATORY BLDG.			1,551	1996	2006	$180	$39				Potential contamination issues
FIRP	21-0418	ROVER SEMI-TRAILER			0	2006	2006	$0					
FIRP	21-0451	STORAGE TRAILER			0	2006	2006	$0					
FIRP	33-0024	STORAGE BLDG			1,016	2006	2006	$118	$92				
FIRP	33-0026	STORAGE BLDG	56	6	173	2000	2006	$20		$8			
FIRP	33-0088	STORAGE BLDG			247	2006	2006	$29	$3				
FIRP	33-0089	X UNIT VAULT			208	2006	2006	$24	$4				
FIRP	33-0129	TEST CELL			202	1999	2006	$23	$11	$8			
FIRP	41-0044	STORAGE BLDG			300	2006	2006	$35					ESA Consolidation
FIRP	41-0054	STORAGE BLDG			300	2006	2006	$35					ESA Consolidation
			FY06 FIRP TOTAL		**97,555**								**TARGET = 101,500**
FIRP	03-0542	GUARD STATION			50	2007	2007						
FIRP	03-1814	GUARD STATION			36	2007	2007						
FIRP	60-0228	ROVER SEMI-TRAILER			0	2007	2007						Added from Excess on 7/16/04
FIRP	15-0184	PHERMEX CHAMBER / AMP			10,144	2007	2007		$53				
FIRP	15-0185	POWER CONTROL BUILDING			12,698	2007	2007		$328				
FIRP	15-0186	DETECTION CHAMBER			2,338	2007	2007		$6				
FIRP	15-0189	POWER SUPPLY BLDG			452	2007	2007						
FIRP	15-0198	TUNNEL			905	2007	2007						Potential contamination issues
FIRP	15-0199	TUNNEL			2,027	2007	2007						
FIRP	15-0200	TUNNEL			702	2007	2007		$54				
FIRP	15-0201	TUNNEL			870	2007	2007		$67				
FIRP	15-0310	MULTI DIAG OPERATIONS BLDG			3,194	2007	2007		$55				
FIRP	15-0476	TRAILER			672	2005	2007		$3				Hold in FY07
FIRP	16-0304	PLASTICS BLDG			19,513	2007	2007		$1,234				ESA Consolidation - Ready in FY06
FIRP	16-0305	PLASTICS BLDG			5,402	2007	2007		$349				ESA Consolidation - Ready in FY06
FIRP	16-0306	PLASTICS BLDG			19,636	2007	2007		$1,234				ESA Consolidation - Ready in FY06
FIRP	16-0307	PLASTICS BLDG			7,716	2007	2007		$490				ESA Consolidation - Ready in FY06
			FY07 FIRP TOTAL		**86,355**								**TARGET = 113,200**
FIRP	03-0016	ION BEAM FACILITY			56,259	1999	TBD		$1,043		EM	Yes	Originally candidate for EM, possible contamination issues
FIRP	16-0242	TRANSPORTABLE			1,456	2008	2008		$51				
FIRP	16-0243	TRANSPORTABLE			3,241	2008	2008		$136				
FIRP	16-0244	TRANSPORTABLE			3,389	2008	2008		$160				Moved to FY08 from FY06 due to ESA Consolidation timing and GPP construction progress
FIRP	16-0245	TRANSPORTABLE			1,691	2008	2008		$87				
FIRP	16-0246	TRANSPORTABLE			1,688	2008	2008		$76				
FIRP	39-0002	LABORATORY & OFFICE BLDG			13,238	2008	2008		$535				
FIRP	39-0007	FIRING CHAMBER #2			490	2008	2008		$3	$2			

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FIRP	39-0008	FIRING CHAMBER #3			582	2008	2008		$4	$2			Shifted from FY06 due to timing of DX Division Consolidation Plans and new GPP construction prgoress. Potential contamination issues.
FIRP	39-0006	FIRING CHAMBER #1			561	2008	2008		$4				
FIRP	39-0067	CAPACITOR BANK ENCLOSURE			280	2008	2008		$6				
FIRP	39-0138	NEUTRON FLUX STORAGE			96	2008	2008						
			FY08 FIRP TOTAL		**82,971**								**TARGET = 118,000**
FIRP	08-0020	STORAGE BLDG			187	2006	2006						Moved from FY06 - State Historical Issue
FIRP	08-0030	LAB			602	2007	2007						Moved from FY06 - ESA Consolidation Issue
FIRP	16-0414	STORAGE BUILDING			8,488	2009	2009						
FIRP	16-0415	REST HOUSE			4,559	2009	2009						Moved from FY05 due to ESA Consolidation Plan timing
			FY09 FIRP TOTAL		**13,836**								**TARGET = 128,600**
FIRP	09-0020	OFFICE			189	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0021	LAB / OFFICE			25,423	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0022	MAGAZETTE			9	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0023	MAGAZETTE			9	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0024	MAGAZETTE			9	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0025	MAGAZETTE			10	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0026	MAGAZETTE			9	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0027	MAGAZETTE			9	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0029	ACID STORAGE			4,675	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0030	STORAGE			242	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0031	SOLVENT STORAGE			330	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0032	PRESSING LAB			2,629	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0033	CHEM LAB			949	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0034	CHEM LAB			1,771	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0037	PROCESS BUILDING			1,591	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0050	HE RECEIVING			576	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0204	STORAGE			39	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0208	MAGAZETTE			50	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0272	OFFICE			1,698	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	09-0273	CLASSIFIED OFFICE			1,701	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	40-0012	LAB			1,342	2009	2009						HEC Line Item Delayed - Moved from FY09
FIRP	40-0090	HERCULES OFFICE			1,587	2009	2009						HEC Line Item Delayed - Moved from FY09
			FY10 FIRP TOTAL		**44,847**								**Assumes Escalated Rate of $147.00 per SF**
FIRP	03-0039	ESA SHOPS			152,567	2011	2011						Moved from FY09. Line Item Project - ESA Shops - POTENTIAL FOR REMOVAL FROM LIST - TWO PROPOSALS ON TABLE, ONE IS TO DEMOLISH, OTHER IS TO RENOVATE
FIRP	55-0048	GUARD TOWER STA #407			36	1999	2011		N/A	$2			
FIRP	55-0125	GUARD TOWER STA #406			36	1999	2011		N/A	$2			
FIRP	55-0162	GUARD TOWER STA #420			49	1999	2011		N/A	$2			
			FY11 FIRP TOTAL		**152,688**								**TARGET = 120,000**
RTBF	21-1001	RECORDS CENTER			15,423	N/A	N/A						Structures listed will be part of an RTBF supported LAND TRANSFER to Los Alamos County as part of the Department's Land Transfer Agreement. Structures will be vacated as a result of NSSB Construction and records movement to that new facility.
RTBF	21-1002	WAREHOUSE			15,881	N/A	N/A						
RTBF	21-1003	BACKFLOW PREVENTER			113	N/A	N/A						
RTBF	21-1004	MORGAN SHED			0	N/A	N/A						
RTBF	21-1005	MORGAN SHED			0	N/A	N/A						
RTBF	21-1006	MORGAN SHED			0	N/A	N/A						
RTBF	21-1007	MORGAN SHED			0	N/A	N/A						
RTBF	21-1008	MORGAN SHED			0	N/A	N/A						
RTBF	21-1009	MORGAN SHED			0	N/A	N/A						
RTBF	21-1010	TRANSPORTAINER			0	N/A	N/A						
			FY06 RTBF TOTAL		**31,417**								
OTHER	03-0490	BADGE OFFICE			4,524	2004	2004			N/A			NSSB Line Item Project Funded
			FY04 OTHER TOTAL		**4,524**								

Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2005 and FY2006 FIRP Only)	Priority Rank (FY 2005 and FY 2006 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2005 and FY 2006 FIRP Only) ($000s)	Deferred Maintenance Reduction (FIRP Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes
OTHER	03-1526	OFFICE TRAILER			878	2004	2005						Site is Proposed for DOE-LASO Building
OTHER	03-0043	ADMINISTRATION BUILDING			315,737	2006	2006						
			FY06 OTHER TOTAL		**316,615**								
OTHER	03-0029	CMR LABORATORY			566,849	2014	2014						CMR COMPLEX
OTHER	03-0503	GUARD STATION			349	2014	2014						
OTHER	03-0564	EQUIPMENT SHELTER			80	2014	2014						
OTHER	03-0586	MECHANICAL BLDG			336	2014	2014						
OTHER	03-1196	SWITCHGEAR (CMR)			0	2014	2014						
OTHER	03-0154	HOT WASTE PUMP HOUSE			400	2014	2014						
OTHER	03-1610	GUARD STATION			288	2014	2014						
OTHER	03-1614	GUARD STATION			64	2014	2014						
OTHER	03-1615	GUARD STATION			64	2014	2014						
OTHER	03-2206	STORAGE BUILDING			3,028	2014	2014						
			FY14 OTHER TOTAL		**571,458**								
			SUBTOTAL ALL FUNDING SOURCES		**1,884,814**								
EM XFER?	15-0008	STORAGE BLDG			324	1999	TBD			$12	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	15-0009	FIRING BUNKER			297	1999	TBD			$12	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	15-0027	CONTROL BLDG			560	1999	TBD			$12	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	15-0044	CONTROL BUILDING			508	2001	TBD			$12	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	16-0088	CASTING REST HOUSE			2,043		TBD				Yes	Yes	Originally FIRP FY04, but beryllium contaminated
FIRP?	18-0001	STAGING AREA			1,051	2008	TBD				TBD	TBD	These structures will become available for demolition as relocation of TA-18 missions progresses. A phased approach will likely be utilized to begin demolition activities once structures are vacated. Of this structure set, some buildings may potentially be historical and will require review with the State.
FIRP?	18-0116	CRITICAL ASSEMBLY BLDG			5,790	2008	TBD				TBD	TBD	
FIRP?	18-0119	STORAGE BLDG			1,242	2008	TBD				TBD	TBD	
FIRP?	18-0122	STORAGE BLDG			1,372	2008	TBD				TBD	TBD	
FIRP?	18-0127	PULSED ACCELERATOR BLDG			9,537	2008	TBD				TBD	TBD	
FIRP?	18-0128	ASSEMBLY COVER BLDG			120	2008	TBD				TBD	TBD	
FIRP?	18-0129	REACTOR SUB-ASSY BLDG			6,570	2008	TBD				TBD	TBD	
FIRP?	18-0138	WAREHOUSE			1,344	2008	TBD				TBD	TBD	
FIRP?	18-0141	ULTRA-SONIC CLEANING BLDG			963	2008	TBD				TBD	TBD	
FIRP?	18-0147	OFFICE BLDG			1,298	2008	TBD				TBD	TBD	
FIRP?	18-0168	SHEBA CRITICAL BLDG			400	2008	TBD				TBD	TBD	
FIRP?	18-0184	TRAILER			248	2008	TBD				TBD	TBD	
FIRP?	18-0189	SECUR ENHANC ASSESSM			912	2008	TBD				TBD	TBD	
FIRP?	18-0190	GUARD STATION			523	2008	TBD				TBD	TBD	
FIRP?	18-0227	ACCELERATOR DEV LAB			2,838	2008	TBD				TBD	TBD	
FIRP?	18-0023	CRITICAL ASSEMBLY BLDG			2,681	2008	TBD				TBD	TBD	
FIRP?	18-0256	BUTLER BLDG			920	2008	TBD				TBD	TBD	
FIRP?	18-0257	TRAILER			1,440	2008	TBD				TBD	TBD	
FIRP?	18-0258	TRAILER			1,440	2008	TBD				TBD	TBD	
FIRP?	18-0026	VAULT			287	2008	TBD				TBD	TBD	
FIRP?	18-0270	GUARD STATION			42	2008	TBD				TBD	TBD	
FIRP?	18-0028	WAREHOUSE			4,782	2008	TBD				TBD	TBD	
FIRP?	18-0288	TRAILER			840	2008	TBD				TBD	TBD	
FIRP?	18-0029	POND CABIN			384	2008	TBD				TBD	TBD	
FIRP?	18-0297	STORAGE BLDG			874	2008	TBD				TBD	TBD	
FIRP?	18-0030	MAIN BLDG			23,137	2008	TBD				TBD	TBD	
FIRP?	18-0031	UTILITY BLDG			2,093	2008	TBD				TBD	TBD	
FIRP?	18-0313	TRAILER			156	2008	TBD				TBD	TBD	
FIRP?	18-0314	TRAILER			70	2008	TBD				TBD	TBD	
FIRP?	18-0315	TRAILER			70	2008	TBD				TBD	TBD	
FIRP?	18-0032	CRITICAL ASSEMBLY BLDG			3,266	2008	TBD				TBD	TBD	
FIRP?	18-0037	GUARD STATION			189	2008	TBD				TBD	TBD	
EM XFER?	21-0002N	LABORATORY BLDG			14,447	1999	TBD			$24	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0002S	LABORATORY BLDG				1999	TBD				Yes	Yes	Candidate for DP to EM transfer in 2003

Funding Source	Facility Identification Number	Facility Name	Priority Score (FY 2005 and FY2006 FIRP Only)	Priority Rank (FY 2005 and FY 2006 FIRP Only)	Gross SF	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY 2005 and FY 2006 FIRP Only) ($000s)	Deferred Maintenance Reduction (FIRP Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes
EM XFER?	21-0005N	LABORATORY BLDG.			27,039	1998	TBD			$24	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0005S	LABORATROY BLDG				1998	TBD				Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0042	Z PUMP HOUSE C108692			64	2003	TBD			$4	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	21-0080	PRV STATION (WATER)			35	TBD	TBD			$4	Yes	Yes	Potential Contamination Issues
EM XFER?	21-0089	PRV STATION (WATER)			0	TBD	TBD			$4	Yes	Yes	Potential Contamination Issues
EM XFER?	21-0110	ACID TANK			0	TBD	TBD				Yes	Yes	Potential Contamination Issues
EM XFER?	21-0111	ACID TANK			0	TBD	TBD				Yes	Yes	Potential Contamination Issues
EM XFER?	21-0112	ACID TANK			0	TBD	TBD				Yes	Yes	Potential Contamination Issues
EM XFER?	21-0113	ACID TANK			0	TBD	TBD				Yes	Yes	Potential Contamination Issues
EM XFER?	21-0116	WAREHOUSE			2,067	1999	TBD			$10	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0149	CORRIDOR STRUCTURE			3,762	1999	TBD			$10	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0150	MOLECULAR CHEMISTRY			14,842	1999	TBD			$12	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0155	TRITIUM SYSTEMS TEST ASSEMBLY			16,349	TBD	TBD				Yes	Yes	EM Owned - No current disposition funding
EM XFER?	21-0212	CALCIUM BLDG			455	TBD	TBD				Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0286	WAREHOUSE			3,578	1999	TBD			$8	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0312	CORRIDOR STRUCTURE			2,072	1999	TBD			$8	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0313	CORRIDOR STRUCTURE			4,264	1999	TBD			$8	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0314	CORRIDOR STRUCTURE			4,843	1999	TBD			$8	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0315	CORRIDOR STRUCTURE			4,773	1999	TBD			$8	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0334	SHED			0	1995	TBD			$4	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0335	CONTAINER VESSEL			0	TBD	TBD				Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	21-0355	STORAGE TRAILER			500	TBD	TBD			$15	Yes	Yes	Candidate for DP to EM transfer
EM XFER?	21-0458	SHED			0	1999	TBD			$4	Yes	Yes	Candidate for DP to EM transfer in 2003
EM XFER?	40-0043	STORAGE BUILDING			216	1999	TBD			$10	Yes	Yes	Candidate for DP to EM transfer
			FUNDING TO BE DETERMINED		**179,917**								
N/A	08-0001	LABORATORY & SHOP BLDG			3,330					$6			Historical - Not to be demolished
N/A	08-0002	SHOP & STORAGE BLDG			408					$6			Historical - Not to be demolished
N/A	08-0003	LABORATORY BLDG			602					$6			Historical - Not to be demolished
N/A	16-0058	MAGAZINE			299	2000				$8			Historical - Not to be demolished
N/A	16-1451	GUARD STATION			187	1999				$3			Historical - Not to be demolished
N/A	16-0516	PROCESS BLDG			660	2001				$8	EM	Yes	Candidate for DP to EM transfer
N/A	16-0517	EQUIP BLDG			318	1999				$8	EM	Yes	Candidate for DP to EM transfer
N/A	22-0001	LOADING BLDG			7,895				$1,372	$20		No	Historical - Disposition on hold
N/A	22-0025	PROCESS BLDG			227				$36	$8		No	Historical - Disposition on hold
N/A	41-0002	GUARD HOUSE			781				$23				Historical - Disposition on hold
N/A	41-0003	BLOWER HOUSE			24				$0				Historical - Disposition on hold
N/A	41-0006	COVERED PASSAGEWAY			938								Historical - Disposition on hold
N/A	60-0019	TEST FABRICATION FACILITY			17,318	1999			$564	$20			
			HISTORICAL STRUCTURES TOTAL		**32,987**								
				GRAND TOTAL	**2,097,718**								

Attachment E-2
NNSA New Construction Spreadsheet (Space Added)

The New Construction spreadsheet (Attachment E-2) captures the gross square footage of NNSA proposed construction, along with the year of beneficial occupancy, for Line Item, GPP, IGPP and other projects from FY03 – FY14. New facilities are counted only when they are completed and occupied (year of beneficial occupancy). Construction projects started prior to FY03 will not be counted against the new Congressional requirement. The new construction includes square footage for only buildings and not OSFs that do not count against one-for-one new construction/banked offset.

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Attachment E-2

NNSA New Contruction (Space Added)

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	New Facilities (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-03-068	Pajarito Road Access Control Stations	GPP	600	FY04	
Other	LANL-03-114	Stockpile Support Building	GPP	18,000	FY04	
FIRP	LANL-R 03-06	TA-16-260 Reconfiguration	GPP	4,000	FY04	
FIRP	LANL-R-03-07	Hydrotest Design Facility	GPP	17,400	FY04	
FIRP	LANL-R-03-09	FWO Office Building	GPP	18,000	FY04	
FY04 New Construction Total GSF				**58,000**		
FIRP	LANL-R-04-04	DX Shock & Detonation Bldg	GPP	18,000	FY05	
FIRP	LANL-R-03-02	Beryllium Tech Facility - Cartridge Filter House Install	GPP	3,100	FY05	
FY05 New Construction Total GSF				**21,100**		
OS	LANL-02-010	Center for Integrated Nanotechnology (CINT)	LI	34,000	FY06	
RTBF	03-D-102	National Security Sciences Building	LI	275,000	FY06	
		LASO (Part of NSSB)	LI	22,000	FY06	
IGPP	LANL-05-321	Relocate Radio Shop	GPP	6,000	FY06	
FIRP	LANL-R-05-07	IM Division Office Replacement	GPP	18,000	FY06	
IGPP	LANL-05-424	Construct Office Building Replacement #1	IGPP	18,000	FY06	
IGPP	LANL-05-425	Construct Office Building Replacement #2	IGPP	18,000	FY06	
FY06 New Construction Total GSF				**391,000**		
IGPP	LANL-06-327	CFO Division & Accounting Building	GPP	18,000	FY07	
IGPP	LANL-06-328	Computer Science Laboratory	GPP	18,000	FY07	
FIRP	LANL-R-06-13	Replace High Voltage Electrical Panels TA-48-1	GPP	100	N/A	
IGPP	LANL-06-426	Construct Office Building Replacement #3	IGPP	18,000	FY07	
IGPP	LANL-06-427	Construct Office Building Replacement #4	IGPP	18,000	FY07	
FY07 New Construction Total GSF				**72,100**		
RTBF	LANL-07-145	Calibration Laboratory	GPP	12,000	FY08	
RTBF	LANL-07-184	Data Systems Building	GPP	16,000	FY08	
IGPP	LANL-06-428	Construct Office Building Replacement #5	IGPP	18,000	FY08	
IGPP	LANL-06-429	Construct Office Building Replacement #6	IGPP	18,000	FY08	
FY08 New Construction Total GSF				**64,000**		

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Attachment E-2

NNSA New Contruction (Space Added)

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	New Facilities (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-07-019	Support Services Consolidation	LI	40,000	FY09	
RTBF	LANL-08-128	Vessel Facility 1 of 4	GPP	6,700	FY09	
RTBF	LANL-08-153	Medium/Heavy Lab at TA-22	GPP	6,000	FY09	
RTBF	LANL-08-216	LANSCE Lab/Office Building	GPP	18,000	FY09	
RTBF	05-D-140	High Explosives Characterization	LI	45,000	FY09	
IGPP	LANL-07-430	Construct Office Building Replacement #7	IGPP	18,000	FY09	
IGPP	LANL-07-431	Construct Office Building Replacement #8	IGPP	18,000	FY09	
FY09 New Construction Total GSF				**151,700**		
RTBF	LANL-09-152	Vessel Facility 2 of 4	GPP	4,200	FY10	
RTBF	LANL-09-009	TA-37 Classified HE Storage	GPP	2,000	FY10	
RTBF	LANL-06-005	Weapons Manufacturing Support Facility	LI	50,000	FY10	
FY10 New Construction Total GSF				**56,200**		
RTBF	LANL-09-143	Vessel Facility 3 of 4	GPP	4,200	FY11	
Other	LANL-07-094	Center for Stockpile Stewardship Research	LI	400,000	FY11	
FY11 New Construction Total GSF				**404,200**		
RTBF	04-D-125	CMR Replacement Project	LI	400,000	FY12	
RTBF	LANL-11-181	Joint DX/ESA Conference Facility	GPP	5,000	FY12	
RTBF	LANL-11-160	Vessel Facility 4 of 4	GPP	4,200	FY12	
RTBF	LANL-11-166	Replace Machine Shop At TA-22	GPP	10,000	FY12	
FY12 New Construction Total GSF				**419,200**		
FY13 New Construction Total GSF				**0**		
FY14 New Construction Total GSF				**0**		

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Attachment E-3
GSF Space Tracking Summary

The Space Tracking Summary projects the effects on the Laboratory's total GSF of the E-1 and E-2 data and provides a visual comparison of the projected footprint reduction efforts. Attachment E-3 includes two Space Tracking Summary charts of the Laboratory's GSF, one for NNSA facilities and another for multi-program facilities (NNSA, NE, SC, etc.). Each sheet has yearly GSF projections for Space Eliminated and New Construction. For comparative tracking, the chart includes a plot of space eliminated and new construction data and yearly and cumulative impacts on the footprint reduction goal.

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Attachment E-3

INPUT SHEET FOR CHART

Los Alamos National Laboratory Site Space Tracking Summary - NNSA

	New Construction (GSF)	Space Eliminated (GSF)	Space Impact by Fiscal Year (GSF)	Cummulative Space Impact	Grandfathered Construction (GSF)	Site Total (GSF) (FY02/03 from FIMs)
FY2002	0	68,161	-68,161	-68,161	0	8,675,489
FY2003	0	136,384	-136,384	-204,545	0	8,539,105
FY2004	58,000	204,784	-146,784	-351,329	23,000	8,415,321
FY2005	21,200	77,743	-56,543	-407,872	0	8,358,778
FY2006	391,000	445,587	-54,587	-462,459	0	8,304,191
FY2007	72,100	86,355	-14,255	-476,714	0	8,289,936
FY2008	64,000	82,971	-18,971	-495,685	0	8,270,965
FY2009	151,700	13,836	137,864	-357,821	0	8,408,829
FY2010	56,200	44,847	11,353	-346,468	0	8,420,182
FY2011	404,200	152,688	251,512	-94,956	0	8,671,694
FY2012	419,200	0	419,200	324,244	0	9,090,894
FY2013	0	0	0	324,244	0	9,090,894
FY2014	0	571,458	-571,458	-247,214	0	8,519,436

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Los Alamos National Laboratory Site Space Tracking Summary - Multiprogram

	New Construction (GSF)	Space Eliminated (GSF)	Space Impact by Fiscal Year (GSF)	Cummulative Space Impact	Grandfathered Construction (GSF)	Site Total (GSF) (FY02/03 from FIMs)
FY2002	0	68,161	-68,161	-68,161	0	8,675,489
FY2003	0	136,384	-136,384	-204,545	0	8,539,105
FY2004	58,000	204,784	-146,784	-351,329	23,000	8,415,321
FY2005	21,200	77,743	-56,543	-407,872	0	8,358,778
FY2006	357,000	445,587	-88,587	-496,459	0	8,270,191
FY2007	72,100	86,355	-14,255	-510,714	0	8,255,936
FY2008	64,000	82,971	-18,971	-529,685	0	8,236,965
FY2009	151,700	13,836	137,864	-391,821	0	8,374,829
FY2010	56,200	44,847	11,353	-380,468	0	8,386,182
FY2011	404,200	152,688	251,512	-128,956	0	8,637,694
FY2012	419,200	0	419,200	290,244	0	9,056,894
FY2013	0	0	0	290,244	0	9,056,894
FY2014	0	571,458	-571,458	-281,214	0	8,485,436

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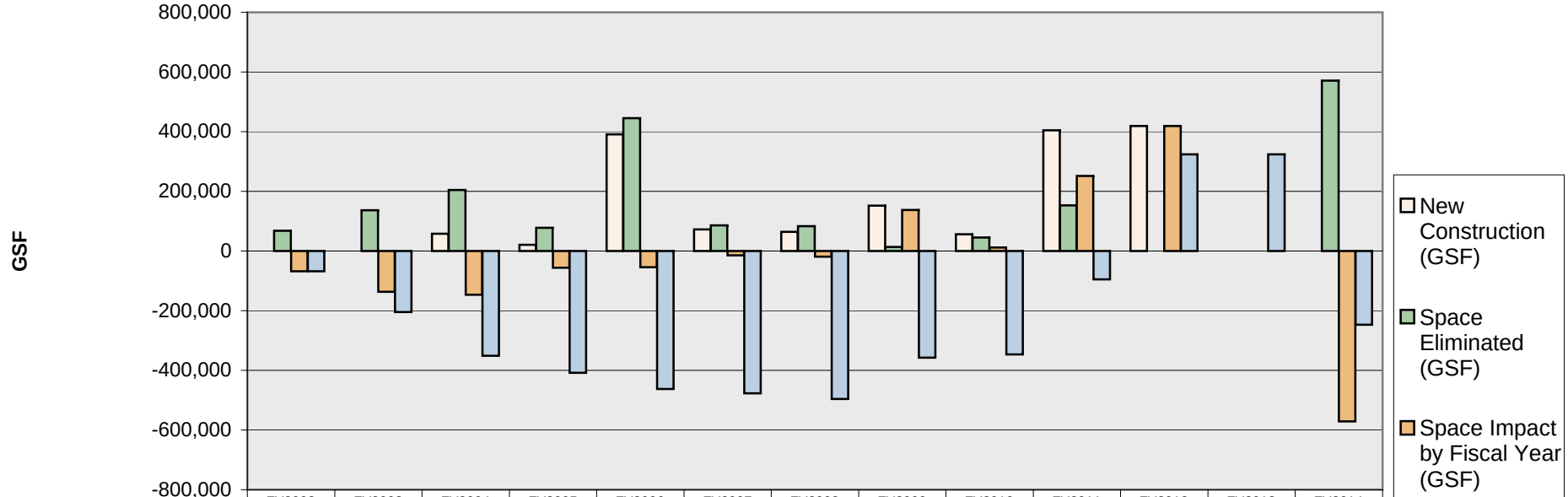
Attachment E-3
Tracking Summary - NNSA Only



	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
New Construction (GSF)	0	0	58,000	21,200	391,000	72,100	64,000	151,700	56,200	404,200	419,200	0	0
Space Eliminated (GSF)	68,161	136,384	204,784	77,743	445,587	86,355	82,971	13,836	44,847	152,688	0	0	571,458
Space Impact by Fiscal Year (GSF)	-68,161	-136,384	-146,784	-56,543	-54,587	-14,255	-18,971	137,864	11,353	251,512	419,200	0	-571,458
Cummulative Space Impact	-68,161	-204,545	-351,329	-407,872	-462,459	-476,714	-495,685	-357,821	-346,468	-94,956	324,244	324,244	-247,214

Non Graphed Data:

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
NNSA Grandfathered GSF	0	0	23,000	0	0	0	0	0	0	0	0	0	0
NNSA Site Total GSF	8,675,489	8,539,105	8,415,321	8,358,778	8,304,191	8,289,936	8,270,965	8,408,829	8,420,182	8,671,694	9,090,894	9,090,894	8,519,436

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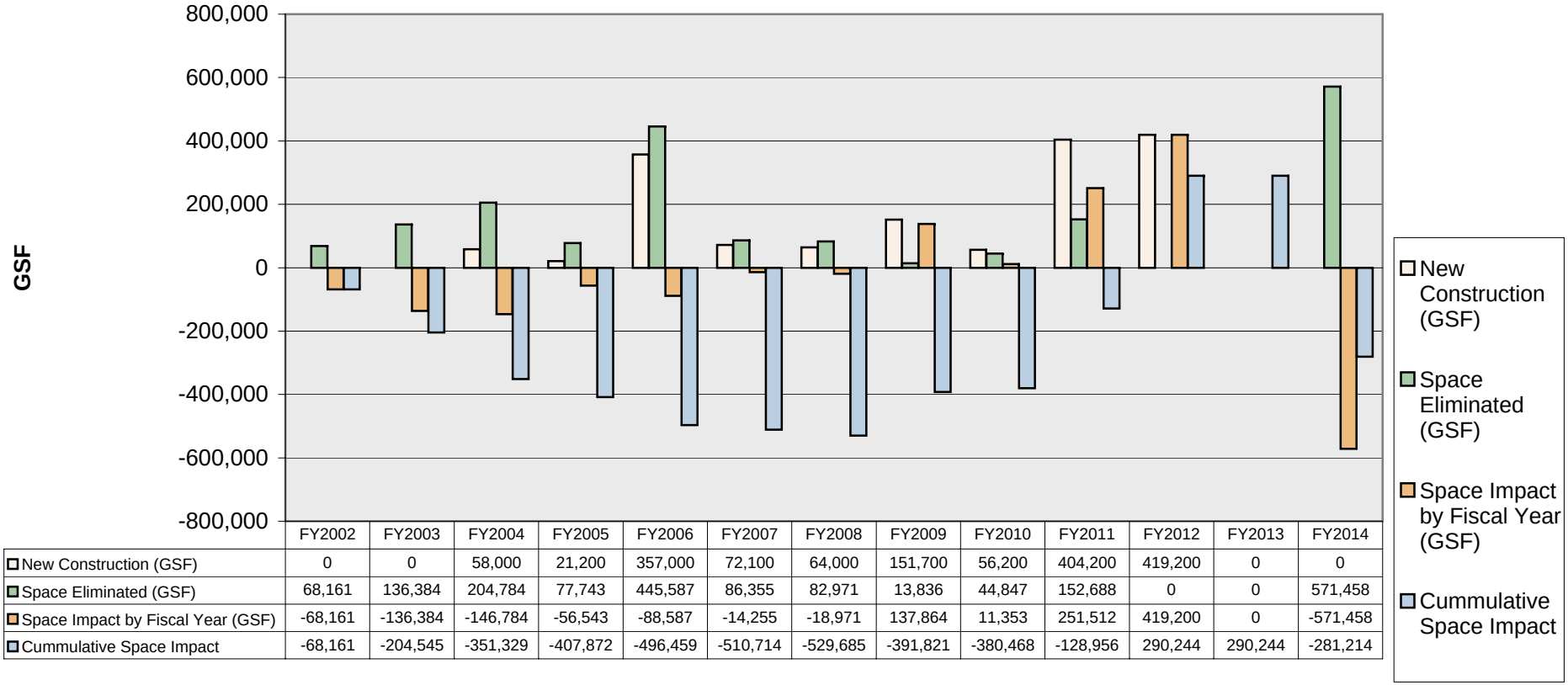
Attachment E-3
Tracking Summary - Multi-Program



	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
New Construction (GSF)	0	0	58,000	21,200	357,000	72,100	64,000	151,700	56,200	404,200	419,200	0	0
Space Eliminated (GSF)	68,161	136,384	204,784	77,743	445,587	86,355	82,971	13,836	44,847	152,688	0	0	571,458
Space Impact by Fiscal Year (GSF)	-68,161	-136,384	-146,784	-56,543	-88,587	-14,255	-18,971	137,864	11,353	251,512	419,200	0	-571,458
Cummulative Space Impact	-68,161	-204,545	-351,329	-407,872	-496,459	-510,714	-529,685	-391,821	-380,468	-128,956	290,244	290,244	-281,214

Non Graphed Data:

	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
NNSA Grandfathered GSF	0	0	23,000	0	0	0	0	0	0	0	0	0	0
NNSA Site Total GSF	8,675,489	8,539,105	8,415,321	8,358,778	8,270,191	8,255,936	8,236,965	8,374,829	8,386,182	8,637,694	9,056,894	9,056,894	8,485,436

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ATTACHMENT F

Attachments F-1 and F-2
Deferred Maintenance Baseline and
Projected Deferred Maintenance Reduction Spreadsheet

The data reported in Attachment F-1 will be used to report the NNSA maintenance requirements baseline and assess actual and planned progress towards reducing deferred maintenance. Attachment F-1 addresses the FY03 deferred maintenance baseline as identified in the FY04 TYCSP and reflects reductions against this baseline. New growth in deferred maintenance (i.e. deferred maintenance not identified in the FY03 baseline as presented in the FY04 TYCSP or new deferred maintenance that occurs because of funding shortfalls) is reported in Attachment F-2. A NNSA corporate roll-up of data reported in this spreadsheet will be used to trend and analyze progress towards the achievement of NNSA's Deferred Maintenance Reduction goals.

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Attachment F-1
FIRP FY2003 Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction from Baseline
LANL Site
($000s)

Category of Maintenance	FY 2003 (Actual/ Baseline)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
1. FIRP DEFERRED MAINTENANCE BASELINE (1) (Excludes Programmatic Real Property or Equipment) (2)	564,243	429,439	365,023	291,353	234,152	198,317	149,294	149,294	147,681	147,681	147,681	147,681
A. Deferred Maintenance Baseline for Mission-Essential Facilities and Infrastructure ONLY	267,110	227,509	188,126	147,311	114,599	110,571	95,802	95,802	94,190	94,190	94,190	94,190
B. Deferred Maintenance Baseline for Non-Mission Essential Facilities and Infrastructure	297,133	201,930	176,897	144,041	119,553	87,746	53,492	53,492	53,490	53,490	53,490	53,490
2. DEFERRED MAINTENANCE BASELINE REDUCTION TOTAL (3)	34,388	134,803	64,416	73,671	57,201	35,834	49,024	-	1,613	-	-	-
A. Reduction in Deferred Maintenance Baseline for Mission-Essential Facilities and Infrastructure	13,705	39,600	39,383	40,815	32,713	4,027	14,769	-	1,612	-	-	-
1. Reduction attributed to FIRP ONLY	13,000	22,157	30,710	38,736	26,001	2,453	6,048	-	-			
B. Reduction in Deferred Maintenance Baseline for Non-Mission Essential Facilities and Infrastructure	20,683	95,203	25,033	32,856	24,488	31,807	34,255	-	1	-	-	-
1. Reduction attributed to FIRP ONLY	7,000	11,373	2,784	2,898	19,039	30,774	33,583	-	-			
3. REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE (4)	5,623,221											
A. RPV for NNSA Mission-Essential Facilities and Infrastructure ONLY	3,232,755											
B. RPV for NNSA Non-Mission Essential Facilities and Infrastructure	2,390,467											

Notes:
1. For FY2003 input the number reported in the Final FY04 TYCSP reported for FY 2003. Any adjustments or corrections to this number should not be reflected in this spreadsheet but in Attachment F-2. For FY2004 through FY2014 show the FY2003 baseline with any reductions to the FY2003 baseline as a result of FIRP or other funding sources. No new deferred maintenance should be added and escalation costs should not be included.
2. "Programmatic Real Property" refers to reactors, accelerators and similar devices used by programmatic personnel. "Programmatic Equipment" refers to personal property used by programmatic personnel, including the personal property meeting the threshold for the list of capital equipment.
3. For Deferred Maintenance Baseline Reduction report the amount of the deferred maintenance reduction that is associated with the deficiencies reported in the FY2003 Baseline. DO NOT report deferred maintenance reduction in the outyears (FY04-FY14) for deferred maintenance associated with any deficiency that was not part of the FY2003 Baseline amount.
4. Input the Replacement Plant Value that was reported for FY2003 from the Final FY04 TYCSP.
5. Values are in fully burdened dollars.
6. RPVs take into account planned new buildings and the current demolition plan for old buildings reflected in Attachements E-1 and E-2.
7. Future FIRP funding will continue as an extrapolation of FY03 and FY04 FIRP funding.
8. Funding deferred maintenance buydown efficiencies are: direct buydown at 80%, demolition at 100%, maintenance at 100%, facility replacement at 5%.
9. GPP funding will be constant at $9.6M FY03 dollars.
10. Outyear maintenance budgets are forecasts with a plus or minus 5% accuracy.
11. FY03 to FY04 reduction in deferred maintenance partially attributable to validation of the deferred maintenance baseline. $101M of the FY03 to FY04 reduction was as a result of a complete review of baseline records validating the results.
12. Increment in RPV from FY03 to FY04 due to the model type validation and recalculation in FIMS.
13. Deferred maintenance is based on FY03 baseline (unvalidated).
14. CMR required maintenance reduced to Surveillance only in 2011 based on expected shutdown pending D&D.
15. Deferred maintenance is represented as the values at the end of the specified FY.
16. Reported FIRP spending for FY04 is based on an estimate of costs to be spent by the end of the FY.

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Attachment F-2
NNSA Total Deferred Maintenance and Projected Deferred Maintenance Reduction
Los Alamos National Laboratory
($000s)

Category of Maintenance	FY 2003 (Actual/ Baseline)	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
1. NNSA ANNUAL REQUIRED MAINTENANCE (1) (2)	107,124	109,166	110,676	113,436	114,431	116,521	119,274	121,774	109,390	121,049	123,406	125,807
1A. NNSA ANNUAL REQUIRED REPLACEMENT-IN-KIND		12,888	13,404	13,940	14,497	15,077	15,680	16,307	16,960	17,638	18,344	19,077
2. NNSA ANNUAL PLANNED MAINTENANCE TOTAL (2)	88,222	99,711	102,760	104,257	105,804	107,402	109,053	112,001	115,059	118,195	121,430	124,767
a. Direct	41,804	46,948	49,997	51,494	53,041	54,639	56,290	58,183	60,164	62,203	64,318	66,513
b. Indirect	46,418	52,763	52,763	52,763	52,763	52,763	52,763	53,818	54,895	55,992	57,112	58,255
2A. NNSA ANNUAL PLANNED REPLACEMENT-IN-KIND (3)		5,862	6,096	6,340	6,594	6,858	7,132	7,417	7,714	8,023	8,343	8,677
3. NNSA DEFERRED MAINTENANCE TOTAL (Excludes Programmatic Real Property or Equipment) (4) (5) (6)	564,243	546,979	501,011	441,338	395,862	371,357	329,920	343,117	354,914	369,111	383,875	399,230
A. Deferred Maintenance for Mission-Essential Facilities and Infrastructure ONLY	267,110	273,878	243,131	208,694	180,938	183,642	174,029	180,990	186,304	193,756	201,506	209,567
B. Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure	297,133	273,101	257,880	232,645	214,924	187,715	155,891	162,127	168,610	175,355	182,369	189,664
4. NNSA DEFERRED MAINTENANCE REDUCTION TOTAL (7)	34,388	17,264	45,968	59,673	45,476	24,505	41,437	(13,197)	(11,798)	(14,197)	(14,764)	(15,355)
A. Reduction in Deferred Maintenance for Mission-Essential Facilities and Infrastructure	13,705	(6,768)	30,747	34,437	27,756	(2,704)	9,613	(6,961)	(5,314)	(7,452)	(7,750)	(8,060)
1. Reduction attributed to FIRP ONLY	13,000	22,600	31,950	41,107	28,144	2,708	6,811	-	-			
B. Reduction in Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure	20,683	24,032	15,221	25,235	17,721	27,209	31,824	(6,236)	(6,484)	(6,744)	(7,014)	(7,295)
1. Reduction attributed to FIRP ONLY	7,000	11,600	2,897	3,075	20,609	33,977	37,820	-	-			
5. REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE	5,623,221	5,742,511	5,837,144	5,978,450	6,069,576	6,191,225	6,344,495	6,483,700	6,577,671	7,096,407	7,244,005	7,394,670
A. RPV for NNSA Mission-Essential Facilities and Infrastructure ONLY	3,232,755	3,285,848	3,343,605	3,466,775	3,500,363	3,567,689	3,663,250	3,743,486	3,782,681	4,238,742	4,323,517	4,409,987
B. RPV for NNSA Non-Mission-Essential Facilities and Infrastructure	2,390,467	2,456,662	2,493,540	2,511,675	2,569,212	2,623,536	2,681,246	2,740,214	2,794,990	2,857,665	2,920,489	2,984,682

Notes:
1. Annual Required Maintenance for FYs 2003-2014 should reflect the unconstrained forecast necessary for maintenance.
2. Beginning with the FY2004 reporting period, exclude replacement-in-kind of subsystems from Annual Required Maintenance and Annual Planned Maintenance unless it was part of the FY 2003 deferred maintenance baseline. Replacement-in-kind that is not part of the FY 2003 baseline will be captured in Attachment F-6. Also, do not include FIRP funding for deferred maintenance reduction in the maintenance amounts.
3. Do not include any FIRP funded RIK projects identified in the FY2003 Deferred Maintenance Baseline as this would skew the normal requirements case due to a large influx of FIRP funds to address legacy deferred maintenance.
4. "Programmatic Real Property" refers to reactors, accelerators and similar devices used by programmatic personnel. "Programmatic Equipment" refers to personal property used by programmatic personnel, including the personal property meeting the
5. For FY2003, input the deferred maintenance amount reported for FY2003 in the Final FY04 TYCSP. For FY 2004-2014 reflect any adjustments to the FY 2003 deferred maintenance baseline, as well as any new growth in deferred maintenance.
6. Beginning with the FY2004 reporting period, NNSA is excluding replacement-in-kind from maintenance and deferred maintenance data unless it was part of the FY 2003 deferred maintenance baseline. Replacement-in-kind that is not part of the FY
7. Beginning with the FY2004 reporting period, exclude RIK costs from the reduction for projects that were executed in a given year, unless those RIK costs were part of the FY2003 Baseline reported in Attachment F-1.

Notes Continued on Page 2

8. Values are in fully burdened dollars.
9. RPVs take into account planned new buildings and the current demolition plan for old buildings reflected in Attachements E-1 and E-2.
10. FIRP funding for FY10 and 11 are an extrapolation of FY08 and FY09 FIRP funding.
11. Funding deferred maintenance buydown efficiencies are: direct buydown at 80%, demolition at 100%, maintenance at 100%, facility replacement at 5%.
12. GPP funding will be constant at $9.6M FY03 dollars.
13. FY03 to FY04 reduction in deferred maintenance partially attributable to validation of the deferred maintenance baseline. Final reduction (validated) will be provided in the FY05 final submittal. (Ref. 4)
14. Deferred maintenance is based on FY03 baseline (unvalidated).
15. CMR required maintenance reduced to Surveillance only in 2011 based on expected shutdown pending D&D.
16. Deferred maintenance is represented as the values at the end of the specified FY.
17. Required Maintenance is estimated as a percentage of RPV for 4 categories of assets. Mission Essential Enduring assets are set at 2.5% of RPV. Mission Essential Non-Enduring assets are set at 3.5% of RPV and Non-Mission Essential assets are set at 2.0% of RPV. CMR is set for a reduced Required Maintenance due to its pending replacement. CMR is set at 1.0% of RPV until 2011 (scheduled date of non-occupancy) at which point it is reduced to 0.3%.
18. FY 2004 reduction in ME DM is an negative number based on CAIS certification results and new inspections.

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Attachment F-3 to F-6
NNSA Deferred Maintenance Projections Charts

Attachments F-3, F-4, and F-5 illustrate progress in meeting each of the quantifiable NNSA Corporate Goals. These data will help demonstrate planned progress towards meeting the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards). FY03 is the baseline from which progress and results will be assessed. Attachment F-6 captures replacement-in-kind requirements.

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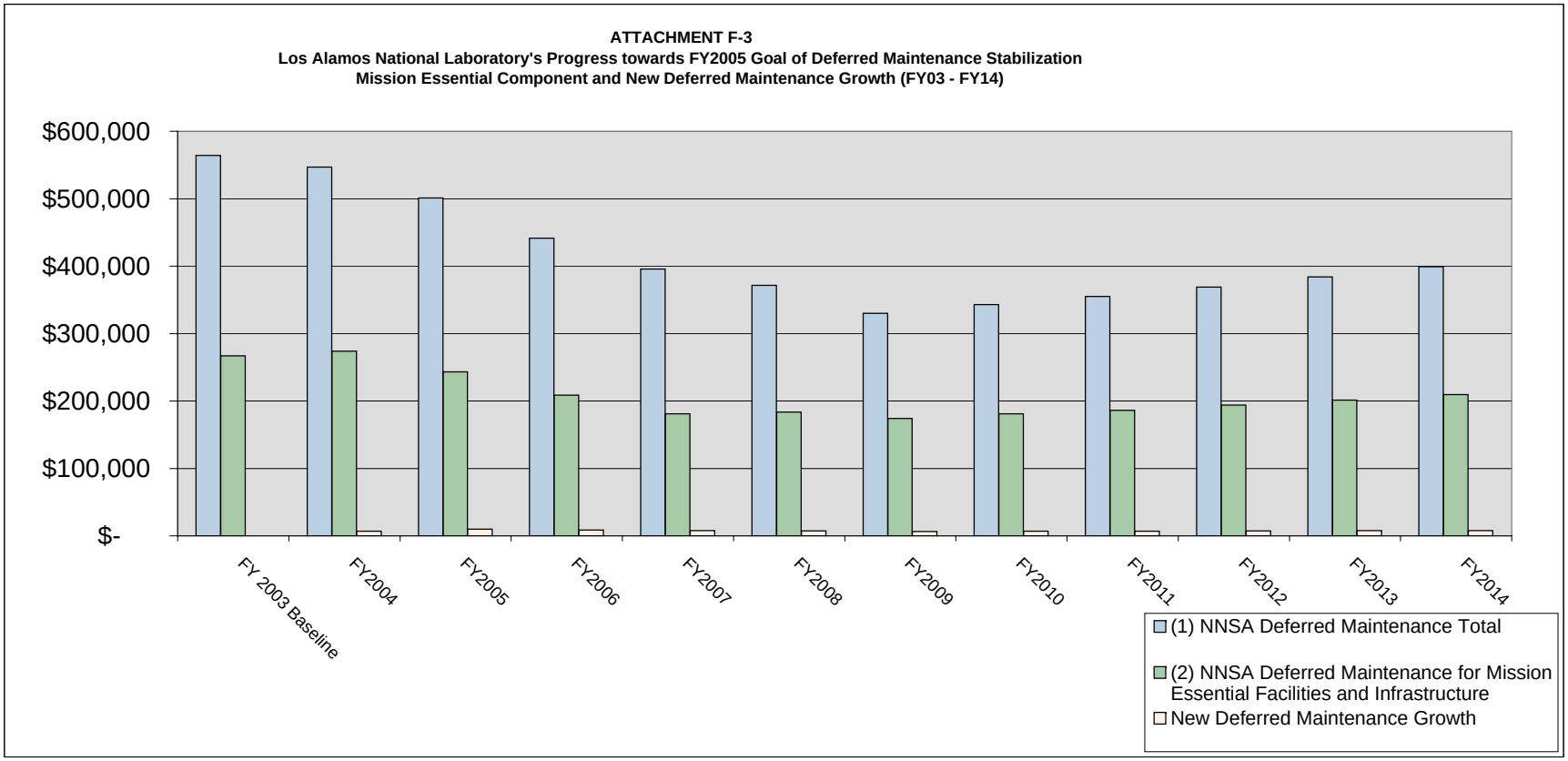
ATTACHMENT F-3
INPUT DATA SHEET FOR CHART
Progress towards FY2005 Goal of Deferred Maintenance Stabilization, Mission Essential Component and New Deferred Maintenance Growth

	FY 2003 Baseline	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
NNSA DEFERRED MAINTENANCE TOTAL (Excludes Programmatic Real Property or Equipment)	$ 564,243	$ 546,979	$ 501,011	$ 441,338	$ 395,862	$ 371,357	$ 329,920	$ 343,117	$ 354,914	$ 369,111	$ 383,875	$ 399,230
Deferred Maintenance for Mission-Essential Facilities and Infrastructure ONLY	$ 267,110	$ 273,878	$ 243,131	$ 208,694	$ 180,938	$ 183,642	$ 174,029	$ 180,990	$ 186,304	$ 193,756	$ 201,506	$ 209,567
Deferred Maintenance Growth	$ -	$ 6,768	$ 10,020	$ 8,827	$ 7,917	$ 7,427	$ 6,598	$ 6,862	$ 7,098	$ 7,382	$ 7,678	$ 7,985

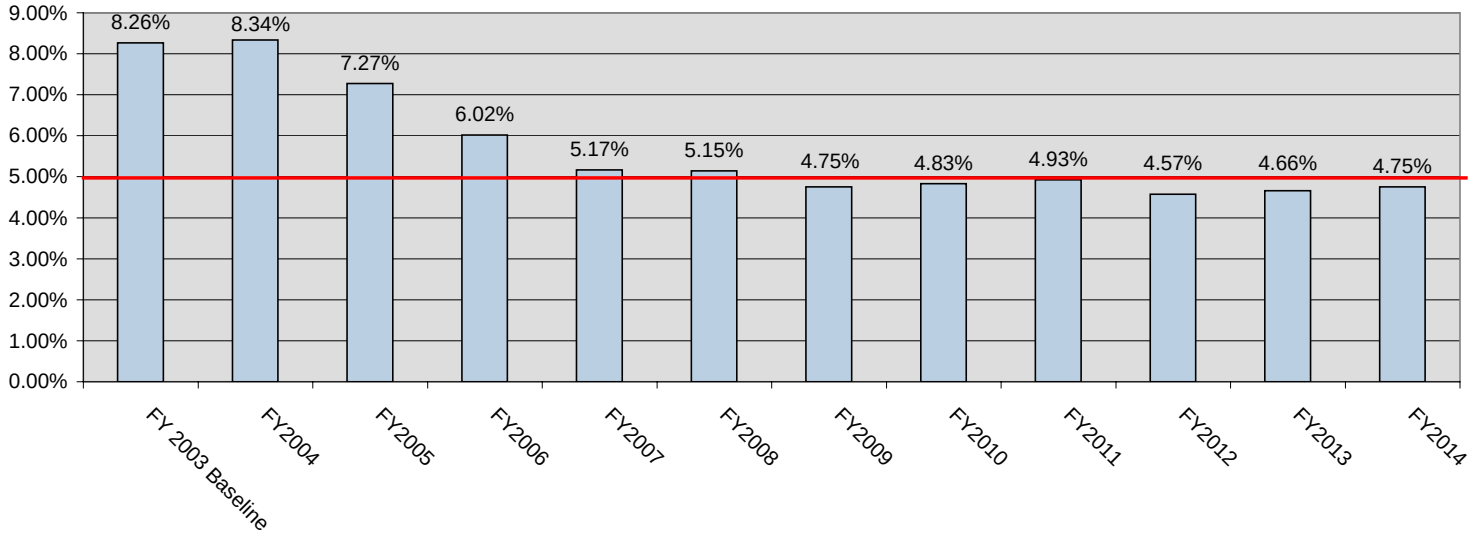


Note 1: 2004 new DM growth is taken from F-2, cell C16 which represents a net growth of ME facility DM in consideration of reduction, DM certification changes, and new inspections.
This approach is consistent with the FY 2006 TYCSP Guidance that F-3 data be consistent with F-2 data.

ATTACHMENT F-4
INPUT DATA SHEET FOR CHART
Progress towards FY2009 Goal of <5% Deferred Maintenance for Mission Essential Facilities and Infrastructure

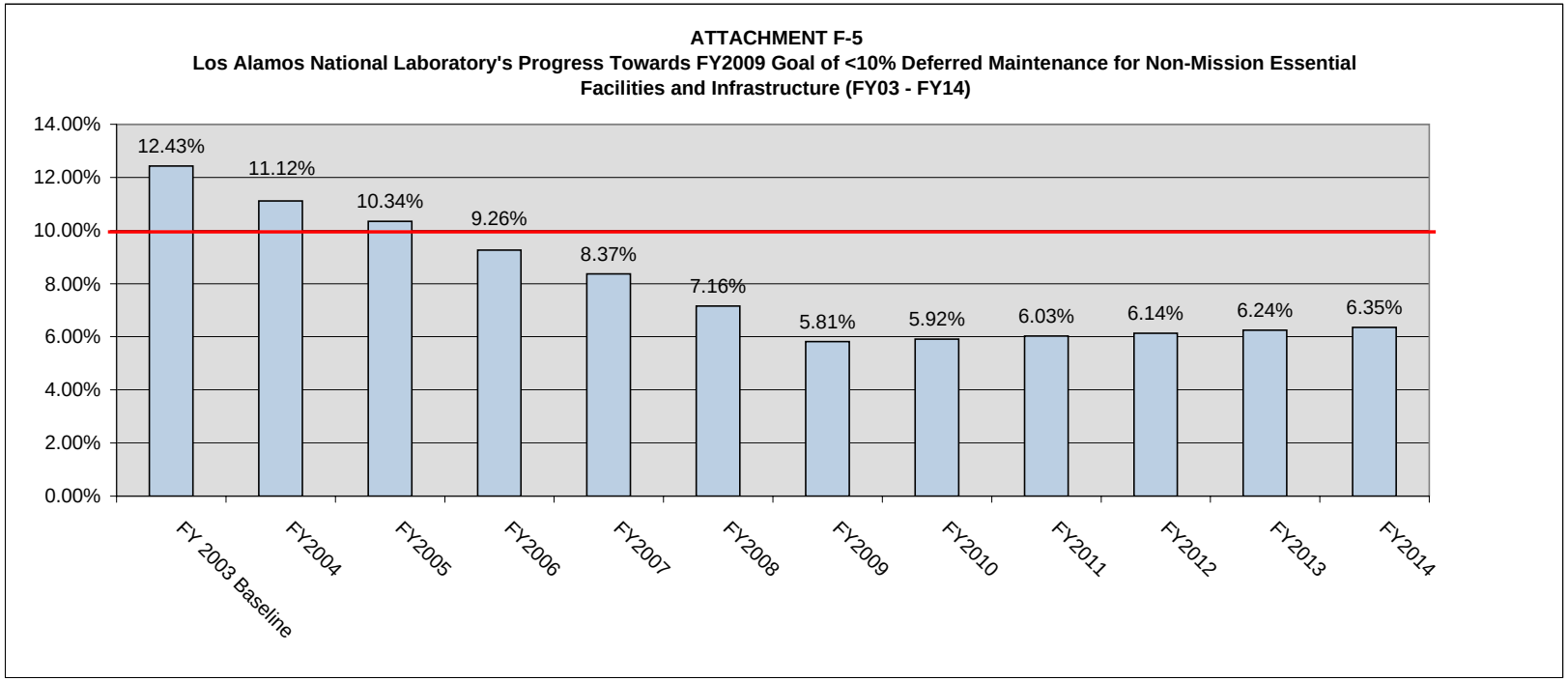
	FY 2003 Baseline	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
LANL Mission Essential FCI	8.26%	8.34%	7.27%	6.02%	5.17%	5.15%	4.75%	4.83%	4.93%	4.57%	4.66%	4.75%

ATTACHMENT F-4
Los Alamos National Laboratory's Progress Towards FY2009 Goal of <5% Deferred Maintenance for Mission Essential Facilities and Infrastructure (FY03 - FY14)



ATTACHMENT F-5
INPUT DATA SHEET FOR CHART
Progress towards FY2009 Goal of <10% Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure

	FY 2003 Baseline	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014
LANL Non-Mission Essential FCI	12.43%	11.12%	10.34%	9.26%	8.37%	7.16%	5.81%	5.92%	6.03%	6.14%	6.24%	6.35%



Attachment F - 6
Replacement-in-Kind Projects Over $250K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding (5)	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2002		03-0030	Replace Damaged Roof	FIRP	2007	Y	Y	$3,502
2002		03-0032	Replace HVAC System at End of Useful Life	FIRP	2009	Y	Y	$279
2002		03-0066	Replace Damaged Roof	FIRP	2007	Y	Y	$421
2003		03-0034	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$580
2003		03-0034	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$510
2003		03-0035	Replace Acid Waste System at End of Useful Life	FIRP	2009	Y	Y	$327
2003		03-0035	Replace Damaged Window Subsystem	FIRP	2008	Y	Y	$1,048
2003		03-0035	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$330
2003		03-0040	Replace Facility Windows beyond End of Useful Life	TBD	TBD	Y	N	$316
2003		03-0200	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$500
2003		16-0204	Replace HVAC System at End of Useful Life	FIRP	2007	Y	Y	$733
2003	TA-16-260 RECONF PROJECT	16-0260	Replace Steam Heating System at End of Useful Life	FIRP	2005	Y	Y	$3,211
2003	TA-16 Building 300 Facility Upgrade	16-0300	Replace Lighting System at End of Useful Life	Other	2004	Y	Y	$716
2003	DEFFERRED MAINT 4 PROJECTS EJR,MSL,53,16	16-0300	Replace Roof at End of Useful Life	FIRP	2004	Y	Y	$612
2003		18-0032	Replace Lightning Protection System to Ensure Code Compliance	FIRP	2006	Y	Y	$375
2003	TA-48 RC-45 Chiller Replacement	48-0045	Replace Chiller System with Frequent Failures at End of Useful Life	FIRP	2004	Y	Y	$489
2003		50-0002	Replace Constricted Effluent System at End of Useful Life	FIRP	2007	Y	Y	$3,147
2003	RLWTF WM-66 CAUSTIC TANK	50-0066	Replace Damaged Tank Storage System at End of Useful Life	FIRP	2004	Y	Y	$600
2003	RE-ROOFING 53-1, 8-21, 59-1	53-0001	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$1,049
2003		53-0002	Replace Cooling Towers at Reduced Capacity and End of Useful Life	TBD	TBD	Y	N	$522
2003		53-0003	Replace Cooling System at End of Useful Life	FIRP	2006	Y	Y	$658
2003	DEFFERRED MAINT 4 PROJECTS EJR,MSL,53,16	53-0003	Replace Roof at End of Useful Life	FIRP	2004	Y	Y	$3,794
2003		59-0001	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$478
2003		59-0001	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$1,563
2004		03-0022	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2009	Y	Y	$424
2004		03-0030	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	TBD	TBD	Y	N	$517
2004		03-0038	Replace Roof at End of Useful Life	FIRP	2009	Y	Y	$3,395
2004	EISU PROJECT TA-3-40	03-0040	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$1,562
2004		03-0040	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	TBD	TBD	Y	N	$607
2004		03-0040	Replace Outdated Acoustical Ceiling System	TBD	TBD	Y	N	$324
2004		03-0041	Replace Roof at End of Useful Life	FIRP	2009	Y	Y	$433
2004		03-0066	Replace Electrical System at End of Useful Life	TBD	TBD	Y	N	$4,683
2004		03-0066	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$565
2004		03-0123	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$350
2004		03-0132	Replace Electrical System at End of Useful Life	FIRP	2007	Y	Y	$6,000
2004		03-0132	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$835
2004		03-0207	Replace Roof at End of Useful Life	TBD	TBD	Y	N	$910
2004		03-0216	Replace Electrical System at End of Useful Life	FIRP	2007	N	Y	$752
2004		03-0253	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2009	Y	Y	$292
2004		03-0261	Replace Deteriorated Cafeteria Kitchen Floor at End of Useful Life	FIRP	2009	Y	Y	$357
2004	EISU PROJECT TA-3-261	03-0261	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$2,169
2004		03-1498	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2009	Y	Y	$413
2004	RE-ROOFING 53-1, 8-21, 59-1	08-0021	Replace Damaged Roof	FIRP	2004	Y	Y	$750
2004		08-0021	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$340

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Attachment F - 6
Replacement-in-Kind Projects Over $250K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding (5)	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2004		08-0023	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$648
2004		16-0200	Replace Damaged Roof	FIRP	2008	Y	Y	$514
2004		16-0200	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$350
2004		16-0205	Replace Emergency Generator System at End of Useful Life	FIRP	2006	Y	Y	$373
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$1,737
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2005	Y	Y	$263
2004	TA-16-260 RECONF PROJECT	16-0260	Replace HEPA Filter Exhaust System at End of Useful Life	FIRP	2005	N	Y	$481
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Vacuum System at End of Useful Life	FIRP	2005	N	Y	$567
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Wet Dust Collection System at End of Useful Life	FIRP	2005	N	Y	$258
2004		16-0410	Replace HVAC System at End of Useful Life	FIRP	2005	Y	Y	$601
2004		16-0450	Replace HVAC System to Meet Current Demand	TBD	TBD	Y	N	$6,664
2004		21-0152	Replace Electrical System at End of Useful Life	FIRP	2006	Y	Y	$308
2004		21-0257	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$251
2004		35-0125	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$375
2004		35-0125	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$1,110
2004		35-0213	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$426
2004	EISU PROJECT TA-43-1	43-0001	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$2,941
2004		43-0001	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	TBD	TBD	Y	N	$400
2004		43-0041	Replace Degraded Structure at End of Useful Life	FIRP	2009	Y	Y	$970
2004		43-0434	Replace Road Deck at End of Useful Life	FIRP	2008	Y	Y	$5,376
2004	EISU PROJECT AT TA-46-31	46-0031	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$3,344
2004	HVERP TA-48-1	48-0001	Replace Electrical System at End of Useful Life	FIRP	2004	Y	Y	$4,586
2004		48-0001	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2009	Y	Y	$472
2004		48-0001	Replace HVAC System at End of Useful Life	FIRP	2007	Y	Y	$4,314
2004		50-0002	Replace Sludge Storage System at End of Useful Life	FIRP	2007	Y	Y	$16,304
2004		50-0037	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$560
2004		50-0069	Replace Damaged Filtering System	FIRP	2006	Y	Y	$635
2004		50-0069	Replace Overhead Doors at End of Useful Life	TBD	TBD	N	N	$317
2004		53-0001	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2004	Y	Y	$308
2004	TA-53-2 EISU PROJECT	53-0002	Replace Electrical System at End of Useful Life	FIRP	2004	N	Y	$1,382
2004		53-0002	Replace HVAC System at End of Useful Life	FIRP	2005	N	Y	$1,667
2004		53-0003	Replace Chiller System at End of Useful Life	FIRP	2005	Y	Y	$4,386
2004		53-0003	Replace Defective Emergency Lighting System	FIRP	2006	Y	Y	$560
2004		53-0003	Replace Degraded Heating Hot Water System Piping at End of Useful Life	FIRP	2005	Y	Y	$1,573
2004		53-0003	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$2,038
2004		53-0003	Replace Failed Extended Crane System at End of Useful Life	FIRP	2006	N	Y	$389
2004		53-0003	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$355
2004		53-0003	Replace HVAC System at End of Useful Life	FIRP	2006	Y	Y	$306
2004		53-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$2,485
2004		53-0006	Replace Electrical System to Meet Current Demand	FIRP	2008	Y	Y	$1,574
2004		53-0007	Replace degraded Electrical System to Supply Current Demand	FIRP	2006	Y	Y	$306
2004		53-0007	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$343
2004		53-0007	Replace Ventilation System to Meet Current Demand	FIRP	2005	Y	Y	$2,103
2004		53-0028	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$2,665
2004		53-0030	Replace degraded Electrical System to Supply Current Demand	FIRP	2006	Y	Y	$642
2004		53-0030	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$306
2004		53-0030	Replace HVAC System at End of Useful Life	FIRP	2006	Y	Y	$357

Attachment F - 6
Replacement-in-Kind Projects Over $250K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding (5)	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2004		53-0031	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2009	Y	Y	$391
2004		53-0365	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$586
2004		54-0051	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$426
2004		55-0002	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$386
2004		55-0004	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$652
2004		55-0004	Replace Roof at End of Useful Life	FIRP	2005	Y	Y	$4,891
2004		55-0042	Replace Chiller Subsystem at End of Useful Life	FIRP	2005	Y	Y	$655
2004		60-0003	Replace Degraded Structure at End of Useful Life	TBD	TBD	Y	N	$417
2004		60-0091	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$565
2004		7131010773	Replace Deteriorated Distribution Piping System at End of Useful Life	FIRP	2008	Y	Y	$373
2004		7155010823	Replace TA-3 South Sewer Service Lines at End of Useful Life	FIRP	2007	Y	Y	$385
2005		03-0038	Replace All Rollup Doors at End of Useful Life	TBD	TBD	Y	N	$413
2005		03-0040	Replace Corroded Condensate Return System at End of Useful Life	TBD	TBD	Y	N	$379
2005		03-0132	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$3,574
2005		03-0142	Replace Roof at End of Useful Life	TBD	TBD	Y	N	$500
2005		03-0200	Replace HVAC System at End of Useful Life	FIRP	2009	N	Y	$298
2005	TA-8-21 EISU	08-0021	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$956
2005		16-0460	Replace HVAC System at End of Useful Life	FIRP	2008	N	Y	$600
2005		18-0001	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$395
2005		18-0030	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$535
2005		18-0031	Replace Roof at End of Useful Life	TBD	TBD	Y	N	$318
2005		21-0210	Replace Electrical System at End of Useful Life	FIRP	2008	N	Y	$370
2005		48-0001	Replace Rad Liquid Waste Line at End of Useful Life and to Meet Current Demand	FIRP	2008	Y	Y	$1,223
2005		50-0001	Replace Clarifier System at End of Useful Life	FIRP	2006	Y	Y	$378
2005	TA50/TA54 WM MITIGATION - Labor	50-0001	Replace Electrical System at End of Useful Life	CGRP	2005	N	Y	$2,450
2005		50-0001	Replace Facility Windows beyond End of Useful Life	TBD	TBD	N	N	$599
2005		50-0001	Replace HVAC System at End of Useful Life	FIRP	2007	N	Y	$3,355
2005		50-0001	Replace Overhead Doors at End of Useful Life	TBD	TBD	N	N	$317
2005		50-0001	Replace Pre-Treatment System for Waste Treatment Plant at End of Useful Life	FIRP	2006	Y	Y	$6,868
2005		52-0001	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$722
2005		53-0001	Replace Electrical System at End of Useful Life	FIRP	2006	Y	Y	$2,108
2005		53-0006	Replace Cooling System to Meet Current Demand	FIRP	2008	N	Y	$611
2005		53-0622	Replace Cooling System at End of Useful Life and to Meet Current Demand	FIRP	2006	N	Y	$477
2005		55-0002	Replace Electrical System at End of Useful Life	FIRP	2006	N	Y	$262
2005		55-0004	Replace Trolley System at End of Useful Life	TBD	TBD	Y	N	$3,199
2005		55-0008	Replace Emergency Generator System at End of Useful Life	FIRP	2004	Y	Y	$1,019
2005		59-0001	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$1,167
2006		16-0410	Replace Domestic Plumbing System at End of Useful Life	TBD	TBD	N	N	$321
2006		16-0410	Replace Electrical System at End of Useful Life	TBD	TBD	N	N	$393
2006		16-0410	Replace Lighting System at End of Useful Life	TBD	TBD	N	N	$454
2006		53-0001	Replace Deteriorated Window Subsystem at End of Useful Life	TBD	TBD	N	N	$372
2006		53-0001	Replace HVAC System at End of Useful Life	TBD	TBD	N	N	$3,234
2006		53-0002	Replace Overhead Doors at End of Useful Life	TBD	TBD	N	N	$359
2006		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	TBD	TBD	Y	N	$3,057
2006		55-0004	Replace Hazardous Waste Line at End of Useful Life	FIRP	2005	N	Y	$664
2006		55-0041	Replace Roof at End of Useful Life	TBD	TBD	N	N	$375

Attachment F - 6
Replacement-in-Kind Projects Over $250K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding (5)	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2007		03-0035	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$711
2007		03-0123	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$750
2007		16-0410	Replace Overhead Doors at End of Useful Life	TBD	TBD	N	N	$259
2007		53-0003	Replace Electrical System at End of Useful Life	FIRP	2006	Y	Y	$4,058
2007		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	TBD	TBD	N	N	$1,443
2008		03-0030	Replace Degraded HVA Units at End of Useful Life	TBD	TBD	Y	N	$569
2008		03-0066	Replace Electrical System at End of Useful Life	FIRP	2009	Y	Y	$2,839
2008		03-0066	Replace HVAC System at End of Useful Life	FIRP	2008	N	Y	$4,925
2008		03-0102	Replace Cooling System at End of Useful Life	FIRP	2009	Y	Y	$679
2008		03-0141	Replace Chiller System at End of Useful Life	FIRP	2008	Y	Y	$529
2008		03-0142	Replace HVAC System to Meet Current Demand	FIRP	2009	N	Y	$1,815
2008		09-0214	Replace Degraded Structure at End of Useful Life	FIRP	2009	Y	Y	$491
2008		16-0300	Replace Electrical System at End of Useful Life	TBD	TBD	N	N	$617
2008		16-0302	Replace Electrical System at End of Useful Life	FIRP	2009	N	Y	$686
2008	EISU TA-35-2	35-0002	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$1,236
2008		46-0024	Replace Electrical System at End of Useful Life	TBD	TBD	Y	N	$597
2008		50-0037	Replace HVAC System at End of Useful Life	TBD	TBD	N	N	$598
2008		53-0003	Replace Boilers at Expected End of Useful Life	FIRP	2008	Y	Y	$675
2008		55-0004	Replace Electrical System at End of Useful Life	TBD	TBD	Y	N	$15,905
2008		55-0006	Replace Chiller Subsystem at End of Useful Life	FIRP	2007	Y	Y	$2,354
2008		55-0008	Replace Air Compressor Sub-Systems at End of Useful Life	FIRP	2006	Y	Y	$466
2008		7142010800	Replacement of Degraded Natural Gas Distribution Lines at End of Useful Life	FIRP	2009	Y	Y	$7,754

1. Replacement-in-kind is the replacement of building subsystems , which includes among other things, roofs, electrical distributuion equipment, HVAC equipment (air handlers, compressors, chillers, boilers), building oontrol systems, paving, and fire protection apparatus. this list should include projects that are funded and unfunded.

2. Optimum year is the year in which the replacement-in-kind subsystem should be replaced to maintain the facility and/or infrastructure functioning as required. Near-term replacements should be confirmed by condition assessments.

3. Funding type should match those in the spreadsheets in Attachment A. Use "Unfunded" if project currently has no source of funding identified.

4. Indicate whether project was identified as part of the FY2003 Deferred Maintenance Baseline as reported in the FY2004 Final TYCSP.

5. Facilities listed as TBE are To be Excessed. These RIK items are for reference should the buildings not be excessed. These RIK costs are not listed on Attachment F-2 since they are not planned for RIK.

6. Reconciliation of Attachments A and F-6 are still in progress and are not yet fully listed in this update. Final submittal will contain the full listings of this effort.

ATTACHMENT G

Attachment G
Mission Essential Facilities and Infrastructure

With the identification of mission essential facilities and infrastructure, NNSA Headquarters and sites are able to prioritize maintenance, restoration, and recapitalization activities towards meeting the Deferred Maintenance Reduction commitment. The mission essential facilities and infrastructure will be assigned priority in RTBF and FIRP funding decisions. A definition of mission essential was developed at the Deferred Maintenance Reduction Summit II on December 3-4, 2002 and agreed to by NNSA Headquarters, the sites, and M&O contractors.

> **NNSA Definition of Mission Essential**: Those facilities and infrastructure necessary to perform the primary NNSA missions assigned to the Site. This would encompass any facility or infrastructure where the majority of the structure or utility, or its predominant use, is to support scientific research, production, or testing to conduct the Stockpile Stewardship Program.

The Los Alamos National Laboratory has determined the set of NNSA Mission Essential Facilities and Infrastructure to include all facilities that are direct funded within the DP budget. Each of these facilities has a direct link to specific mission components with a NNSA/DP program sponsor. In addition, the rationale for direct funding DP facilities is consistent with the mission essential definition. Other NNSA facilities not included in this category, while still important to NNSA missions as a whole, are indirect funded. The tables on the following pages provide details on the number of structures and total square footage within each of the specific mission components. Overall, there are a 485 mission essential facilities totaling approximately 3,600,000 gross square feet .

All Laboratory facilities are being evaluated for the projected longevity of mission need. Consequently, investment in the reduction of deferred maintenance will be prioritized with length of facility/mission need as a factor. As appropriate, facilities with a defined "end of mission need" will be identified for exclusion from the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards). A description of activities and capabilities for each facility grouping and a summary of square footage is on the following pages.

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Engineering Facilities

Engineering High Explosives Operations: These facilities include capabilities for HE packing and transportation; pressing; stock/material and mock HE preparation; inspection, machining, and assembly; disposal; plastics and foams, components and characterization; maintenance; radiography and burning ground; HE waste water treatment; and storage magazines.

Machine Shops Operations: The machine shops provide the capability to machine most of the components for the nuclear weapons research and development program such as components for the hydro test program, joint test assemblies, and sub-critical experiments. They also provide materials forming and joining capabilities.

Assembly and Storage Operations: These facilities are used to study all non-tritium aspects of gas transfer system technology, including materials and components, under a variety of environmental conditions.

Engineering Testing Facilities Operations: These facilities provide the capability for component and subsystem environmental testing, including vibration, shock, temperature evaluation, and radiography in both destructive and nondestructive modes.

Dynamic Experimentation Facilities

DARHT Operations: DARHT, a radiographic, hydrodynamic test facility, is used to perform integrated, non-nuclear experiments designed to measure the many complex and dynamic aspects of implosion systems, shock physics, and high velocity impacts.

High Explosives Science Facilities Operations: These facilities provide the diverse experimental capabilities needed to synthesize, formulate, shape, and machine small-scale HE components as well as the ability to characterize the fundamental materials properties and behavior, small-scale sensitivity, and performance of new, current, aged, and other high explosives formulations.

Firing Sites Operations: Firing sites host a variety of experiments to ensure the safety and surety of the enduring stockpile. The data obtained help validate the computer codes that extend detailed knowledge of materials subjected to extreme pressures and temperatures under shock to detonation transition conditions.

High Explosives Detonation Facilities Operations: These facilities provide the capability to design, develop, manufacture, and test detonator systems.

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PHERMEX Operations (closing in FY04): PHERMEX performs flash x-ray diagnostics for studying hydrodynamic performance, shock physics, and material characterization. PHERMEX is transitioning from warm standby to cold standby.

LANSCE Facilities

LINAC: The LINAC facilities include a high-intensity, 0.8 MW proton linear accelerator, which includes three stages of injector and accelerator.

WNR: At the WNR facilities, high-energy, un-moderated neutrons and protons are used for weapons-related and nuclear science basic and applied research.

Lujan Center: The Lujan Center facilities employ moderated spallation neutrons for condensed matter-science, engineering, and nuclear science research.

Waste Management Facilities

TA-50/TA-54 Operations: The RLWTF at TA-50 handles the collection of radioactive liquid waste generated at laboratories and shops across the site. The Solid Waste Management Facility at TA-54 handles al solid radioactive and hazardous/chemical waste, including low-level, mixed low-level, chemical, and TRU wastes.

WCCR/RANT Operations: The WCCR facility supports visual examination, repackaging, and size reduction activities. The RANT facility supports assembly of drums and standard waste boxes into payload assemblies for shipment to WIPP.

BTF Facility

BTF Operations: The BTF provides the only technical capability within DOE for non-nuclear component fabrication and beryllium research and development. Operations at the BTF include alloy development, foundry operations, inspections, and nondestructive testing, joining, machining, metallography, mechanical testing, and powder operations.

NMT Division Facilities

TA-55 Operations: TA-55 activities include plutonium casting, fabrication, machining, and metallurgy laboratories; plutonium recovery; metal preparation; and destructive analysis and nondestructive analysis laboratories.

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CMR Operations: The CMR supports actinide analytical chemistry capabilities, including actinide, metallurgical, and materials properties testing systems.

Tritium Facilities

Tritium Facilities Operations: Tritium facilities have a primary role in the area of Stockpile Boost System Research and Development, support the long-term NTTL production, and cryogenic target research and development in support of NIF.

TA-18 Facilities

TA-18 Operations: These facilities support nuclear criticality research addressing national nuclear issues; training of various national groups in use of nuclear instrumentation for assay and safe handling, and development; and calibration of nuclear radiation measurement equipment.

ASCI Facility

Nicholas C. Metropolis Center for Modeling and Simulation (TA-3-2237): The Metropolis Center houses the Q supercomputer (with a peak speed of 20 trillion operations per second) and a theater for extremely high-resolution visualization. This facility supports the Laboratory' supercomputing capability for the ASCI program.

ICF Facilities

Target Fabrication Facility: This facility houses physical vapor deposition, chemical vapor deposition, polymer sciences, and precision manufacturing and assembly in support of inertial confinement fusion, high energy density physics experiments, and other research and development.

Trident Facilities: These facilities are used for experiments requiring high-energy laser light pulses, primarily in inertial confinement fusion, high-energy density physics, and basic research.

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Mission Essential Facilities	NA-11	**Engineering Facilities 87 buildings 537,100 GSF**			
		High Explosives (HE) Facilities Machine Shops	Assembly & Storage Testing Facilities	Enduring 61 buildings 237,700 GSF	Non-Enduring 26 buildings 299,400 GSF
		Dynamic Experimentation Facilities 205 buildings 474,900 GSF			
		Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) HE Science	Firing Sites Detonator Facilities	Enduring 109 buildings 287,700 GSF	Non-Enduring 96 buildings 187,200 GSF
		Los Alamos Neutron Science Center (LANSCE) 48 buildings 591,400 GSF			
		Accelerator Facilities Lujan Center	Weapons Neutron Research	Enduring 37 buildings 586,000 GSF	Non-Enduring 11 buildings 5,400 GSF
		Waste Management Facilities 76 buildings 313,700 GSF			
		Radioactive Liquid Waste Treatment Facility (RLWTF) Radioassay and Non-Destructive Test (RANT) Facility	Waste Characterization, Reduction, and Repackaging (WCCR) Facility TA-54 Solid Waste	Enduring 31 buildings 232,300 GSF	Non-Enduring 45 buildings 81,400 GSF
	NA-12	**Nuclear Materials Technology (NMT) Division Facilities 40 buildings 1,066,400 GSF**			
		TA-55 CMR		Enduring 26 buildings 492,300 GSF	Non-Enduring 14 buildings 574,100 GSF
		Tritium Facilities 9 buildings 98,100 GSF			
		TA-16 TA-21		Enduring 5 buildings 48,700 GSF	Non-Enduring 4 buildings 49,400 GSF
		Beryllium Technology Facility (BTF)			
		TA-3-141		Enduring 33,300 GSF	
		TA-18 Facilities			
		TA-18		Non-Enduring 22 buildings 74,200 GSF	
	Campaigns	**Advanced Strategic Computing Initiative (ASCI)**			
		TA-3-2237		Enduring 367,700 GSF	
		Inertial Confinement Fusion (ICF)			
		Target Fabrication Trident		Enduring 4 buildings 162,400 GSF	
Balance of Plant 1,735 buildings 5.7M GSF					

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Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
INCINERATOR BLDG	50-0037	21,437	GOOD	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
ADMINISTRATION BLDG	55-0001	13,618	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
SUPPORT OFFICE BLDG	55-0002	18,304	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
SUPPORT BLDG	55-0003	37,417	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
PLUTONIUM BLDG	55-0004	233,193	GOOD	FABRICATION (NUCLEAR)	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
WAREHOUSE	55-0005	16,941	FAIR	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
UTILITY BLDG	55-0006	7,354	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
CALCIUM BLDG	55-0007	455	FAIR	MANUFACTURING/PRODUCTION RELATED LABORATORIES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
GENERATOR BLDG	55-0008	2,453	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
GUARD STATION #402	55-0009	1,160	GOOD	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
Z PUMP HOUSE C117352	55-0010	1,147	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
Z PUMP HOUSE C117353	55-0011	1,073	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
OFFICE BLDG	55-0020	1,956	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
UTILIDOR	55-0021	341	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
MC&A SUPPORT FACILITY	55-0028	5,919	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
EDUCATIONAL SUPPORT	55-0039	8,237	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
NUCLEAR MATRLS STORAGE	55-0041	34,640	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
PROCESS SUPPORT FACILITY	55-0042	13,269	POOR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
ASSESSMENT BLDG	55-0043	176	EXCELLENT	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
GENERATOR BLDG	55-0047	683	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
DRUM STORAGE BLDG	55-0055	112	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
FITS OFFICE BUILDING	55-0066	24,368	EXCELLENT	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
TRAILER	55-0107	720	FAIL	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
COLD SUPPORT OFC BLDG	55-0114	12,548	EXCELLENT	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
TRAILER PO 6002R	55-0139	672	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
ASSESSMENT BUILDING #408	55-0142	5,060	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
TRAILER PO 6035R	55-0144	670	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
TRAILER PO 6035R	55-0145	672	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
TUNNEL ACCESS	55-0148	217	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
DRUM STORAGE BLDG	55-0185	2,427	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
PLUTONIUM FACILITY ACCESS	55-0264	4,261	GOOD	TRADITIONAL CLASSROOM	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
OFFICE BUILDING	55-0313	23,860	EXCELLENT	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	TA-55
RAD LIQUID TREATMENT	50-0001	42,025	POOR	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 9	WFM	RLW
INDUST WASTE STAT TA-50-2	50-0002	2,719	FAIL	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	RLW
TRANSPORTABLE*	50-0084	1,626	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	RLW
EMERGENCY GENERATOR BLDG	50-0188	238	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	RLW
TRAILER PO8519K*	50-0196	720	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	RLW
MORGAN SHED	50-0201	240	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1-10	WFM	RLW
ELECTRICAL SUBSTATION	50-0211	126	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	RLW
TRAILER*	50-0215	1,436	NOT APPLICABLE	OFFICE	DSW; All Campaigns	1-10	WFM	RLW
LAB SUPPORT FAC AREA G	54-0002	1,617	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	DSW; All Campaigns	1-10	WFM	Solid Waste
CONTAMINATED DRUM STRG	54-0008	651	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
STORAGE BLDG	54-0011	1,136	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
EQUIPMENT SHELTER BLDG	54-0020	680	GOOD	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRANSPORTABLE	54-0022	1,680	POOR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRU-WASTE DRUM PREP	54-0033	7,854	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRANSPORTABLE	54-0034	1,705	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	TRU
TRAILER OFFICER	54-0037	547	POOR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
PCB WASTE STORAGE FAC	54-0039	2,173	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0048	13,951	FAIR	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0049	25,587	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0051	722	FAIL	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED MORGAN SHED	54-0055	288	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0060	672	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRANSPORTABLE P# J4065	54-0064	1,680	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
PASSAGEWAY	54-0083	90	POOR	OTHER	DSW; All Campaigns	1-10	WFM	Solid Waste

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Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
PASSAGEWAY	54-0084	62	FAIR	OTHER	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0117	720	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0153	18,610	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED MORGAN SHED	54-0156	192	EXCELLENT	OTHER ENVIRONMENTA	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0185	617	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0210	600	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0211	624	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0215	15,181	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0216	3,306	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0221	592	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0224	5,829	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0226	21,718	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0229	20,498	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0230	19,695	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0231	21,363	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0232	19,679	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
ROVER TRAILER	54-0240	296	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0242	510	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0244	1,422	GOOD	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0245	1,434	ADEQUATE	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0246	1,420	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0247	1,439	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
SHOWER TRAILER	54-0277	144	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	Solid Waste
TENSION SUPPORT DOME	54-0281	4,160	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER PO 5927F	54-0288	673	ADEQUATE	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
UTILITY BUILDING	54-0289	240	FAIR	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0290	636	POOR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODULAR BLDG	54-0296	360	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	Solid Waste
HVAC EQUIP BLDG	54-0304	120	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0306	355	ADEQUATE	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
CONTROL BLDG	54-0315	734	ADEQUATE	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0324	458	POOR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0325	996	FAIR	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODULAR BLDG	54-0367	702	EXCELLENT	CHANGE HOUSES	DSW; All Campaigns	1-10	WFM	Solid Waste
DECON & VOLUME REDUCTION SYS BLDG	54-0412	13,284	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-0413	240	FAIL	GENERAL STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODULAR OFFICE BLDG	54-0434	1,436	ADEQUATE	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED TRANSPORTAINER	54-0438	320	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	TRU
MODIFIED TRANSPORTAINER	54-0439	80	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	TRU
MODIFIED TRANSPORTAINER	54-0452	160	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1-10	WFM	TRU
MODIFIED TRANSPORTAINER*	54-0464	640	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
STORAGE BLDG*	54-0473	1,835	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED TRANSPORTAINER*	54-0483	160	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED TRANSPORTAINER*	54-0486	384	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
TRANSPORTABLE	54-1050	2,036	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED MODULAR SHED	54-1051	360	EXCELLENT	OFFICE	DSW; All Campaigns	1-10	WFM	Solid Waste
MODIFIED MODULAR SHED	54-1052	360	EXCELLENT	OTHER	DSW; All Campaigns	1-10	WFM	Solid Waste
TRAILER	54-1058	360	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1-10	WFM	Solid Waste
UNLOADING STATION 3-1264	03-1264	892	POOR	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 9	WFM	RLW
RAD LIQ WSTE DISPO	21-0257	4,315	POOR	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 9	WFM	RLW
SIZE REDUCTION FACILITY	50-0069	3,760	FAIL	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 6; 7; 9	WFM	TRU
TRU-WASTE NDA/NDE	54-0038	7,576	GOOD	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 6; 7; 9	WFM	TRU
HE CHEMISTRY RESEARCH BUILDING	08-0021	20,731	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
LAB & OFFICE BLDG	15-0040	13,487	FAIL	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
STORAGE BLDG	15-0041	328	POOR	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
MAGAZINE	15-0042	209	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT

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Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
MAGAZINE	15-0043	181	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
EXERCISE FACILITY	15-0046	179	FAIL	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0140	1,210	FAIL	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
STORAGE BLDG	15-0182	86	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
LAB & OFFICE BLDG	15-0183	20,039	FAIR	LABORATORIES, GENERAL	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
DETECTION CHAMBER	15-0186	2,338	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
CARPENTER SHOP	15-0233	1,617	POOR	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
READY MAGAZINE	15-0241	142	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
MAKE UP BLDG	15-0242	455	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
MAIN MAGAZINE	15-0243	516	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
DETECTOR DIODE PREP LAB	15-0280	2,155	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
CONFINEMENT & TEXT FAC	15-0285	3,920	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRANSPORTABLE	15-0305	3,552	FAIR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
MULTIDIAGNOSTIC HYDROTEST FAC	15-0306	2,830	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
DARHT FACILITY	15-0312	62,862	ADEQUATE	OPTICS LABORATORIES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
RADIOGRAPHIC SUPPLY LAB	15-0313	24,668	EXCELLENT	OTHER PHYSICS LABORATORY	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
CDU BLAST PROTECTION	15-0319	108	EXCELLENT	OTHER SUPPORT LABS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
FIRING ACCESS CONTROL FACILITY	15-0446	3,103	FAIR	CHANGE HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRAILER	15-0447	720	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRANSPORTABLE	15-0456	1,680	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRAILER PO 9320D	15-0468	672	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRAILER	15-0476	672	GOOD	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
HYDRODYMIC TEST OPERATION CENTER	15-0484	7,386	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
OFFICE BUILDING	15-0494	14,440	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
DARHT VESSEL PREPARATION FACILITY	15-0534	7,964	EXCELLENT	MATERIALS LABORATORY	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
SHOP BUILDING	15-0563	3,655	EXCELLENT	CARPENTRY SHOPS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
CALIBRATION BUILDING	15-0564	3,200	EXCELLENT	EQUIPMENT CALIBRATION SHOPS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0603	615	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0604	613	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
GUARD STATION	69-0001	200	FAIL	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
DOUBLEWIDE TRAILER	69-0002	1,680	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
TRAILER PO 7509E	69-0005	715	FAIL	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
GUARD HOUSE STA #431	69-0026	48	FAIL	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Dynamic Experimentation	DARHT
BERYLLIUM TECHNOLOGY FACILITY	03-0141	32,269	ADEQUATE	LABORATORIES, GENERAL	DSW; Science; Engineering; ICFI&HYC; PM&C; Readiness	2; 3; 8; 9	BTF	BTF
CMR LABORATORY	03-0029	566,849	ADEQUATE	NUCLEAR PHYSICS LABORATORY	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
GUARD STATION #321	03-0503	349	FAIR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
EQUIPMENT SHELTER	03-0564	80	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
MECHANICAL BLDG	03-0586	336	POOR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
GUARD STA #331	03-1610	288	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
GUARD STA #332	03-1614	64	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
GUARD STATION	03-1615	64	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
STORAGE BLDG	03-2206	3,028	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Nuclear	CMR
PHERMEX CHAMBER/AMP	15-0184	10,144	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
POWER CONTROL BLDG	15-0185	12,698	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
POWER SUPPLY BLDG	15-0189	452	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
TUNNEL	15-0198	905	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
TUNNEL	15-0199	2,027	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
TUNNEL	15-0200	702	FAIR	OTHER SERVICE BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
TUNNEL	15-0201	870	FAIR	OTHER SERVICE BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
MULTIDIAG OPERATIONS	15-0310	3,194	ADEQUATE	OTHER MATERIALS R&D TEST BUILDINGS	DSW; PM&C	2; 9	Dynamic Experimentation	PHERMEX
SHOPS BLDG	16-0202	26,448	GOOD	MACHINE SHOPS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
TRITIUM PROCESSING FACILITY	16-0205	9,647	GOOD	PRODUCTION/MANUFACTURING BUILDINGS (NUCLEAR)	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
MODULAR OFFICE BLDG	16-0329	2,232	FAIR	OFFICE	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium

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PROCESS BLDG	16-0450	14,460	FAIL	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
BADGE READER	16-0973	309	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
LABORATORY BLDG	21-0152	12,480	POOR	LABORATORIES, GENERAL	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
EQUIPMENT BLDG	21-0166	1,302	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
EQUIPMENT BLDG	21-0167	1,302	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
TRITIUM SCI & TECH BLDG	21-0209	34,272	GOOD	CHEMICAL LABORATORY	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Tritium	Tritium
GRINDING BLDG	16-0054	3,789	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
CHANGE HOUSE	16-0193	13,444	POOR	CHANGE HOUSES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
TRAILER	16-0251	500	EXCELLENT	MACHINE SHOPS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PROCESS BLDG	16-0260	36,072	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0261	3,945	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0263	3,956	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
HE ASSEMBLY/REST HOU	16-0265	1,248	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0267	1,128	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
EQUIPMENT STORAGE BLDG	16-0277	3,277	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
EQUIPMENT STORAGE BLDG	16-0278	3,360	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
INSPECTION BLDG	16-0280	5,918	POOR	LABORATORIES, GENERAL	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0281	4,396	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MUSEUM	16-0283	4,093	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
EQUIP STORAGE BLDG	16-0285	3,742	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
COFFEE HOUSE	16-0286	355	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PROCESS BLDG*	16-0302	17,811	FAIR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PLASTICS BLDG	16-0304	19,513	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PLASTICS BLDG	16-0305	5,402	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PLASTICS BLDG	16-0306	19,639	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PLASTICS BLDG	16-0307	7,716	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PROCESS BLDG	16-0308	263	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
PROCESS EQUIP STG	16-0332	12,000	ADEQUATE	NUCLEAR WASTE STORAGE FACILITY	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
STORAGE BLDG	16-0360	3,911	FAIR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
CONTROL SHELTER	16-0389	231	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
TRUCK WASHING BLDG	16-0400	1,183	FAIR	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
ASSEMBLY BLDG	16-0410	10,187	FAIR	ASSEMBLY (NUCLEAR)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0411	2,342	FAIR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0413	1,247	FAIR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
STORAGE BLDG	16-0414	8,488	FAIR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0415	4,559	GOOD	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
HE PRESSING	16-0430	19,168	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0435	4,439	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
REST HOUSE	16-0437	4,323	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
LEAN TO STORAGE SHED	16-0453	288	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
GARAGE FACILITY	16-1507	1,200	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
WASTE WATER TREATMENT FACILITY	16-1508	928	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
STORAGE BLDG	37-0001	188	POOR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0002	192	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0003	416	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0004	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0005	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0006	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0007	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0008	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0009	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE

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NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
MAGAZINE	37-0010	416	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0011	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0012	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0013	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0014	1,144	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0015	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0016	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0017	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0018	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0019	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0020	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0021	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0022	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0023	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0024	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0025	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
MAGAZINE	37-0026	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
STORAGE BLDG	37-0027	800	POOR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 9	Engineering	HE
GUARD STATION	08-0020	187	FAIL	GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
NONDESTRUCTIVE TESTING	08-0022	9,956	GOOD	LABORATORIES, GENERAL	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
BETATRON BLDG	08-0023	4,745	POOR	LABORATORIES, GENERAL	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
FLASH X-RAY R&D	08-0024	2,231	FAIL	GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
UTILITY BLDG	08-0025	99	POOR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
STORAGE/SALVAGE BLDG	08-0026	638	FAIL	PROGRAMMATIC GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
GUARD SHACK	08-0028	87	POOR	GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
SOURCE STORAGE BLDG	08-0065	207	FAIR	NUCLEAR WASTE STORAGE FACILITY	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
LAB/OFFICE BLDG	08-0070	8,807	POOR	LABORATORIES, GENERAL	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
ACCIDENT RESPONSE NDE FAC	08-0120	5,099	GOOD	NUCLEAR CONTAMINATED STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
STORAGE BLDG	11-0001	618	POOR	GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
CONTROL BUILDING	11-0003	529	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
CONTROL BUILDING	11-0004	706	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
SHOP/OFFICE BLDG	11-0024	3,685	GOOD	MACHINE SHOPS	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
VIBRATION TEST BLDG	11-0030	2,001	ADEQUATE	LABORATORIES, GENERAL	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
EQUIPMENT SHELTER	11-0033	66	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
MAGAZINE	11-0036	82	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
WEAPONS COMPONENT TEST FACILITY	16-0207	22,075	GOOD	NUCLEAR PHYSICS LABORATORY	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
REST HOUSE	16-0301	6,795	EXCELLENT	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Engineering; PM&C	1; 2; 5; 6; 9	Engineering	Testing
STORAGE FACILITY	06-0124	7,057	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
ENVIRONMENTAL TEST	09-0051	2,122	NOT APPLICABLE	MATERIALS LABORATORY	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
WAREHOUSE & PLASTIC SHOP	22-0005	6,152	FAIL	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0007	51	GOOD	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
PROCESS BLDG	22-0008	52	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0009	10	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0010	10	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0011	10	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0012	10	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0014	51	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator

Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
STORAGE MAGAZINE	22-0015	52	GOOD	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0016	101	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0017	99	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0018	103	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0019	98	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0020	102	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0021	51	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0022	98	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0023	52	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0024	52	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
GUARD HOUSE	22-0032	188	POOR	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
LABORATORY BLDG	22-0034	5,008	FAIR	OTHER SUPPORT LABS	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0035	176	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
SHOPS BLDG	22-0052	7,161	POOR	MACHINE SHOPS	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0066	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0067	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0068	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0069	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
OFFICE BLDG	22-0090	13,506	FAIR	OFFICE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
DETONATOR FACILITY	22-0091	22,774	GOOD	OTHER SUPPORT LABS	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
HIGH EXPLOSIVE WING	22-0093	7,615	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
SOLVENT STORAGE SHED	22-0095	285	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
DAY MAGAZINE	22-0096	283	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
STORAGE BUILDING	22-0110	5,000	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
BUNKER	39-0175	506	EXCELLENT	OTHER	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
FIRING POINT	40-0005	1,533	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
PREPARATION BLDG	40-0006	168	EXCELLENT	ASSEMBLY FACILITIES	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
MAGAZINE	40-0007	73	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
TRANSPORTABLE	40-0090	1,587	ADEQUATE	OFFICE	DSW; Science; Engineering; Readiness	2; 7; 9	Dynamic Experimentation	HE Detonator
OFFICE	09-0020	189	POOR	GUARD HOUSES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
LAB & OFFICE BLDG	09-0021	25,423	GOOD	LABORATORIES, GENERAL	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science

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NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
MAGAZINE	09-0022	9	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0023	9	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0024	9	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0025	10	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0026	9	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0027	9	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
SHOP BUILDING	09-0028	2,822	FAIR	MACHINE SHOPS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
STOCK & EQUIP BLDG	09-0029	4,675	POOR	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
GAS STORAGE	09-0030	242	GOOD	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
SOLVENT STORAGE	09-0031	330	GOOD	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
LAB/OFFICE BLDG	09-0032	2,549	ADEQUATE	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
LAB BLDG	09-0033	949	GOOD	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0034	1,771	FAIR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0035	1,911	POOR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0036	210	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0037	1,591	FAIR	CHEMICAL LABORATORY	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0038	1,594	FAIR	CHEMICAL LABORATORY	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0039	214	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
ENVIRONMENTAL CHAMBERS	09-0040	1,237	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0042	1,906	FAIR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0043	1,768	NOT APPLICABLE	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0044	210	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PROCESS LAB	09-0045	1,589	FAIL	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
STORAGE BLDG	09-0046	1,771	FAIR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0047	210	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MACHINING BLDG	09-0048	3,557	POOR	MACHINE SHOPS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0049	210	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
RECEIVING & SHIPPING BLDG	09-0050	576	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0052	207	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0053	208	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0054	400	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	09-0055	876	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
REFRIGERATOR SHELTER	09-0204	39	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
DAY MAGAZINE	09-0208	50	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
SHOP BLDG	09-0214	2,468	FAIL	CARPENTRY SHOPS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
BOILER BLDG	09-0265	131	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
TRANSPORTABLE	09-0272	1,698	FAIR	OFFICE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
TRANSPORTABLE	09-0273	1,701	POOR	OFFICE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
STEAM PLANT BOILER #13	09-0282	1,200	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
STORAGE BUILDING	14-0006	669	FAIL	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	14-0022	98	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
CONTROL BUILDING	14-0023	563	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	14-0024	33	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
EXPLOSIVE PREP BLDG	14-0030	246	NOT APPLI	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
CONTROL BLDG	14-0034	342	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
INSTRUMENTATION BLDG	14-0040	80	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
ASSEMBLY & STORAGE BLDG	14-0043	1,000	EXCELLENT	ASSEMBLY FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PREPARATION BLDG	36-0011	688	POOR	ASSEMBLY FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
CONTROL BUNKER	36-0012	2,186	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
INSTRUMENT CHAMBER	36-0013	110	GOOD	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
ATAC BALLISTICS TEST FACILITY	36-0086	3,012	ADEQUATE	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
TRAILER	36-0127	96	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
LABORATORY & OFFICE BLDG	40-0001	6,095	FAIR	OFFICE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0002	73	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PREPARATION BLDG	40-0003	168	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
FIRING POINT	40-0004	572	ADEQUATE	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science

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Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
FIRING POINT	40-0008	2,200	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
FIRING POINT	40-0009	4,520	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0010	66	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PREPARATION & UTILITY BLD	40-0011	909	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
FIRING POINT	40-0012	1,342	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0013	124	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
PREPARATION BLDG	40-0014	168	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
FIRING POINT	40-0015	605	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
UTILITY BLDG	40-0016	224	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
UTILITY BLDG	40-0018	224	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MACHINE SHOP	40-0023	8,204	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0036	67	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0037	67	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0038	118	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0039	118	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
MAGAZINE	40-0040	417	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
LABORATORY BLDG	40-0041	417	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
SOLVENT SHED	40-0045	99	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
EQUIPMENT BLDG	40-0058	91	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 9	Dynamic Experimentation	HE Science
CONTROL BLDG	36-0003	1,239	POOR	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0004	624	FAIL	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0005	624	POOR	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0006	658	FAIL	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0007	624	POOR	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0008	676	FAIL	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0009	67	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0010	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
INSTRUMENT CHAMBER	36-0019	110	GOOD	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
INSTRUMENT CHAMBER	36-0020	110	GOOD	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
LAB/EXERCISE FACILITY	36-0048	399	FAIR	CALIBRATION LABORATORY	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0055	732	ADEQUATE	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRAILER	36-0082	665	POOR	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0083	1,040	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
SHOP	36-0104	600	FAIR	WELDING SHOPS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
CONTROL BUNKER	36-0107	1,017	FAIR	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
SHRAPNEL PROTECTION	36-0120	78	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRAILER PO 9765X	36-0210	672	FAIL	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRAILER PO 9765X	36-0211	720	FAIL	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
LAB OFFICE BLDG	39-0002	13,238	FAIR	LABORATORIES, GENERAL	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
MAGAZINE	39-0003	400	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRIM BLDG	39-0004	839	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
READY MAGAZINE	39-0005	144	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
FIRING CHAMBER #1	39-0006	561	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
GUN BLDG	39-0056	276	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
FIRING CHAMBER	39-0057	578	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
STORAGE BLDG	39-0062	1,536	GOOD	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
EQUIPMENT SHELTER	39-0063	262	FAIR	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
EQUIPMENT SHELTER	39-0064	262	EXCELLENT	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
CAPACITOR BANK ENCLOSURE	39-0067	280	GOOD	OTHER SERVICE BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
STORAGE BLDG	39-0068	252	EXCELLENT	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
GUN BLDG	39-0069	2,613	ADEQUATE	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
MAGAZINE	39-0077	205	GOOD	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
FIRING CHAMBER	39-0088	1,386	FAIR	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
GUN GAS SUPPORT BLDG	39-0089	1,800	EXCELLENT	LABORATORIES, GENERAL	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
BUNKER	39-0095	1,099	ADEQUATE	OTHER ELECTRICAL/ELECTRONICS LABORATORY	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
BUNKER	39-0097	2,072	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites

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NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
BRANCH SHOPS BLDG	39-0098	5,214	ADEQUATE	MACHINE SHOPS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRAILER	39-0101	300	FAIR	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRANSPORTABLE	39-0103	1,680	NOT APPLICABLE	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TRANSPORTABLE	39-0107	1,680	ADEQUATE	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
PULSED POWER BLDG	39-0111	1,215	EXCELLENT	PHYSICS LABORATORIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
NEUTRON FLUX STORAGE	39-0138	96	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
GUARD STATION #468	39-0183	108	EXCELLENT	GUARD HOUSES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Dynamic Experimentation	Firing Sites
TECH SHOP	03-0039	152,567	GOOD	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 5; 7; 9	Engineering	Shops
TECH SHOPS ADDITION	03-0102	29,365	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 5; 7; 9	Engineering	Shops
SHOPS BLDG*‡	16-0202		GOOD	MACHINE SHOPS	DSW; PM&C	2; 4; 5; 9	Engineering	Assembly & Storage
ROVER TRAILER	16-0367	360	FAIL	OFFICE	DSW; PM&C	2; 4; 5; 9	Engineering	Assembly & Storage
UNDERGROUND VAULT	41-0001	7,267	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; PM&C	2; 4; 5; 9	Engineering	Assembly & Storage
LAB OFFICE BLDG	53-0001	81,939	POOR	OFFICE	Science; Engineering	3; 7; 9	LANSCE	LINAC
EQUIPMENT TEST LAB	53-0002	25,611	GOOD	OTHER BUILDINGS TRADE SHOPS	Science; Engineering	3; 7; 9	LANSCE	LINAC
LANSCE ACCELERATOR BLDG	53-0003	314,333	POOR	ACCELERATOR BUILDING	Science; Engineering	3; 7; 9	LANSCE	LINAC
OPERATIONS BLDG	53-0004	16,445	FAIL	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering	3; 7; 9	LANSCE	LINAC
SERVICE CORRIDOR	53-0005	1,751	ADEQUATE	OTHER	Science; Engineering	3; 7; 9	LANSCE	LINAC
LANSCE/WNR BUILDING	53-0007	33,463	POOR	ACCELERATOR BUILDING	Science; Engineering	3; 9	LANSCE	WNR
PROTON STG. RING FACILITY	53-0008	12,828	EXCELLENT	ACCELERATOR BUILDING	Science; Engineering	3; 7; 9	LANSCE	LINAC
HIGH RES BEAM FACILITY	53-0010	1,760	ADEQUATE	APPLIED PHYSICS LABORATORY	Science; Engineering	3; 7; 9	LANSCE	LINAC
WNR LAB SUPPORT BLDG	53-0015	3,422	ADEQUATE	CHEMICAL LABORATORY	Science; Engineering	3; 9	LANSCE	Lujan
WAREHOUSE	53-0016	1,618	EXCELLENT	GENERAL STORAGE	Science; Engineering	3; 9	LANSCE	Lujan
DEVELOPMENT AND TESTING	53-0022	4,136	EXCELLENT	APPLIED SCIENCE LABORATORY	Science; Engineering	3; 7; 9	LANSCE	LINAC
DATA ANALYSIS CTR	53-0024	13,761	ADEQUATE	COMPUTER BUILDINGS	Science; Engineering	3; 7; 9	LANSCE	LINAC
ACCELERATOR MAINT BLDG*	53-0025	4,511	ADEQUATE	MACHINE SHOPS	Science; Engineering	3; 7; 9	LANSCE	LINAC
EXPERIMENTAL AREA BUILDING	53-0029	2,133	FAIR	PHYSICS LABORATORIES	Science; Engineering	3; 9	LANSCE	WNR
NEUTRON SCATTERING EXPER	53-0030	20,526	FAIL	ACCELERATOR BUILDING	Science; Engineering	3; 9	LANSCE	Lujan
DETECTOR BLDG	53-0034	300	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR SHED	53-0035	300	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR SHED	53-0036	300	GOOD	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
GUARD STATION	53-0037	126	EXCELLENT	GENERAL STORAGE	Science; Engineering	3; 9	LANSCE	WNR
SHOP & STORARG BLDG	53-0039	2,416	ADEQUATE	MACHINE SHOPS	Science; Engineering	3; 7; 9	LANSCE	LINAC
MED RESOLUTION SPECT	53-0315	1,830	GOOD	OTHER PHYSICS LABORATORY	Science; Engineering	3; 7; 9	LANSCE	LINAC
NEUTRINO EXPER SERVI	53-0364	1,600	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	3; 7; 9	LANSCE	LINAC
PUMP SHED	53-0368	315	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	3; 9	LANSCE	WNR
WNR TARGET CELL #4	53-0369	1,694	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR BLDG	53-0370	150	ADEQUATE	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR BLDG	53-0371	160	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR BLDG	53-0372	317	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
METAL DETECTOR SHED*	53-0374	80	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 7; 9	LANSCE	LINAC
METAL DETECTOR SHED	53-0382	105	FAIR	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
TRAILER	53-0387	744	FAIR	ELECTRICAL/ELECTRONICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
TRAILER	53-0505	312	EXCELLENT	CHANGE HOUSES	Science; Engineering	3; 7; 9	LANSCE	LINAC
TRAILER	53-0510	320	EXCELLENT	CHANGE HOUSES	Science; Engineering	3; 7; 9	LANSCE	LINAC
TRAILER	53-0541	523	POOR	OFFICE	Science; Engineering	3; 9	LANSCE	WNR
TRAILER	53-0573	233	POOR	OFFICE	Science; Engineering	3; 9	LANSCE	WNR
ML NEUTRON SCATTERING FAC	53-0622	27,697	ADEQUATE	OFFICE	Science; Engineering	3; 9	LANSCE	Lujan
METAL DETECTOR SHED*	53-0679	288	ADEQUATE	OTHER SERVICE BUILDINGS	Science; Engineering	3; 7; 9	LANSCE	LINAC
TRAILER	53-0773	320	FAIL	GENERAL STORAGE	Science; Engineering	3; 7; 9	LANSCE	LINAC
WNR BLDG #7	53-0823	109	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 9	LANSCE	WNR
TRANSPORTABLE	53-0898	1,690	EXCELLENT	OFFICE	Science; Engineering	3; 7; 9	LANSCE	LINAC
PROCESS EQUIPMENT BUILDING	53-0945	4,677	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	Science; Engineering	3; 7; 9	LANSCE	LINAC
PUMP HOUSE	53-0954	173	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	Science; Engineering	3; 7; 9	LANSCE	LINAC
EQUIPMENT BLDG*	53-0964	1,551	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	3; 7; 9	LANSCE	LINAC
EQUIPMENT BLDG*	53-0979	2,651	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	3; 9	LANSCE	Lujan
STORAGE BLDG	53-1031	528	POOR	GENERAL STORAGE	Science; Engineering	3; 9	LANSCE	WNR

Attachment G
Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	RTBF Mission	RTBF Mission Component
METAL BLDG	53-1090	300	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	Science; Engineering	3; 9	LANSCE	WNR
DETECTOR SHED*	53-1138	96	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	3; 7; 9	LANSCE	LINAC
SEMI-TRAILER*	53-1199	500	FAIR	PHYSICS LABORATORIES	Science; Engineering	3; 7; 9	LANSCE	LINAC
EXPERIMENTAL BLDG*	53-1265	1,027	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	3; 9	LANSCE	WNR
STAGING AREA	18-0001	1,051	FAIL	FABRICATION FACILITY	Engineering	3; 9	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0023	2,681	ADEQUATE	LABORATORIES, GENERAL	Engineering	3; 9	TA-18	TA-18
VAULT	18-0026	287	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	Engineering	3; 9	TA-18	TA-18
WAREHOUSE	18-0028	4,782	ADEQUATE	PROGRAMMATIC GENERAL STORAGE	Engineering	3; 9	TA-18	TA-18
MAIN BLDG	18-0030	23,137	FAIL	OFFICE	Engineering	3; 9	TA-18	TA-18
UTILITY BLDG*	18-0031	2,093	FAIL	OTHER SERVICE BUILDINGS	Engineering	3;9	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0032	3,268	ADEQUATE	LABORATORIES, GENERAL	Engineering	3; 9	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0116	5,790	ADEQUATE	LABORATORIES, GENERAL	Engineering	3; 9	TA-18	TA-18
STORAGE BLDG	18-0119	1,242	POOR	NUCLEAR CONTAMINATED STORAGE	Engineering	3; 9	TA-18	TA-18
STORAGE BLDG	18-0122	1,372	POOR	GENERAL STORAGE	Engineering	3; 9	TA-18	TA-18
PULSED ACCELERATOR BLDG	18-0127	9,537	FAIR	NUCLEAR PHYSICS LABORATORY	Engineering	3; 9	TA-18	TA-18
REACTOR SUB-ASSY BLDG	18-0129	6,570	FAIR	NUCLEAR PHYSICS LABORATORY	Engineering	3; 9	TA-18	TA-18
WAREHOUSE	18-0138	1,344	POOR	NUCLEAR CONTAMINATED STORAGE	Engineering	3; 9	TA-18	TA-18
ULTRA-SONIC CLEANING BLDG*	18-0141	963	POOR	NUCLEAR PHYSICS LABORATORY	Engineering	3;9	TA-18	TA-18
OFFICE BLDG	18-0147	1,298	POOR	OFFICE	Engineering	3; 9	TA-18	TA-18
SHEBA CRITICAL BLDG	18-0168	400	FAIR	NUCLEAR PHYSICS LABORATORY	Engineering	3; 9	TA-18	TA-18
ACCELERATOR DEV LAB	18-0227	2,838	ADEQUATE	ACCELERATOR BUILDING	Engineering	3; 9	TA-18	TA-18
BUTLER BLDG	18-0256	920	EXCELLENT	APPLIED PHYSICS LABORATORY	Engineering	3; 9	TA-18	TA-18
TRAILER PO 9288Z	18-0257	1,440	FAIR	OFFICE	Engineering	3; 9	TA-18	TA-18
TRAILER PO 8797R	18-0258	1,440	FAIL	OFFICE	Engineering	3; 9	TA-18	TA-18
TRAILER	18-0288	840	FAIR	OFFICE	Engineering	3; 9	TA-18	TA-18
STORAGE BLDG	18-0297	874	EXCELLENT	GENERAL STORAGE	Engineering	3; 9	TA-18	TA-18
STRATEGIC COMPUTER COMPLEX	03-2327	600	EXCELLENT	OFFICE	ASCC	2; 3; 9	ASCI	ASCI
LASER BLDG	35-0125	59,334	FAIR	OPTICS LABORATORIES	ICFI&HYC	2; 3; 9	ICF	ICF
LAB OPTICS EVALUATION	35-0189	12,763	GOOD	OPTICS LABORATORIES	ICFI&HYC	2; 3; 9	ICF	ICF
TARGET FABRICATION BLDG	35-0213	84,818	ADEQUATE	NUCLEAR PHYSICS LABORATORY	ICFI&HYC	2; 3; 9	ICF	ICF
POLYMER LABORATORY	35-0455	4,493	FAIR	OTHER CHEMISTRY LABORATORY	ICFI&HYC	2; 3; 9	ICF	ICF

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Attachment G
Mission Essential Facilities and Infrastructure
Deletions from FY04 Mission Essential List

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	RTBF Mission	RTBF Mission Component	Reason for Deletion
HOT WASTE PUMP HOUSE	03-0154	Nuclear	CMR	Does not support mission activities
UTILITY BLDG	08-0029	Engineering	HE	Does not support mission activities
M.A.S.H. RESEARCH LAB	08-0030	Engineering	HE	Does not support mission activities
MAGAZINE	08-0032	Engineering	HE	Does not support mission activities
TRAILER	16-0248	Tritium	Tritium	Demolished
TRANSPORTABLE LP 9297Z	16-0900	Engineering	Testing	Does not support mission activities
TRANSPORTABLE LP 9297Z	16-0901	Tritium	Tritium	Demolished
POND CABIN	18-0029	Nuclear	TA-18	Does not support mission activities
GUARD STATION	18-0037	Nuclear	TA-18	Does not support mission activities
ASSEMBLY COVER BLDG	18-0128	Nuclear	TA-18	Does not support mission activities
TRAILER	18-0184	Nuclear	TA-18	Does not support mission activities
SECUR ENHANC ASESSM	18-0189	Nuclear	TA-18	Does not support mission activities
GUARD STATION	18-0190	Nuclear	TA-18	Does not support mission activities
GUARD STATION	18-0270	Nuclear	TA-18	Does not support mission activities
DOUBLEWIDE TRAILER	18-0300	Nuclear	TA-18	Vacated; to be demolished
DOUBLEWIDE TRAILER	18-0301	Nuclear	TA-18	Vacated; to be demolished
GUARD HOUSE #318	41-0002	Engineering	Assembly & Storage	Does not support mission activities
BLOWER HOUSE	41-0003	Engineering	Assembly & Storage	Does not support mission activities
COVERED PASSAGEWAY	41-0006	Engineering	Assembly & Storage	Does not support mission activities
STORAGE BLDG	41-0044	Engineering	Assembly & Storage	Does not support mission activities
STORAGE BLDG	41-0054	Engineering	Assembly & Storage	Does not support mission activities
BEAD BLASTER BLDG	53-0056	LANSCE	LINAC	Does not support mission activities
TRAILER	53-0514	LANSCE	LINAC	Does not support mission activities
COUNTING HOUSE	53-0737	LANSCE	LINAC	Does not support mission activities
COUNTING HOUSE	53-0738	LANSCE	LINAC	Does not support mission activities

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Attachment G
Mission Essential Facilities and Infrastructure
Notes

Additions to FY05 list are denoted in blue text and with an * after the facility name.

Stockpile Stewardship Program Linkages
DSW - Directed Stockpile Work: Includes all work associated with weapon system as detailed in the MTEs for DSW in the FY05 budget.
Science - Science Campaigns: Includes Primary Assessment Technologies; Dynamic Material Properties; Advanced Radiography; and Secondary Assessment Technologies.
Engineering - Engineering Campaigns: Includes Enhanced Surety; Weapons Systems Engineering Assessment Technology; Nuclear Survivability; Enhanced Surveillance; Advanced Design and Production Technologies (ADAPT); and Microsystems and Engineering Sciences Application (MESA).
ICFI&HYC - Inertial Confinement Fusion Ignition and High Yield Campaign.
ASCC - Advanced Simulation and Computing Campaign.
PM&C - Pit Manufacturing and Certification Campaign.
Readiness - Readiness Campaigns: Includes Tritium Readiness; Stockpile Readiness; HE/Assembly Readiness; and Nonnuclear Readiness.
STA - Secure Transportation Asset.

Defense Program Priorities
1. Meet the immediate needs of the stockpile including replacement of limited-life components (LLCs), repairing warheads as directed by the Production and Planning Directive (P&PD)
2. Conduct surveillance of the stockpile to assess the safety, security, and reliability of the warheads including disassembly and inspection of warheads, conducting flight and laboratory tests, enhancing surveillance techniques, and supporting annual assessment of certification.
3. Sustain the long-term leadership and vitality in science and engineering to support national security. Develop and apply comprehensive methodologies, plans, and tools for qualification, assessment, and certification including high-energy-density physics experiments (HEDP), simulation, hydrodynamic testing, engineering, and materials science.
4. Working with the DoD, develop options and requirements for the future nuclear deterrent to transform the cold war stockpile to meet the needs of the twenty first century.
5. Extend the lifetimes of warheads currently in the stockpile, incorporate modern technologies, and enhanced surety features where necessary in accordance with Nuclear Weapons Council (NWC) planning.
6. Restore pit-manufacturing capability with priority to the W88.
7. Plan, complete, and operate NIF (National Ignition Facility), MESA, TEF (Tritium Extraction Facility), and all capital projects within the Integrated Construction Program Plan (ICPP) on schedule and within budget.
8. Develop an enhanced readiness to conduct nuclear tests.
9. Maintain a responsive, robust nuclear weapons complex infrastructure, emphasizing the importance of Integrated Safeguards and Security Management (ISSM). Store and dismantle retired warheads and dispose of weapon components removed from the stockpile. Working with NA-50, create a smooth transition plan from FIRP to RTBF maintenance in FY 2010.
10. Renew the workforce by attracting, training, and retaining the next generation of personnel to serve the nation's nuclear security needs.

Mission Essential Facilities Sorting Hiearchy
Structures in Attachment G have been sorted based on a prioritization of RTBF operations of facilities established by the Laboratory's Program Integration Board. Those priorities are as follows:
1. TA-55 Operations
2. TA-50/TA-54 Operations
3. WCCR/RANT Operations
4. DARHT Operations
5. BTF Operations
6. CMR Operations
7. PHERMEX Operations (will be closing in FY04)
8. Tritium Facilities Operations
9. Engineering High Explosives Operations
10. Engineering Testing Facilities Operations
11. High Explosives Detonation Facilities Operations
12. High Explosives Science Facilities Operations
13. Firing Sites Operations
14. Machine Shops Operations
15. Assembly and Storage Operations
16. LANSCE Operations
17. TA-18 Operations

The following Mission Essential Facilities are not RTBF funded but supported by individual Campaigns and were not included in the PIB prioritization:
ASCI (Advanced Simulation and Computing Campaign)
ICF (Inertial Confinement Fusion Ignition and High Yield Campaign)

‡TA-16-0302 supports both Tritium and Engineering Assembly and Storage functions.

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Attachment G
Mission Essential Facilities and Infrastructure
Linkages to Campaigns and DSW

		NA-11				NA-12				
		Engineering Facilities	Dynamic Experimentation Facilities	LANSCE	Waste Management Facilities	Beryllium Technology Facility	Nuclear Facilities			Tritium
						BTF	TA-55	CMR	TA-18	Tritium
Campaigns	1. Primary Certification	√	√	√	√	√	√	√		
	2. Dynamic Materials Properties	√	√	√	√	√	√	√		
	3. Advanced Radiography	√	√	√	√		√	√		
	4. Secondary Certification and Nuclear Systems Margins	√		√	√					
	5. Enhanced Surety	√	√		√	√	√	√	√	
	6. Weapon Systems Engineering Certification	√	√	√	√	√				√
	7. Nuclear Survivability		√		√				√	
	8. Enhanced Surveillance	√	√	√	√	√	√	√		√
	9. ADAPT	√	√		√	√	√	√		√
	10. Inertial Confinement Fusion Ignition and High Yield	√	√		√					√
	11. Advanced Simulation and Computing									
	12. Pit Manufacturing	√	√		√	√	√	√		
	13. Stockpile Readiness									
	14. High Explosives Manufacturing & Weapon Assembly / Disassembly									
	15. Nonnuclear Readiness	√	√		√	√				√
	16. Material Readiness									
	17. Tritium Readiness				√					√
DSW	Stockpile Research and Development	√	√	√	√	√	√	√		√
	Stockpile Maintenance	√	√	√	√	√	√	√		√
	Stockpile Evaluation	√	√	√	√		√	√		
	Dismantlement / Disposal	√	√		√		√	√		
	Field Engineering, Training, and Manuals (FETM)									
	Production Support	√	√		√	√				√

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Attachment G
Mission Essential Facilities and Infrastructure
Linkages to Campaigns and DSW

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Attachment G
Mission Essential Facilities and Infrastructure
Linkages to Attachment A Projects

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	RTBF Mission	RTBF Mission Component	Line Item Related Projects	RTBF Related Projects	FIRP Related Projects
BERYLLIUM TECHNOLOGY FACILITY	03-0141	BTF	BTF		BTF Upgrades to FMS and VAV Systems	
DARHT FACILITY	15-0312	Dynamic Experimentation	DARHT	DARHT (Phase 1 & 2)		
LAB OFFICE BLDG	39-0002	Dynamic Experimentation	Firing Sites			Reconfigure TA-39-98, Close 39-2,39-103, 39-07
BRANCH SHOPS BLDG	39-0098	Dynamic Experimentation	Firing Sites			Reconfigure TA-39-98, Close 39-2,39-103, 39-07
TRANSPORTABLE	39-0103	Dynamic Experimentation	Firing Sites			Reconfigure TA-39-98, Close 39-2,39-103, 39-07
TRANSPORTABLE	40-0090	Dynamic Experimentation	HE Detonator	High Explosives Characterization		
OFFICE	09-0020	Dynamic Experimentation	HE Science	High Explosives Characterization		
LAB & OFFICE BLDG	09-0021	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0022	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0023	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0024	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0025	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0026	Dynamic Experimentation	HE Science	High Explosives Characterization		
MAGAZINE	09-0027	Dynamic Experimentation	HE Science	High Explosives Characterization		
STOCK & EQUIP BLDG	09-0029	Dynamic Experimentation	HE Science	High Explosives Characterization		
GAS STORAGE	09-0030	Dynamic Experimentation	HE Science	High Explosives Characterization		
SOLVENT STORAGE	09-0031	Dynamic Experimentation	HE Science	High Explosives Characterization		
LAB/OFFICE BLDG	09-0032	Dynamic Experimentation	HE Science	High Explosives Characterization		
LAB BLDG	09-0033	Dynamic Experimentation	HE Science	High Explosives Characterization		
PROCESS LAB	09-0034	Dynamic Experimentation	HE Science	High Explosives Characterization		
PROCESS LAB	09-0035	Dynamic Experimentation	HE Science	High Explosives Characterization		
PROCESS LAB	09-0037	Dynamic Experimentation	HE Science	High Explosives Characterization		
PROCESS LAB	09-0038	Dynamic Experimentation	HE Science			TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion
ENVIRONMENTAL CHAMBERS	09-0040	Dynamic Experimentation	HE Science			TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion
PROCESS LAB	09-0042	Dynamic Experimentation	HE Science			TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion
PROCESS LAB	09-0043	Dynamic Experimentation	HE Science	High Explosives Characterization		
STORAGE BLDG	09-0046	Dynamic Experimentation	HE Science			TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion
RECEIVING & SHIPPING BLDG	09-0050	Dynamic Experimentation	HE Science	High Explosives Characterization		
REFRIGERATOR SHELTER	09-0204	Dynamic Experimentation	HE Science	High Explosives Characterization		
DAY MAGAZINE	09-0208	Dynamic Experimentation	HE Science	High Explosives Characterization		
TRANSPORTABLE	09-0272	Dynamic Experimentation	HE Science	High Explosives Characterization		
TRANSPORTABLE	09-0273	Dynamic Experimentation	HE Science	High Explosives Characterization		
FIRING POINT	40-0008	Dynamic Experimentation	HE Science	High Explosives Characterization		
FIRING POINT	40-0012	Dynamic Experimentation	HE Science	High Explosives Characterization		
SHOPS BLDG*‡	16-0202	Engineering	Assembly & Storage		TA-21 HIC Move to TA-16-202	
CHANGE HOUSE	16-0193	Engineering	HE			TA-16-193 Reconfiguration
ASSEMBLY BLDG	16-0410	Engineering	HE			Deferred Maintenance TA-16-410/411
REST HOUSE	16-0411	Engineering	HE			Deferred Maintenance TA-16-410/411
TECH SHOP	03-0039	Engineering	Shops	Weapons Manufacturing Support Facility		Electrical Infrastructure Safety Upgrade (TA-3-39)
TECH SHOPS ADDITION	03-0102	Engineering	Shops	Weapons Manufacturing Support Facility		Electrical Infrastructure Safety Upgrade (TA-3-102)
BETATRON BLDG	08-0023	Engineering	Testing	Radiography	TA-8 Radiography Upgrades	
LAB OFFICE BLDG	53-0001	LANSCE	LINAC	LANSCE Refurbishment	Renovate MPF-3 Sector R and MPF-1 Basement	
EQUIPMENT TEST LAB	53-0002	LANSCE	LINAC	LANSCE Refurbishment		
LANSCE ACCELERATOR BLDG	53-0003	LANSCE	LINAC	LANSCE Refurbishment		
OPERATIONS BLDG	53-0004	LANSCE	LINAC	LANSCE Refurbishment		
PROTON STG. RING FACILITY	53-0008	LANSCE	LINAC	LANSCE Refurbishment		
HIGH RES BEAM FACILITY	53-0010	LANSCE	LINAC	LANSCE Refurbishment		
DEVELOPMENT AND TESTING	53-0022	LANSCE	LINAC	LANSCE Refurbishment		
DATA ANALYSIS CTR	53-0024	LANSCE	LINAC	LANSCE Refurbishment		
ACCELERATOR MAINT BLDG*	53-0025	LANSCE	LINAC	LANSCE Refurbishment		

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Attachment G
Mission Essential Facilities and Infrastructure
Linkages to Attachment A Projects

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	RTBF Mission	RTBF Mission Component	Line Item Related Projects	RTBF Related Projects	FIRP Related Projects
SHOP & STORARG BLDG	53-0039	LANSCE	LINAC	LANSCE Refurbishment		
MED RESOLUTION SPECT	53-0315	LANSCE	LINAC	LANSCE Refurbishment		
NEUTRINO EXPER SERVI	53-0364	LANSCE	LINAC	LANSCE Refurbishment		
PROCESS EQUIPMENT BUILDING	53-0945	LANSCE	LINAC	LANSCE Refurbishment		
WNR LAB SUPPORT BLDG	53-0015	LANSCE	Lujan	LANSCE Refurbishment		
WAREHOUSE	53-0016	LANSCE	Lujan	LANSCE Refurbishment		
NEUTRON SCATTERING EXPER	53-0030	LANSCE	Lujan	LANSCE Refurbishment		
ML NEUTRON SCATTERING FAC	53-0622	LANSCE	Lujan	LANSCE Refurbishment		
LANSCE/WNR BUILDING	53-0007	LANSCE	WNR	LANSCE Refurbishment		
EXPERIMENTAL AREA BUILDING	53-0029	LANSCE	WNR	LANSCE Refurbishment		
WNR TARGET CELL #4	53-0369	LANSCE	WNR	LANSCE Refurbishment		
WNR BLDG #7	53-0823	LANSCE	WNR	LANSCE Refurbishment		
EXPERIMENTAL BLDG*	53-1265	LANSCE	WNR	LANSCE Refurbishment		
CMR LABORATORY	03-0029	Nuclear	CMR	CMR Replacement		
ADMINISTRATION BLDG	55-0001	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
SUPPORT OFFICE BLDG	55-0002	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
SUPPORT BLDG	55-0003	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
PLUTONIUM BLDG	55-0004	Nuclear	TA-55	NMSSUP Phase II; TA-55 Infrastructure Reinvestment;		
WAREHOUSE	55-0005	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
UTILITY BLDG	55-0006	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
GENERATOR BLDG	55-0008	Nuclear	TA-55	TA-55 Infrastructure Reinvestment		
NUCLEAR MATRLS STORAGE	55-0041	Nuclear	TA-55	Radiography Facility		
STAGING AREA	18-0001	TA-18	TA-18	TA-18 Mission Relocation Project		
CRITICAL ASSEMBLY BLDG	18-0023	TA-18	TA-18	TA-18 Mission Relocation Project		
VAULT	18-0026	TA-18	TA-18	TA-18 Mission Relocation Project		
WAREHOUSE	18-0028	TA-18	TA-18	TA-18 Mission Relocation Project		
MAIN BLDG	18-0030	TA-18	TA-18	TA-18 Mission Relocation Project		
UTILITY BLDG*	18-0031	TA-18	TA-18	TA-18 Mission Relocation Project		
CRITICAL ASSEMBLY BLDG	18-0032	TA-18	TA-18	TA-18 Mission Relocation Project		
CRITICAL ASSEMBLY BLDG	18-0116	TA-18	TA-18	TA-18 Mission Relocation Project		
STORAGE BLDG	18-0119	TA-18	TA-18	TA-18 Mission Relocation Project		
STORAGE BLDG	18-0122	TA-18	TA-18	TA-18 Mission Relocation Project		
PULSED ACCELERATOR BLDG	18-0127	TA-18	TA-18	TA-18 Mission Relocation Project		
REACTOR SUB-ASSY BLDG	18-0129	TA-18	TA-18	TA-18 Mission Relocation Project		
WAREHOUSE	18-0138	TA-18	TA-18	TA-18 Mission Relocation Project		
ULTRA-SONIC CLEANING BLDG*	18-0141	TA-18	TA-18	TA-18 Mission Relocation Project		
OFFICE BLDG	18-0147	TA-18	TA-18	TA-18 Mission Relocation Project		
SHEBA CRITICAL BLDG	18-0168	TA-18	TA-18	TA-18 Mission Relocation Project		
ACCELERATOR DEV LAB	18-0227	TA-18	TA-18	TA-18 Mission Relocation Project		
BUTLER BLDG	18-0256	TA-18	TA-18	TA-18 Mission Relocation Project		
TRAILER PO 9288Z	18-0257	TA-18	TA-18	TA-18 Mission Relocation Project		
TRAILER PO 8797R	18-0258	TA-18	TA-18	TA-18 Mission Relocation Project		
TRAILER	18-0288	TA-18	TA-18	TA-18 Mission Relocation Project		
STORAGE BLDG	18-0297	TA-18	TA-18	TA-18 Mission Relocation Project		
SHOPS BLDG	16-0202	Tritium	Tritium		TA-16-202 Renovation/Tritium Consolidation	
RAD LIQUID TREATMENT	50-0001	WFM	RLW	Radioactive Liquid Waste Treatment Facility Upgrade		RLW Collection System

ATTACHMENT H

Attachment H
Facility Planning

The Laboratory's continuing development of a facility planning program aligns with and supports the TYCSP. The facility planning program provides a consistent planning process for consolidation efforts across Laboratory divisions and responds to a need for increased long-range planning. The facility planning process is organization-oriented and incorporates a business approach to strategies for improving facility efficiency and effectiveness. Proposed construction and infrastructure projects are validated, and new projects are conceptualized in support of institutional goals.

Other Laboratory planning activities coordinate with the facility planning process, including the following:

- NEPA—Requirements for alternative analysis, proposed projects, and inter-relationships,
- Space Management—Provides current space information and identifies issues and needs of organizations,
- Security Planning—Coordinates with physical requirements of facilities and sites for organizations,
- Project launch and development activities, and
- Maintenance prioritization.

Projects defined through facility planning are based on an organization's vision and needs. Project proposals are prioritized by the directorate and institution through the TYCSP project call process. Those projects *approved* for institutional prioritization are presented in the TYCSP project lists.

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Weapons Physics (WP) Directorate

Dynamic Experimentation (DX) Division

DX Division is chartered to manage, maintain, operate, and provide other facility and science services for research, development and testing in support of the Department of Energy Stockpile Stewardship program. The majority of facilities that sustain the work of DX Division are currently located at TAs-8, -9, -15, -22, -36, -39, -40, -46, and -69. Division facility goals and objectives are:

- Decrease space requirements,
- Replace failing buildings with modern, cost efficient ones,
- Provide an appropriate quality of life for the workforce,
- Improve safety and,
- Where possible, incorporate energy conservation and sustainable design concepts.

To accomplish these goals, DX Division has proposed several new construction projects for TA-22. Drivers for division consolidation in TA-22 include a desire to reduce operating and maintenance costs associated with 50-year old structures, a requirement to locate HE R&D capabilities near the Detonator Production Facility, and a desire to co-locate HE, shock wave physics, and HE systems researchers. The plan includes several projects for infrastructure, and safety upgrades; TA-22 Office and laboratory buildings; recovery from the Cerro Grande fire; and new or upgraded experimental facilities. The end-state will provide significant programmatic benefits related to capability enhancements and facility modernization at TA-22 and economic benefits from facility consolidation.

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Physics (P) Division

The mission of Physics Division is to further understanding of the physical world, generate new technology in experimental physics, and establish a physics foundation for current and future Los Alamos programs. The Physics Division undertakes research using multidisciplinary approaches and pursues its goals by establishing and maintaining a scientific environment that promotes creativity, innovation, and excellence. The Division fosters communication, both within the Division and with the external scientific and industrial communities, to realize fully the implications and benefits of physics research. P Division is currently located in TAs-3, -35, and -53. Division facility goals are the following:

- Modernize scientific space to attract and retain the finest scientific talent available, and
- Co-locate as much of the Physics Division staff and operations as possible at TA-3 to gain synergies among the division's groups and be near most collaborators.

In short, P Division believes that drawing the staff and the majority of its laboratories together at TA-3 will increase scientific productivity and improve cost-effectiveness for the Laboratory. To accomplish these goals, the P-Division plan envisions constructing two GPP buildings and a line-item project. The first GPP would contain unclassified office space, and the other would contain classified office space. The line-item project, the Center for Stockpile Stewardship, would be approximately 300,000 gross square feet and contain office space and laboratories for P, X, and possibly some of T and CCS.

These new facilities would be located in the central TA-3 area, allowing P-Division to consolidate all of the division in one area and excess current space and substandard buildings. Forty-one buildings (46,000 gross square feet) are currently proposed for excess.

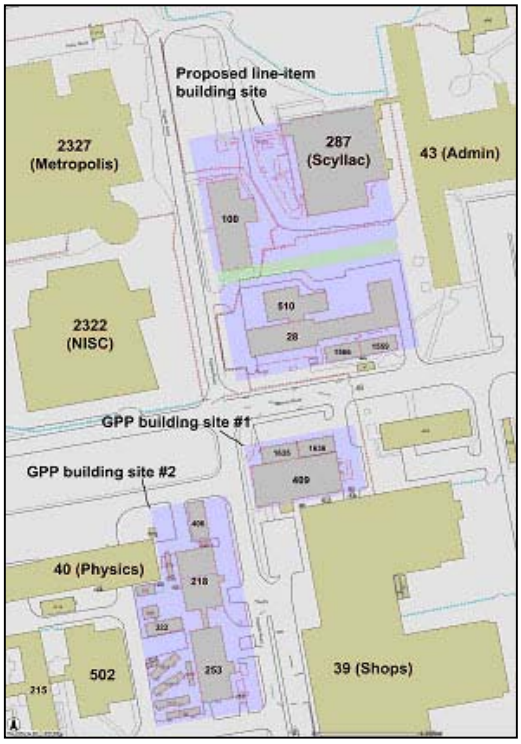

Figure H-1: Proposed P Division facilities.

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Computer and Computational Sciences (CCS) Division

The Computer and Computational Sciences Division conducts basic and applied research to develop multi-disciplinary computational techniques that support the Laboratory's core missions as well as novel computer-science solutions to advance hardware and software technology. The division is currently housed in some 14 facilities, some of which are located in technical areas distant from their primary location (TA-3), such as TA-16 and TA-53. The dispersion of staff significantly impacts collaboration and inhibits the pace of development. In addition, limitations because of the lack of available space in TA-3 requires that people must be housed in space constructed for other purposes such as warehouses or security vaults.

The division anticipates five years of steady growth and increasingly more appropriate space that provides flexibility for computing capabilities. Goals of the division's facility plan include:

- Create quality work environments that enhance collaboration to include foreign national participation,
- Decrease facility costs, operations and maintenance,
- Co-locate capabilities, and
- Eliminate temporary structures (trailers and transportables).

Currently two options to satisfy the division's facility needs have been considered. The preferred option is to be included in Phase I of the Los Alamos Science Complex alternative financing initiative. If this option is not feasible, the next option consists of the reuse of existing facilities in the TA-3 area with limited new construction, to include the reuse of four additional buildings in TA-3; and the construction of two additional GPP-level projects.

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Weapons Engineering and Manufacturing (WEM) Directorate

Engineering Sciences and Applications (ESA) Division

ESA Division provides stewardship of nuclear weapons and enabling engineering technologies to ensure the safety and reliability of the nuclear weapons stockpile; preserve and advance warhead and subsystem design capability; enhance the ability to manufacture and process weapon components and materials; and nurture engineering technologies that enhance the ability to accomplish the mission and to seek out programs that complement this mission. ESA Division facility related goals include the following:

- Divide the Weapons Engineering Complex into two primary functional areas, labs or technical facilities and administrative offices,
- Locate future lab buildings contiguous with existing labs and provide close proximity office buildings that support lab operations, and
- Create a pedestrian-oriented campus.

ESA's planning efforts will achieve the following vision:

- An infrastructure that will support the weapons engineering missions for the next 20 years,
- Create weapons engineering clusters using many existing facilities at S-Site,
- Decrease overall footprint by more than 30%,
- Replace 1970s & 80s technology with more robust, flexible capabilities,
- Increase engineering synergy — co-locate sponsors, designers, modelers, fabricators, testers, and analysts, and
- Eliminate transportable buildings and improve the quality of engineering workspace.

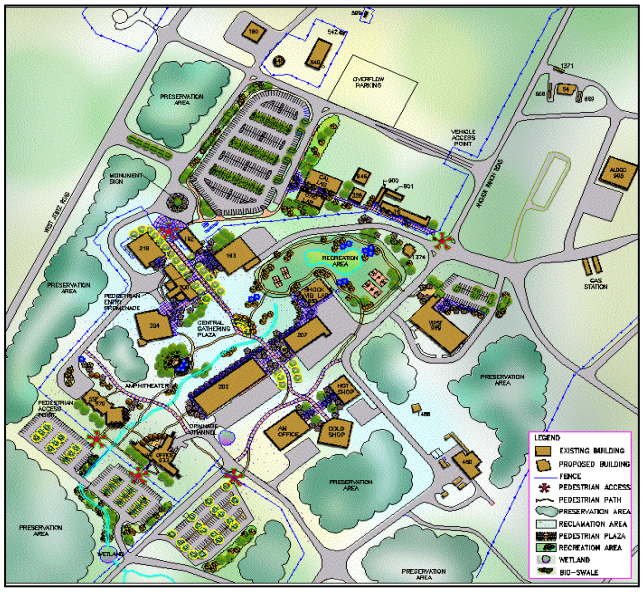

Figure H-2: Proposed ESA development.

ESA has developed a list of nearly 100 buildings as proposed excess space and 17 new projects that supports the achievement of goals and vision. The above graphic represents the Master Site Plan for ESA Division, with proposed new construction.

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Strategic Research (SR) Directorate

The Strategic Research (SR) Directorate, in partnership with other Laboratory organizations, provides much of the basic and applied science and technology needed to accomplish the national security mission of stockpile stewardship, threat reduction and homeland security, and energy security research. Focus is on long-term grand challenges and problems that can be best addressed with capabilities grown from the long-standing national security mission.

The SR Directorate advances knowledge across a broad range of scientific disciplines such has chemistry, earth and environmental sciences, materials science, and theory; leads the Laboratory's missions in energy security, environmental security, and critical infrastructure; and manages a number of science and engineering facilities including the National High Magnetic Field Laboratory, the High-Temperature Superconductivity Technology Center, and the Isotope Production Facility. As a broker of scientific knowledge and understanding, SR fosters innovation and creativity by the scientific staff by supporting and enhancing the scientific reputation of the Laboratory through a vigorous basic research program and by serving as a gateway from the scientific world to industry and academia through collaborations with government laboratories, universities, and industry.

In support of the SR mission, technologies and methods must be implemented to make construction, operation, and maintenance of facilities safe, secure, and cost effective. Maintaining facilities and technologies in an appropriate condition, consistent with the facility planning strategy, will ensure continued scientific, technological, and manufacturing activities.

The SR Directorate will make cost effective investments in the infrastructure, workforce, facilities, and technologies that will enable effective program management of activities in support of the goal. Goals and objectives for SR facilities are derived through coordination with the Strategic Research Directorate Laboratory Supporting Plan – 2002-2005, and the Strategic Research Directorate Facility Strategic Plan – 2002-2005.

Facility Goals and Objectives

- Deliver and maintain safe and secure facilities,
- Provide attractive and comfortable office and laboratory space for staff,
- Enhance the productivity and interaction of staff, and

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- Replace failing facilities with modern cost efficient ones with attention to the environment, safety, security, and consolidation of capabilities.

The SR Directorate employees approximately 2,000 staff members; including more than 1,600 scientists, engineers, post-doctoral fellows, and students. The SR Directorate maintains most of the Laboratory's collaborations with scientists at universities, industrial firms, other government laboratories and international research centers. It also hosts the largest share of Laboratory Fellows, long term visiting scientists, postdoctoral researchers and graduate students. More than half of the yearly SR Directorate budget is supported by non-DP programs, which provide financial support for facility operations. As aging facilities are run to failure and placed in cold stand-by mode, non-DP activities will have to be relocated to other facilities that are most probably DP supported. Deactivation and decommission of failed facilities and the costs associated with environmental cleanup across the Complex will have significant impact on DP programs. Current facility needs are due to the following reasons:

- Facilities in which SR Divisions reside continue to degrade and are becoming less suitable for meeting future missions,
- SR Divisions and operations are scattered unnecessarily. Historically, this has happened over time and based on space availability, and
- Alternative financing methods are being explored for projects that did not receive funding through traditional Line Item or GPP sources. The SR Directorate is considering alternative financing as a way to accelerate upgrades of facilities in order to keep up with declining condition and suitability.

More efficient designs, smaller footprints and consolidation of programmatic needs will result in better operability for mission requirements. The Laboratory needs outstanding scientists and engineers working in state-of-the-art facilities to advance the scientific knowledge that is required to manufacture and certify the 21st century nuclear weapons stockpile and further accomplish the Laboratory's mission in national and global security.

Recommendations

All of the SR Directorate divisions and program offices have completed the facility planning process. The SR Directorate will continue to use the facility planning process to define needs and consolidation efforts. Working with the Institution, the SR Directorate is the champion for the development of the Los Alamos Science Complex to provide state-of-the-art facilities that will consolidate the majority of the scientific research staff that supports the DOE/NNSA mission.

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- Chemistry Division: Remain in the INP and CMRR Consolidation projects.
    - Focus on TA-46 and TA-48 as priority for facility upgrades, replacement, and excess.
    - Construct a dedicated facility for Dissolving and Radiochemistry.
    - Develop and construct a consolidated radiological/non-radiological chemistry building to replace TA-48-1.
    - Consolidate remaining capabilities in the Los Alamos Science Complex.
- Earth and Environmental Science Division: Relocate division and outlying group in the Los Alamos Science Complex at TA-58.
- Energy and Sustainable Systems Program Office: Relocate to TA-3 or the Los Alamos Science Complex.
- Industrial Business Development Office: Relocate to TA-3 or the Los Alamos Science Complex.
- Materials Science and Technology Division: Remain in TA-3.
    - Develop the infill of the MSL (TA-3 Bldg. 1698) to provide office and possible light laboratory space during construction of new buildings and meet current basic office space needs.
    - Center for Integrated Nanotechnology (CINT): Build in TA-3 and collocate within the MST area.
    - National Fuel Cell Center: Locate in the Los Alamos Research Park.
    - Weapons Materials Engineering Complex: Develop a facility that integrates storage, handling, forming, machining and assembly of radiological material / components.
- T Division: Relocate division in the Los Alamos Science Complex at TA-58.

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Chemistry (C) Division

Chemistry Division is a vital component of the Laboratory and a charter member of the Strategic Research Directorate. Current activities in the division cover a wide range of areas, including actinide, fission product, environmental, analytical, physical, and nuclear chemistry; inorganic and organometallic chemistry, catalysis, radioisotope production and distribution, chemical engineering, detection technologies, nanoscience and nanotechnology; radiochemistry; chemical and nuclear physics; mass spectrometry; and optical and vibrational spectroscopy. C Division is currently located in nine TAs and dispersed in 64 buildings. Division goals include the following:

- Enhance national security, nonproliferation and Laboratory mission support chemistry facilities at TA-46 and TA-48,
- Decrease overall building footprint,
- Replace 1950s facilities and technology with robust and flexible capabilities, and
- Eliminate temporary structures.

C Division must maintain its current mission with small to moderate growth for counter and nonproliferation, homeland security, and DP projects. New, modern, energy-efficient facilities are needed to reduce the cost of retrofitting, decontaminating, and repairing aged and failing infrastructure, and to reduce the loss of non-productive time due to infrastructure problems. C Division needs to increase centralized activities and location of non-secure division workers in adequate space (roughly 2/3 of the work force). The remainder of the Division needs offices and lab space in a classified environment.

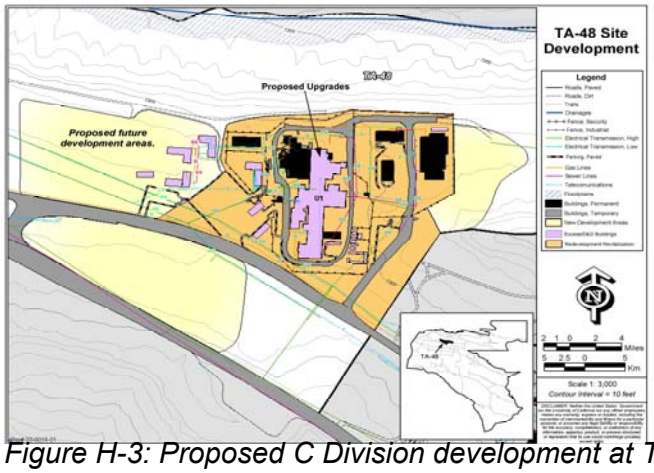

Figure H-3: Proposed C Division development at TA-48.

Approximately 25% of C Division will be accommodated through the CMRR Project. The remainder of personnel and activities will be consolidated between TA-46 and TA-48, with the expectation of ultimately moving all non-radiological activities to the Science Complex. The majority of the Division's radiological activities are currently conducted in TA-48-1, but a major construction replacement facility is needed to support the current and projected levels of work. Therefore, C Division will be participating in the development of the Modern Radiological Complex proposed for TA-48.

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Earth and Environmental Sciences (EES) Division

Using capabilities in earth and environmental science and engineering, EES Division provides solutions to complex problems of local, national, and global interest in the Environment, Energy, and National Security. Current capabilities include atmospheric/oceanic sciences; computational science/mathematics; ecology; geochemistry/geomaterials; geology; geophysics/seismology; hydrology; national security science/technology; and technical leadership/management. EES is currently located in TAs-3, -48, and –51. Division facility goals include the following:

- Relocate personnel from 50 year old structures that have asbestos, NEC, HVAC issues,
- Co-locate all of EES Division personnel from TA-3, -48, and -51 residing in temporary, aged, and failing structures to the Los Alamos Science Complex,
- Decrease overall space footprint by 58,913 square feet,
- Find solutions to improve operations and maintenance and related costs through consolidation of activities, capabilities, equipment, and infrastructure,
- Decrease billable storage and the practice of using billable space for unnecessary storage,
- Decrease cost and increase service support by centralizing common, shared administrative space, and
- Modernize computing, analytical, and experimental facilities.

EES will become increasingly non-productive and unable to meet its deliverables during the next 10 years due to temporary failed structures and the loss of equipment and productive time; the cost to maintain or modify vulnerable structures and laboratories will not be met because of the lack of a dedicated budget to fund new structures or modifications. In addition, the division will continue to lose highly qualified scientists and will be unable attract new scientists due to the poor work environment. Customers will be lost because of aged and failing facilities that cannot be updated to accommodate new equipment and instruments.

EES Division plans to relocate to the Los Alamos Science Complex, located at Two Mile Mesa North, to help eliminate the high cost of maintenance and modifications to aged, failed, and temporary structures. EES will consolidate and co-locate division personnel from TAs-3, -48, and -51 and vacate or excess approximately 58,900 square feet. Consolidation and co-location will greatly increase efficiency, productivity, and collaborations with TR Directorate and CCS, CHS, OEEI, C, CCS, B, RRES, T, D, X, and NIS Divisions.

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Theoretical (T) Division

T Division performs theoretical research in theory to further scientific understanding of the physical world; to establish a technical foundation for current and future defense, civilian, and industrial needs; and to explore interdisciplinary frontiers of scientific endeavors. In addition to participating in large Laboratory projects, T Division nurtures small projects for their intrinsic scientific and technical interest to the Laboratory and the Nation. Approximately one-third of T Division's total space is located in transportables in TA-3. Some of T Division facility goals include the following:

- Demonstrate cost-effective operational excellence,
- Decompress overcrowded offices and labs and improve the functional capabilities of work spaces to accommodate modern work environments and equipment,
- Improve the quality and aesthetic appearance of workspaces to inspire, retain, and attract top-quality talent. Create spaces and places that foster interaction, and
- Integrate operations with other SR Directorate functions.

T Division strives to maintain current mission with slow growth to support the National Institute of Health and Department of Homeland Security (30% increased growth anticipated over the next 10 years). Modern facilities that accommodate the functions of T Division are needed to reduce costs of retrofitting and repair and reduce the loss of nonproductive time from HVAC problems. Increased centralized activities and improved location of non-cleared T Division workers in appropriate space (two-thirds of the workforce) are needed. Approximately one-third of the Division will need work space in a classified environment. Due to severe overcrowding, decompression will require additional space to maintain the current population.

It is a top priority to replace temporary structures, which is about one-third of T Division's total space. T Division will consolidate and co-locate division personnel at the Los Alamos Science Complex at TA-58. T Division has developed a list of 20 buildings (almost 60,000 net square feet) as proposed excess space that supports the achievement of T Division goals and vision.

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Materials Science and Technology (MST) Division

MST Division serves the nation by providing the core materials science and technology base needed to maintain confidence in the safety and reliability of the Nation's nuclear weapons; applying technical expertise to address a broad range of national needs in energy, environment, infrastructure, and conventional defense; and researching materials, materials processing, and materials characterization technologies to create new knowledge and lay the foundations for new technologies. MST Division consists of 550 staff in TAs-3 and -35. MST Division facility goals include the following:

- Maintain responsiveness to programmatic needs and deliverables,
- Continuously improve existing facility functionality, appearance, and desirability while decreasing facility maintenance, operational, and energy costs,
- Develop space to meet current and projected programmatic requirements while working to replace transportable buildings with permanent structures, and
- Consolidate capabilities to the greatest extent possible to minimize costs and further staff interaction, innovation, and the continuing pursuit of scientific excellence.

The key locations for MST Division Groups will remain in TA-3 consolidated within the TA-3 Material Science Complex and Sigma/Beryllium Technology Facility and at the TA-35 Target Fabrication Facility and other TA-35 facilities that allow uncleared and foreign national access. Some of MST Division will remain within the Research Park, where a new National Fuel Cell Resource Center is proposed. MST Division also needs additional office space, including 4% more primary offices and 20% more office support space.

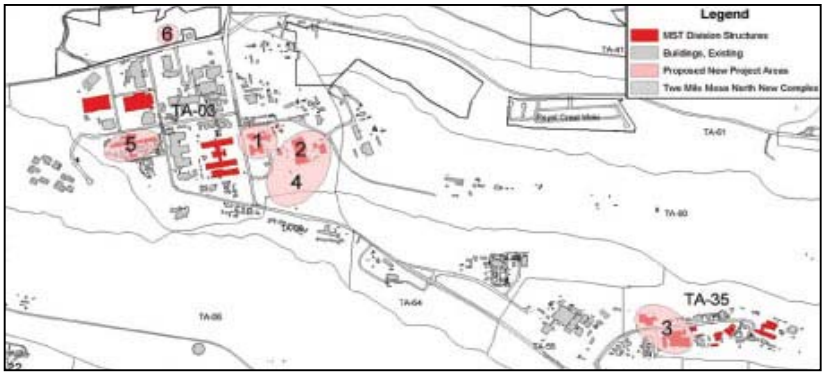

Figure H-4: MST Division Facility Strategic Plan.

This year, MST excessed 17 buildings and has identified 12 projects that support the achievement of goals and vision. Additionally it has invested in site planning for TA-35 to support needed growth there. The plan strategy is also to relocate certain nuclear and non-nuclear materials activities. Both traditional funding sources and alternative financing will be pursued.

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Threat Reduction (TR) Directorate

The threat reduction mission at the Laboratory has four thrust areas: nonproliferation, defense transformation, international technology, and homeland security. Work in these thrust areas occur across the Laboratory, but are focused in four divisions: Biosciences (B), Decision Applications (D), International, Space, and Response (ISR), and Nuclear Nonproliferation (N). The foundation of the threat reduction strategy is broad and encompasses the science and technology (S&T) base of the Laboratory. Capabilities include biology, systems analysis, modeling and simulation, nuclear physics, materials science, information science, chemistry, statistics, earth science, space science, nanotechnology, as well as radiofrequency-, beam-, accelerator-, and pulsed-power science and technology. The TR programs continue to make significant contributions to national security, by both maintaining and expanding scientific and technical capabilities and activities. Furthermore, TR and homeland security are becoming increasingly important parts of the Laboratory's mission, as recognized in two of the Laboratory's National Security Goals (Goals C and D).

A new strategic planning process was recently initiated to develop and implement strategies to achieve short- and long-term mission requirements and better manage the TR Directorate. Several steps in the process have been accomplished to date, including developing a directorate strategic plan and a new vision, mission, values, and goals.

The next challenge is to balance the near-term programmatic requirements with the long-term strategic need to sustain and strengthen the scientific and engineering base that underpins the programs. Three efforts—the first related to making program and project management more effective, the second related to facility and infrastructure planning, and the third related to providing the first succession management program—will help TR achieve this balance. The key to success in maintaining an integrated portfolio of science, technology, and national security activities lies in more effectively managing programs and activities. The TR Directorate cannot continue to be driven solely by many continuous, short-term demands on time and resources but must anticipate and integrate the short-term demands with long-term goals. The directorate's success will be ultimately determined by conducting cutting-edge research, developing excellent, safe, and secure facilities, and integrating long-term investments tied to the national security needs of the future.

In order to accomplish the challenges facing the TR Directorate, each division in the directorate is developing a business plan that reflects its commitment to one or more of

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the new strategic thrusts. As the directorate becomes more experienced in strategic planning and execution, the plans will assist in good business decision-making and clarify priorities for all of the directorate's work. TR mission success is further dependent upon adequate facilities and structures, and the TYCSP directly reflects the new strategic plan. Funding forecasts for TR and homeland security programs in FY05 are positive, with an anticipated growth of approximately 8% in available revenue. The TR Facilities Strategic Plan is summarized as follows:

- Aggressively support Director's initiative to eliminate one million gross square feet of the Laboratory's space (approximately 12%).
    - Optimize space reserved for retirees, affiliates, visitors, and contractors.
    - Help develop institutional solution for student and uncleared new employee space.
- Transition out of TA-18 by 2010.
    - Move most operations and nuclear materials to the Device Assembly Facility (DAF) in Nevada.
    - Move remaining operations and materials to existing and new facilities in TA-55 or a nearby radiological science complex.
- Consolidate major operations in new Los Alamos Science Complex.
    - Phase I – Consolidate several B Division operations including those in Health Research Laboratory (HRL).
    - Phase II – Consolidate several D Division and ISR Division operations (redeploy N operations in DDOB).
- Secure programmatic or institutional funding to acquire other needed facilities.
    - Space research laboratory.
    - Radiochemistry laboratory (supporting C Division).
    - BSL-2 facility.
    - Sensitive Compartmented Information Facility (SCIF) expansion (would require relocation of some N Division personnel from NISC).

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Bioscience (B) Division

Bioscience Division continues its commitment to create an environment where distinguishing capabilities in biological, physical, computational and computer science can combine to enable the next revolution in bioscience. This specifically includes the Genomic Resource Center for National Health Security where genomic sequence information is sufficiently understood to apply it to DOE mission needs. B Division facility goals include the following:

- Provide adequate office and laboratory space to accommodate a growing mission, especially in meeting the nation's homeland security need,
- Preclude lost opportunities due to lack of space to execute the work,
- Replace failing structures with modern, cost-efficient ones that are suitable for today's bioscience and that eliminate costly corrective maintenance,
- Mitigate security and safety concerns due to the location of HRL within the townsite and the vulnerability of transportable buildings to fire and break-ins, and
- Consolidate operations in a new laboratory/office complex that will enable NNSA's future role in the biosciences.

B Division plans to move into a 138,000 gross square foot office/laboratory facility in the Science Complex. Expansion and consolidation of office and laboratory space will allow for much needed program growth. In the interim, the division is working to identify office and laboratory space or opportunities to expand current space, such as TA-35-85, to allow the acceptance of new work. Other elements of the B Division facility plan include the following:

- Construct new $5M BSL-2 Select Agent Facility,
- Construct new $54M, 108,000 gross square feet Genomes to Life Facility (DOE Office of Science initiative),
- Develop work areas in classified environments (FY03-FY05), and
- Maintain NMR Facility (TA-03-562) and make the BSL-3 facility operational.

Consolidation of operations in a new laboratory and office complex will enhance B Division's mission, improve safety and security, facilitate collaboration, improve opportunities to grow programs, enhance communication and staff integration, minimize support function redundancies, and eliminate lost productivity due to commute time. A new facility designed specifically for modern functions will be less expensive to maintain than old buildings in poor condition, or trailers that are geographically dispersed. Furthermore, the DBT will force the relocation of the HRL onto a more secure site by September 2006.

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Decision Applications (D) Division

The Decision Applications (D) Division, through science-based, multidisciplinary assessments, enables important national security decisions that ensure the safety and reliability of the U.S. nuclear deterrent; reduce the threat of weapons of mass destruction, proliferation and terrorism; enable national defense transformation; and solve national problems in nuclear energy and critical infrastructure. D Division directly supports the Laboratory's mission in nuclear weapons (40%), homeland security (32%), Department of Defense (7%), and nuclear energy (5%).

D Division personnel currently occupy 21 odd buildings throughout the Laboratory in multiple TAs, with the majority of D Division staff located in approximately 10 buildings at both either TA-3 (68%) and TA-52 (32%). D Division facilities are aging and require maintenance and upgrades, including modifications where critical equipment is no longer available from manufacturers and where cost savings or significant improvements in safety can be realized. The division anticipates significant growth in program requirements for modeling and simulation that require state-of-the-art facilities.

D Division's strategy includes three primary elements:

- Consolidate some activities in existing buildings and demolish substandard buildings (including trailers and transportables);
- Upgrade existing facilities to improve performance and capability; and,
- Construct new facilities to accommodate expected near- and long-term mission needs.

The NSSB does not include enough square footage to accommodate 191 D Division staff from the current building. Consequently, D Division constructed an office building to accommodate two groups currently located in SM-43. The remaining offices of approximately 125 staff members have since been included in the NSSB project. Additionally, strategic construction projects identified in the 10-year plan include new offices, laboratories and major upgrades to existing facilities that are required to meet the mission objectives.

D Division's near term strategy is to continue with the plan to move staff to the NSSB and to request facility upgrades for the office buildings at TA-52. The long-term strategy is to co-locate the entire division within the Science Complex—Phase Two during the next five years. If successful, the long-term strategy will enable D Division to vacate valuable space at TA-52 and TA-3 (space in the NSSB and the current D Division Office Building), which will be prime space for other TR Directorate divisions.

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International, Space, and Response (ISR)

ISR Division's mission is to make the world more secure by applying world-class science and engineering to national security challenges through the creation, delivery, and support of innovative detection and energy-projection systems for remote applications in space and around the world. In order to attain this mission, ISR Division facility goals include the following:

- Provide appropriate workspaces suitable for technical activities now and in the future in support of attracting, developing, and retaining a diverse, talented workforce,
- Provide the requisite resources and adequate facilities to conduct all work safely, securely, and responsibly, and
- Consolidate personnel into fewer structures and thereby increase the effectiveness of their collaborative efforts.

ISR Division is outgrowing its present facilities and has a critical need to co-locate project teams in order to accomplish its mission. ISR Division needs two 24,000 square foot buildings for Space Sciences and Research. One building would co-locate ISR groups and house uncleared personnel and the other would co-locate additional ISR groups and provide space for light labs and classified work/computing. The current strategy is to build a new facility for unclassified work in FY06 and move classified functions to the D Division Office Building once D Division moves to Phase 2 of the Science Complex.

ISR needs to expand SM-502 to accommodate the growth in ISR-4 and to support large projects as well as a satellite demonstration project. A potential solution is to build a third floor onto the existing building, which was structurally accommodated into the original design; construction would begin in FY07 if funds are made available.

ISR's building strategies would allow resource sharing between the groups, foster collaboration, reduce travel time between sites, improve security, and allow ISR to deliver on critical projects in a timelier manner.

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Nuclear Nonproliferation (N) Division

The mission of N Division is to develop new technologies and basic science, provide information analysis, technical expertise and training, and integrate Laboratory-wide capabilities to accomplish the following:

- Ensure global control of nuclear and radiological materials, including domestic and international safeguards,
- Generate integrated system approaches for multi-pronged threat prevention and detection,
- Provide worldwide threat indications and warnings,
- Enable interdiction of nuclear and radiological threats,
- Provide tools and approaches for nuclear and radiological event consequence management, and
- Apply expertise to future national security challenges.

N Division's current overall facilities strategy is driven largely by the need to vacate TA-18 by 2010. Maintaining mission-critical capabilities will require an institutional approach including use of other existing facilities and starting a line-item project (design) as soon as possible to augment NNSA's plan to relocate certain designated capabilities to the DAF at NTS.

To continue to accomplish present and anticipated mission in nuclear technology, the division's aging radiological facilities must be replaced. The most cost-effective approach is to build a consolidated and integrated radiological science complex designed for higher efficiencies, lower operating costs, and modern capabilities that can respond to changing mission requirements. Square foot for square foot replacement estimates, assuming consolidation and sharing of resources, would total approximately 75,000 net square feet of lab space. Separating the programs among various sites or technical areas could easily double that space requirement.

Non-radiological operations associated with N Division's international technology and Work for Others activities are growing dramatically and suggest the need for a cost-effective enlargement of the SCIF into the third floor of the NISC, which was designed and constructed to operate as a SCIF. However, this would require reassigning N Division space on the third floor and constructing a new GPP office facility to house the displaced staff. N Division also foresees a long-term need for space in the TA-3 area to house uncleared employees, such as students, post-docs, and staff awaiting clearances, they can be in proximity to supervisors and mentors.

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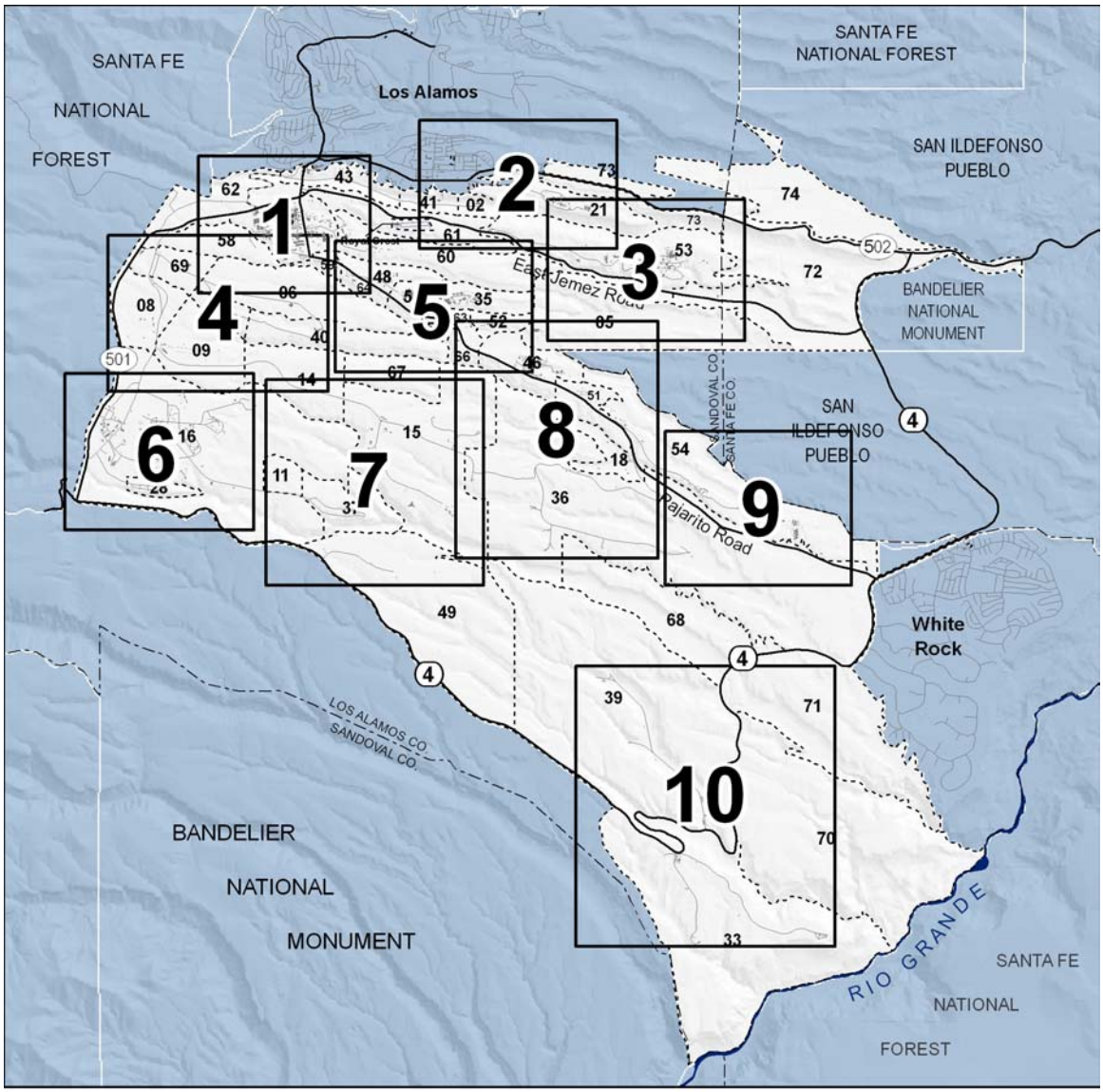
ATTACHMENT I

Attachment I
Sitewide Maps



Index Map

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Current and Future Facility Status

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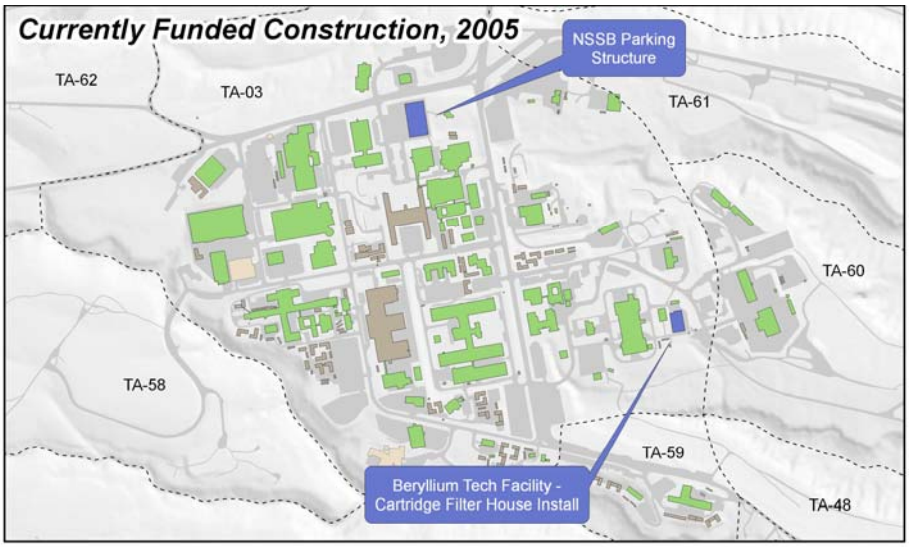

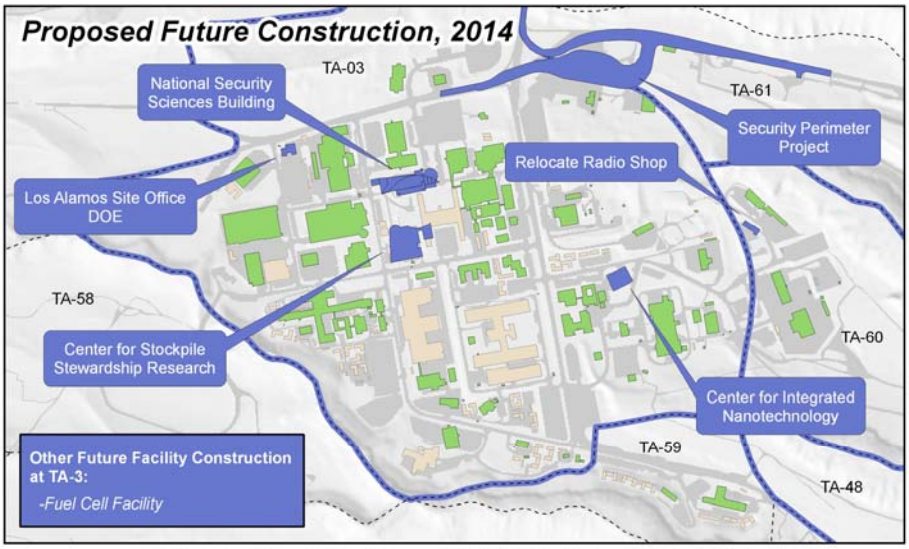

Facility Status FY 2005 - FY 2014

LEGEND

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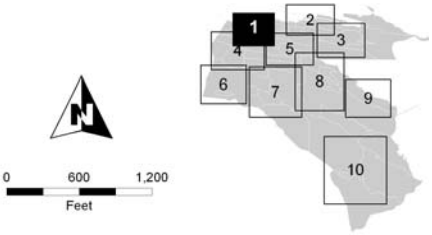

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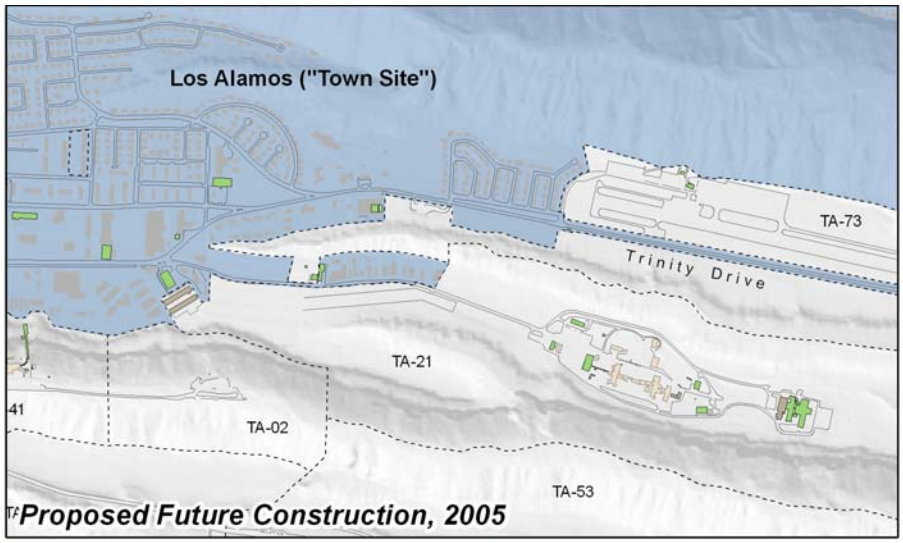

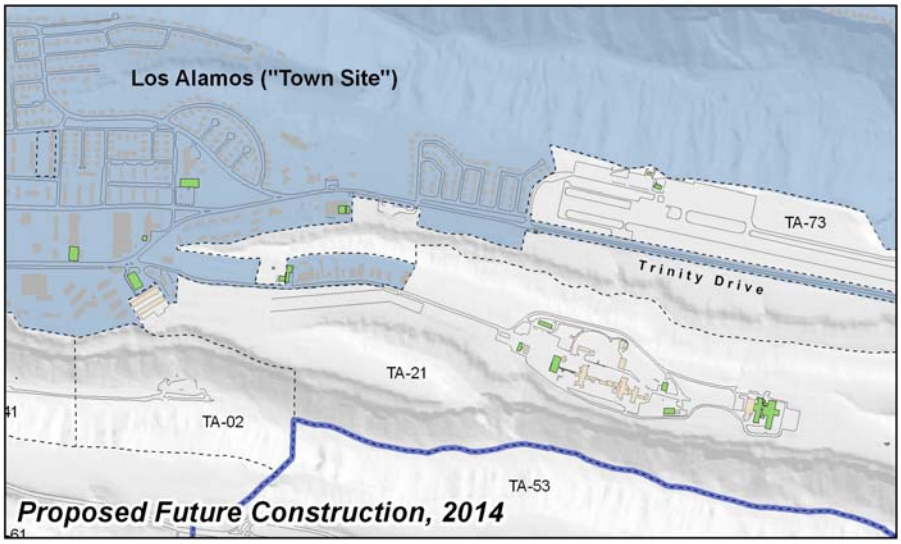

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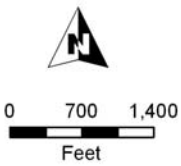

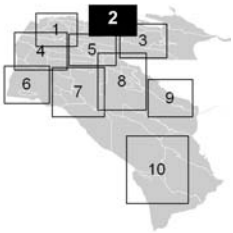

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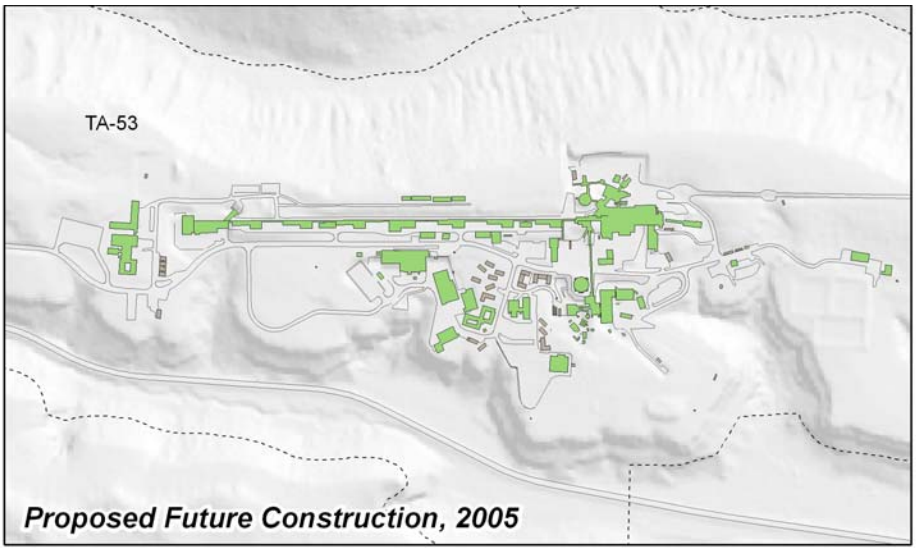

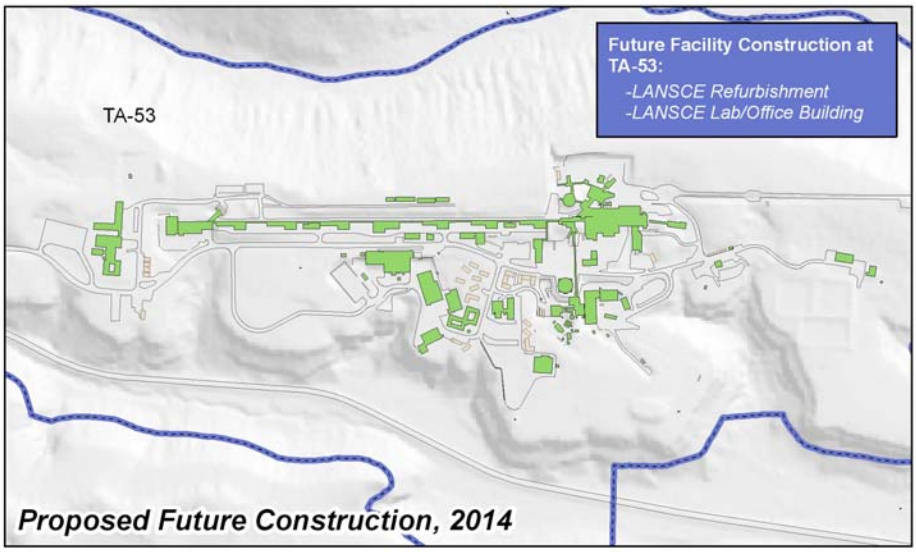

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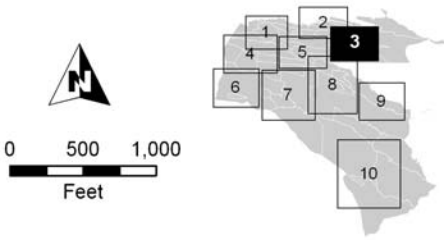

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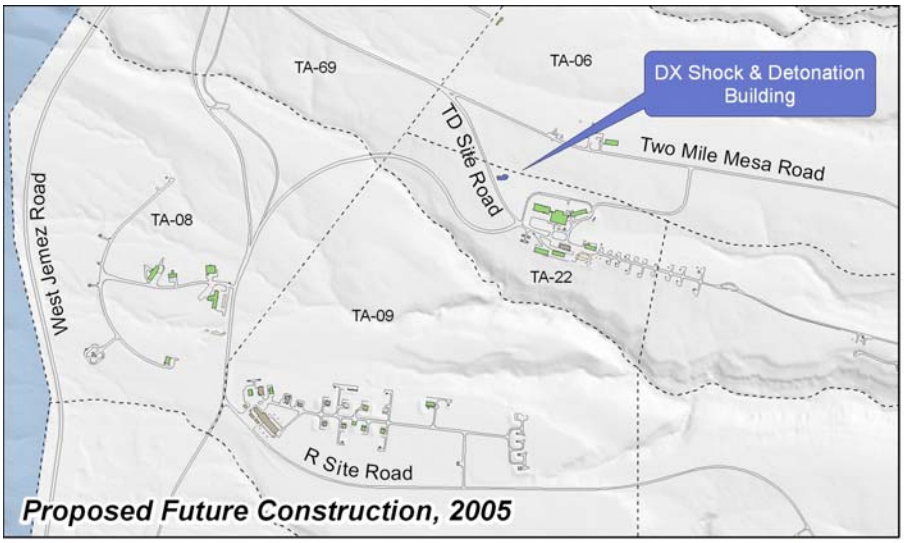

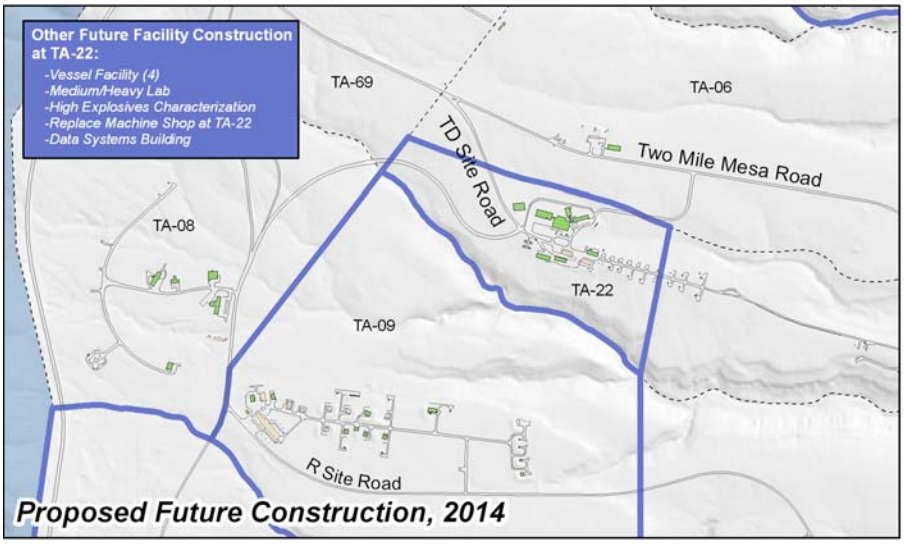

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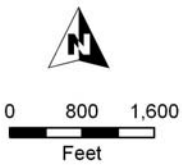

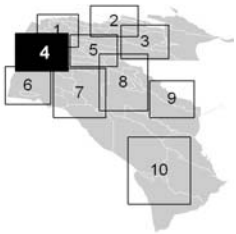

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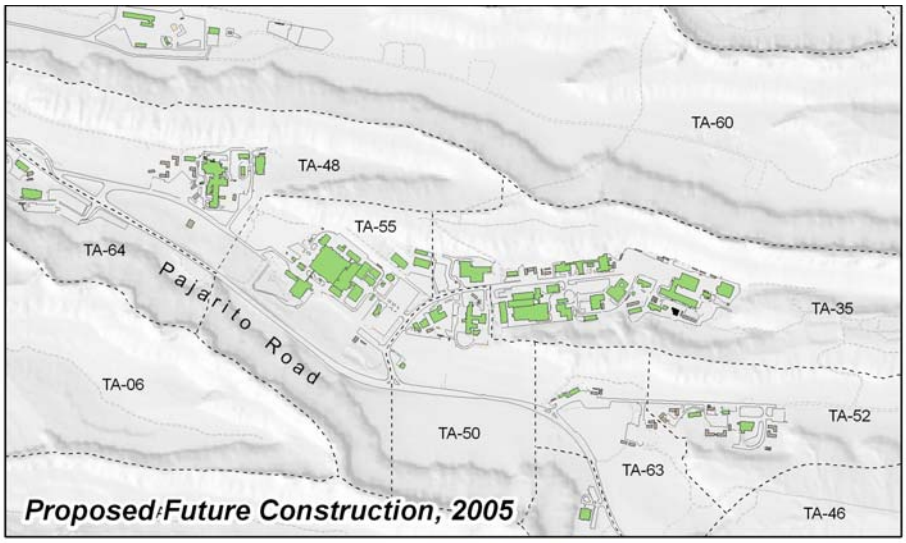

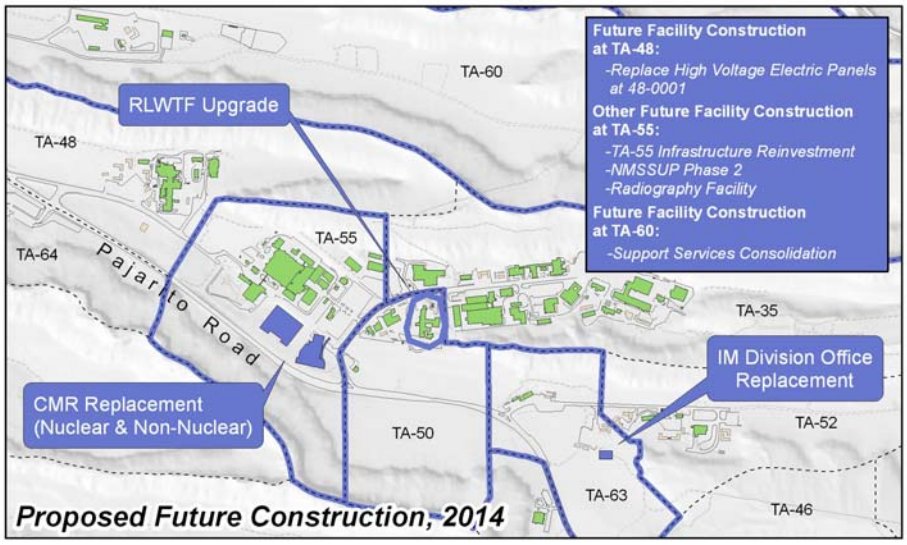

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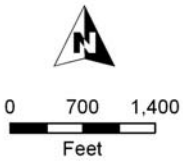

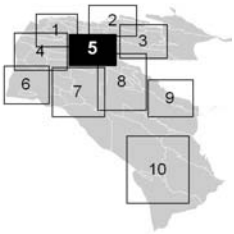

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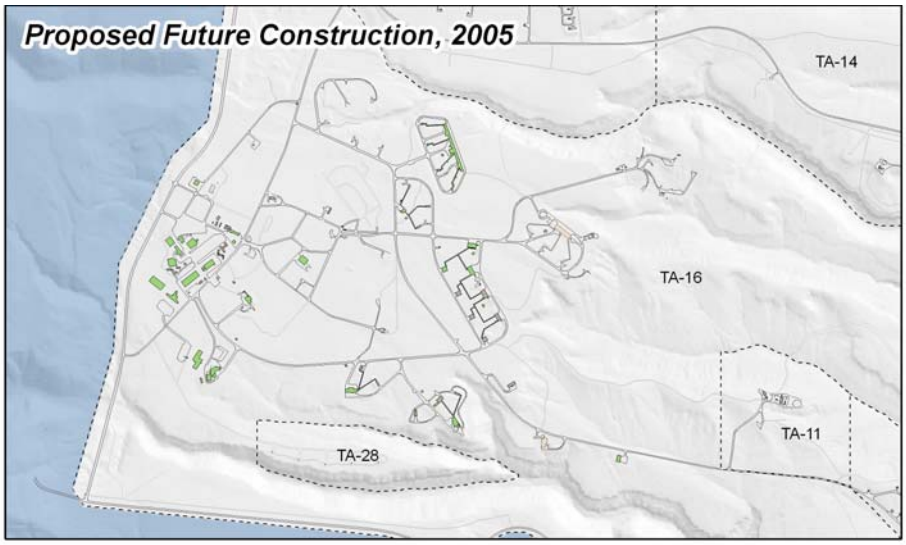

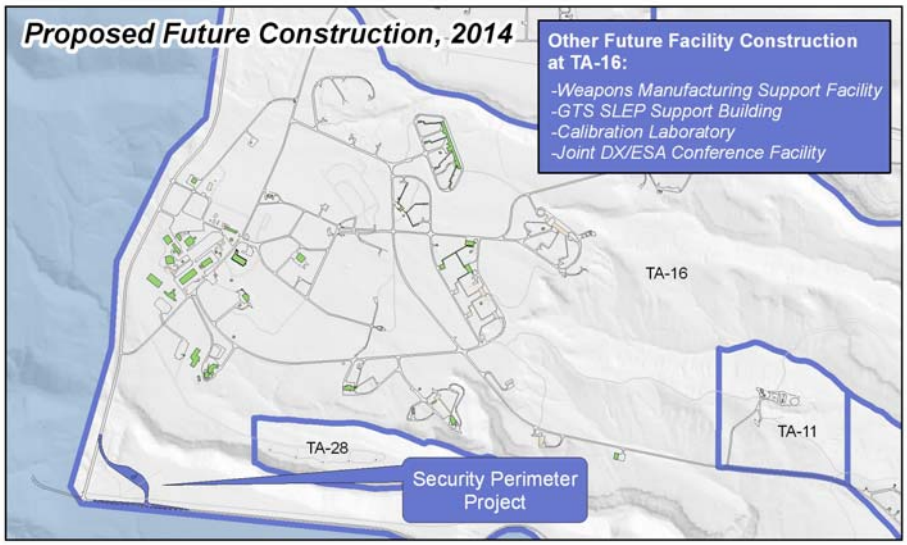

Facility Status FY 2005 - FY 2014

LEGEND

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- Active, Proposed for Excess by 2014
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- Spare Facility
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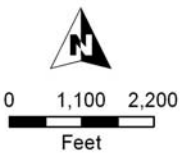

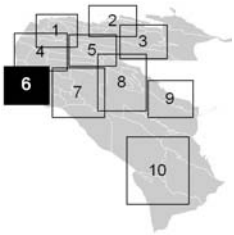

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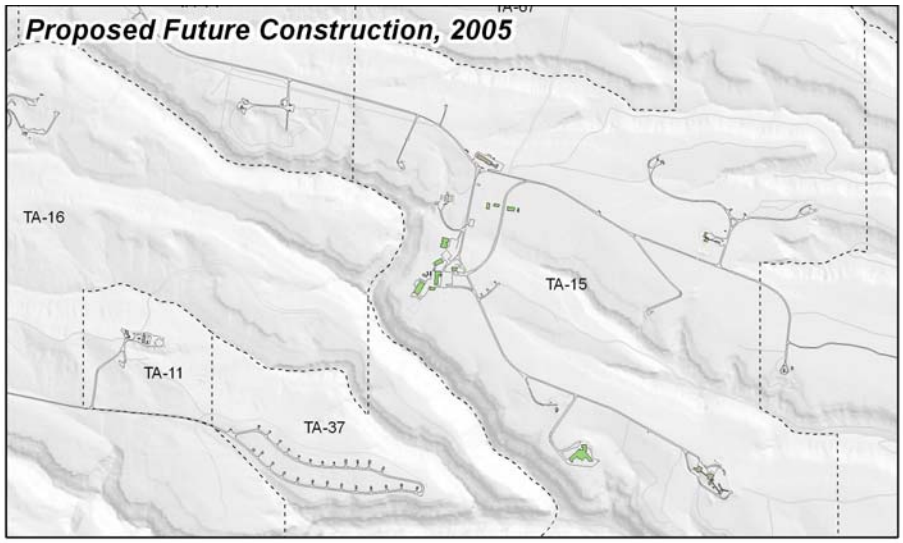

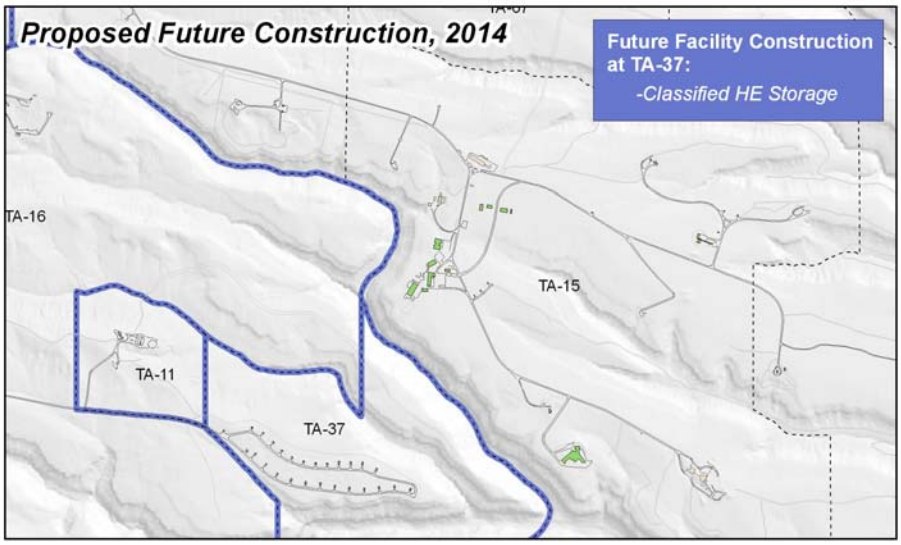

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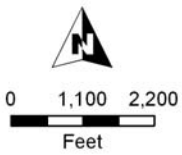

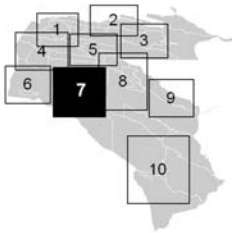

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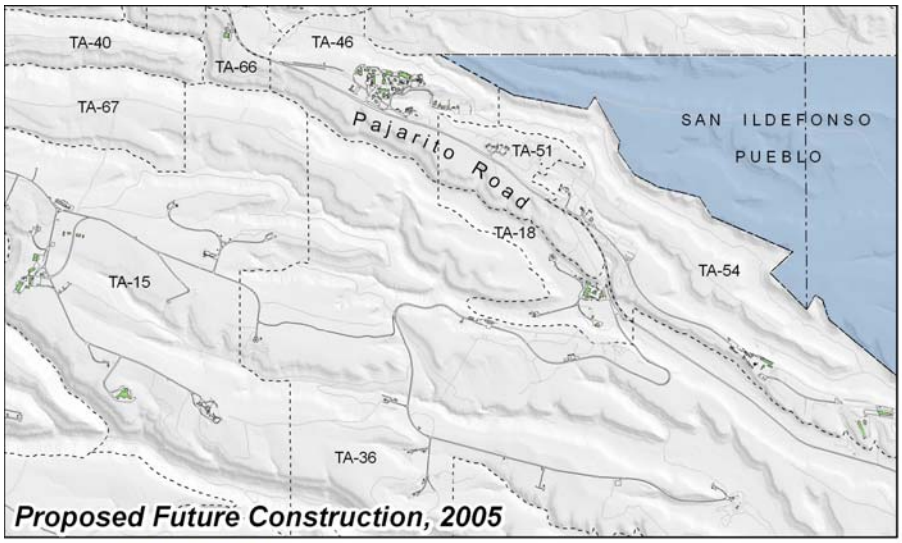

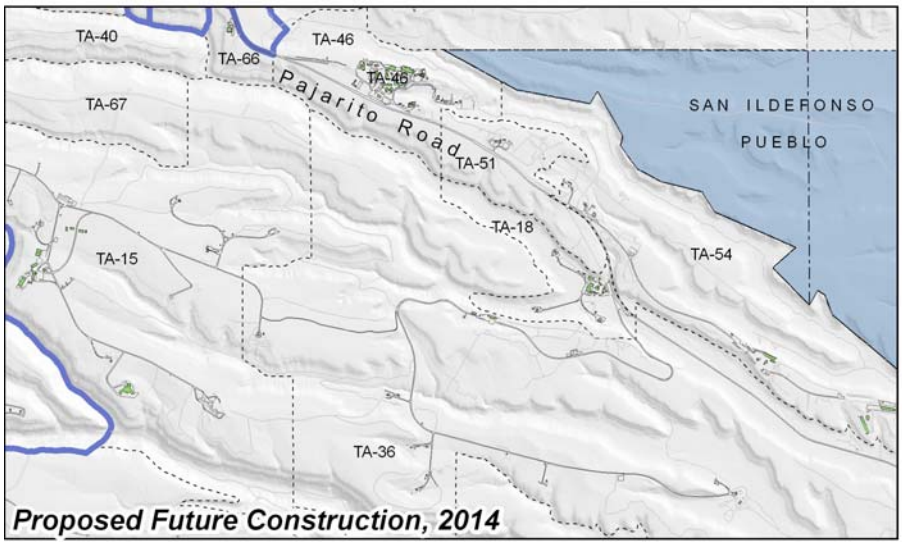

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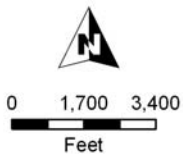

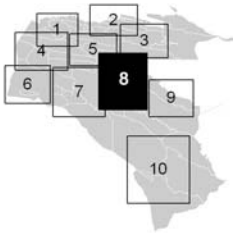

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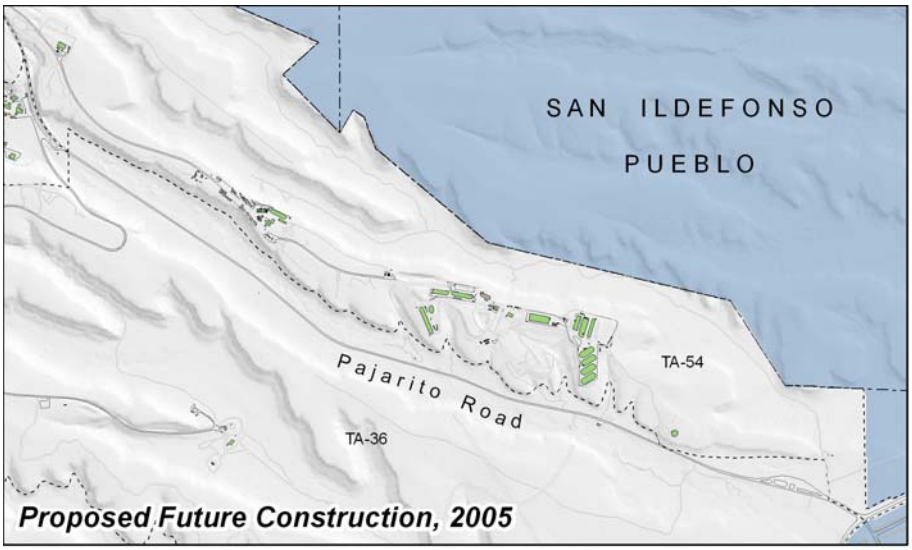

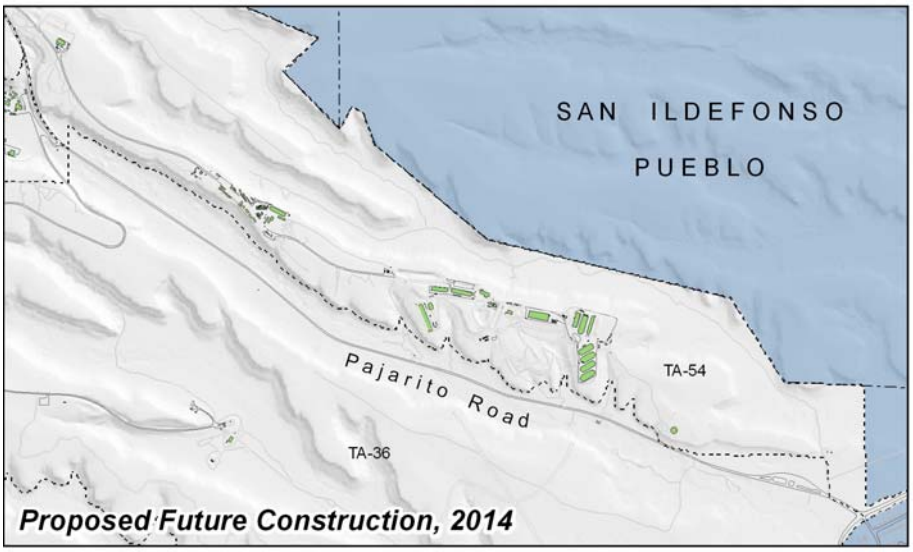

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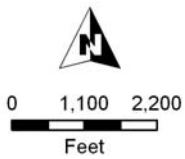

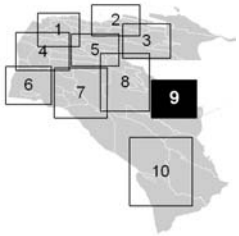

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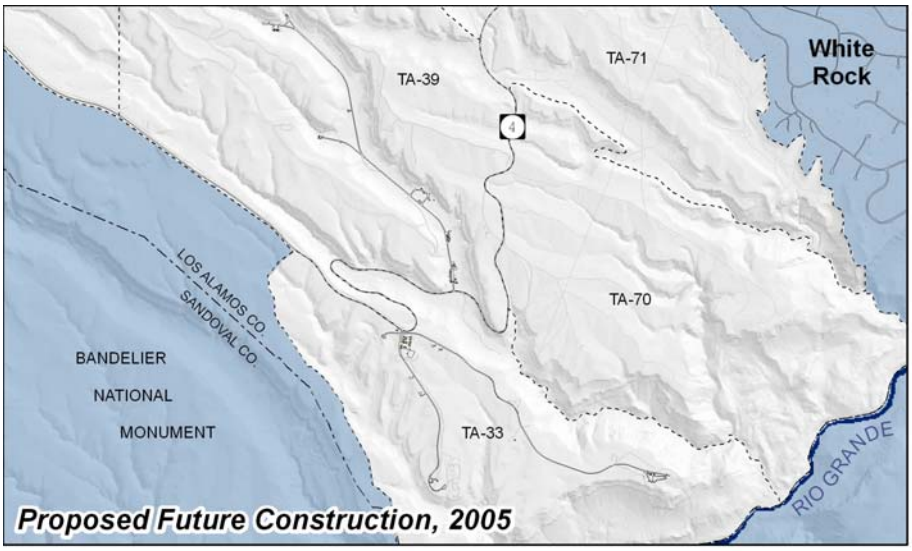

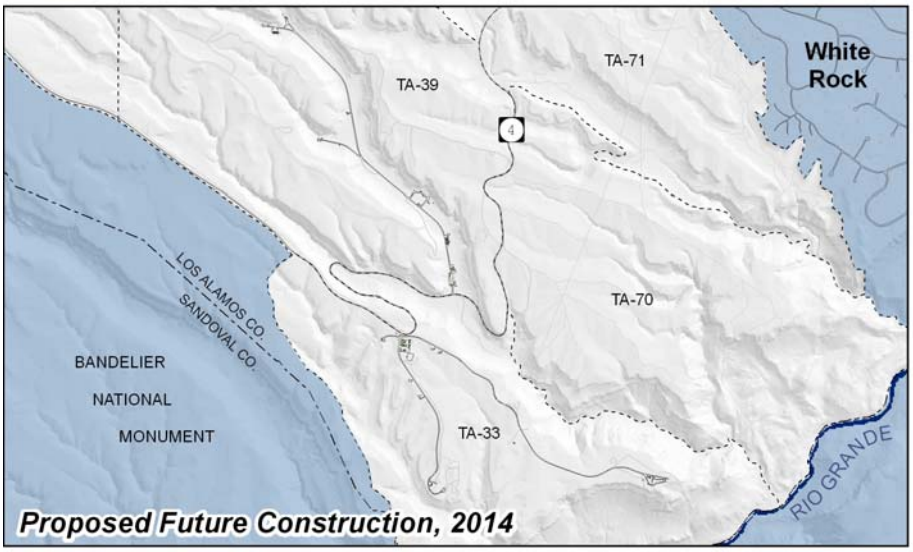

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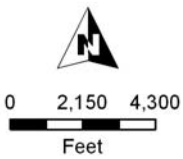

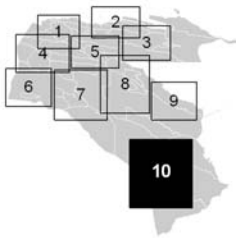

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Utility Maps

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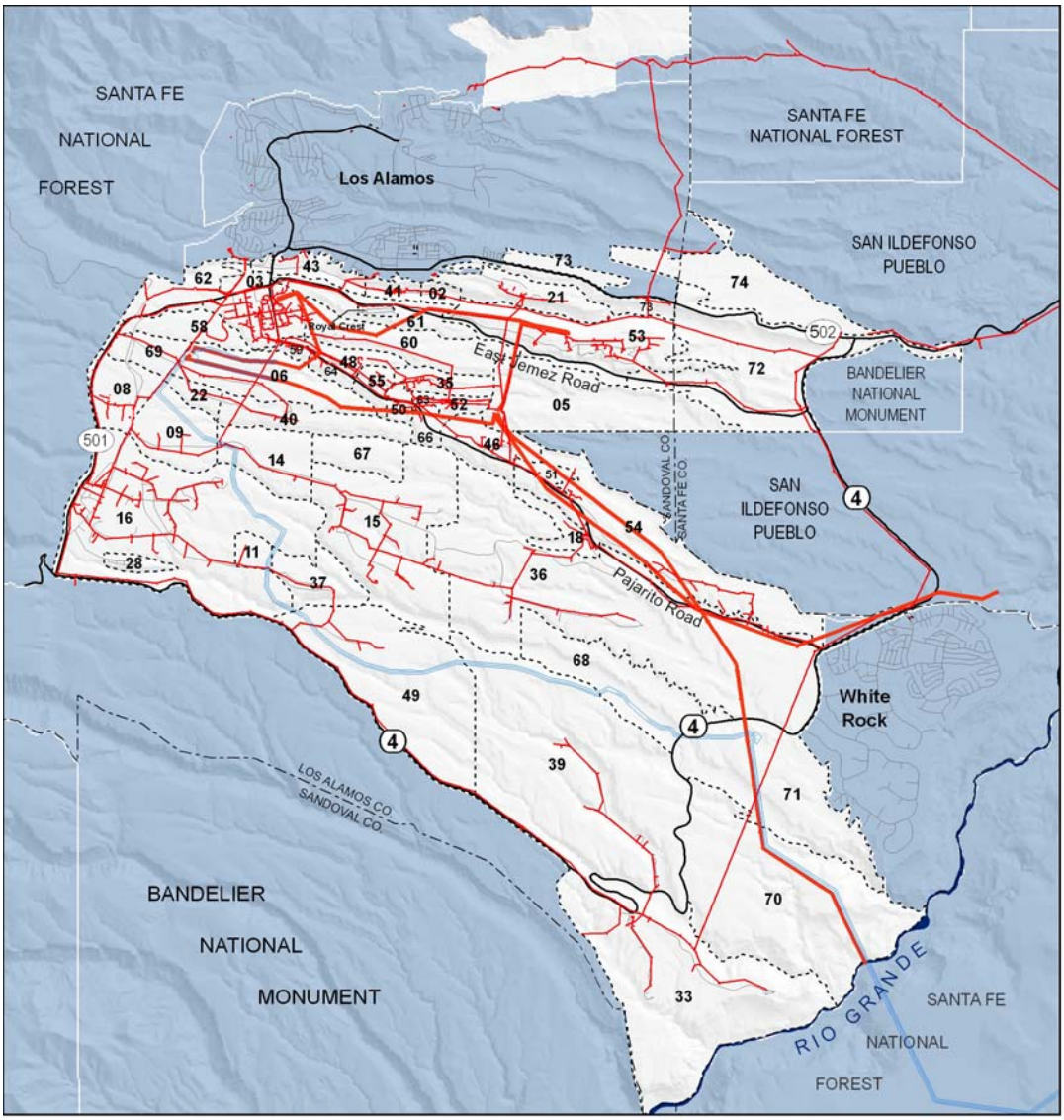

Electric Utilities

LEGEND

- Electric Transmission
- Electric Distribution
- Proposed 115kv Transmission Line

N

0 4,000 8,000 16,000
Feet

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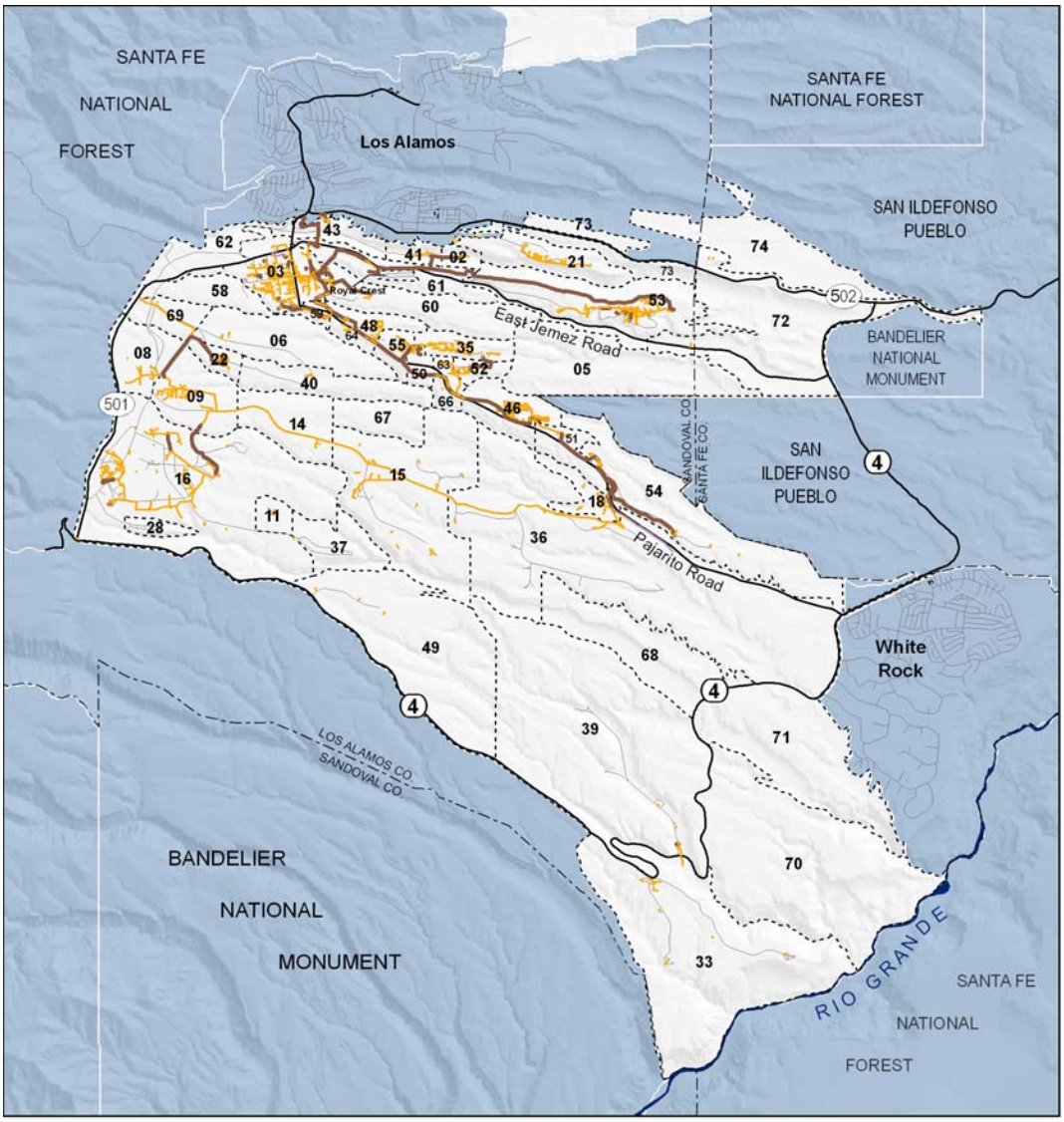

Sanitary Sewer Utilities

LEGEND

Gravity

Force Main

0 4,000 8,000 16,000

Feet

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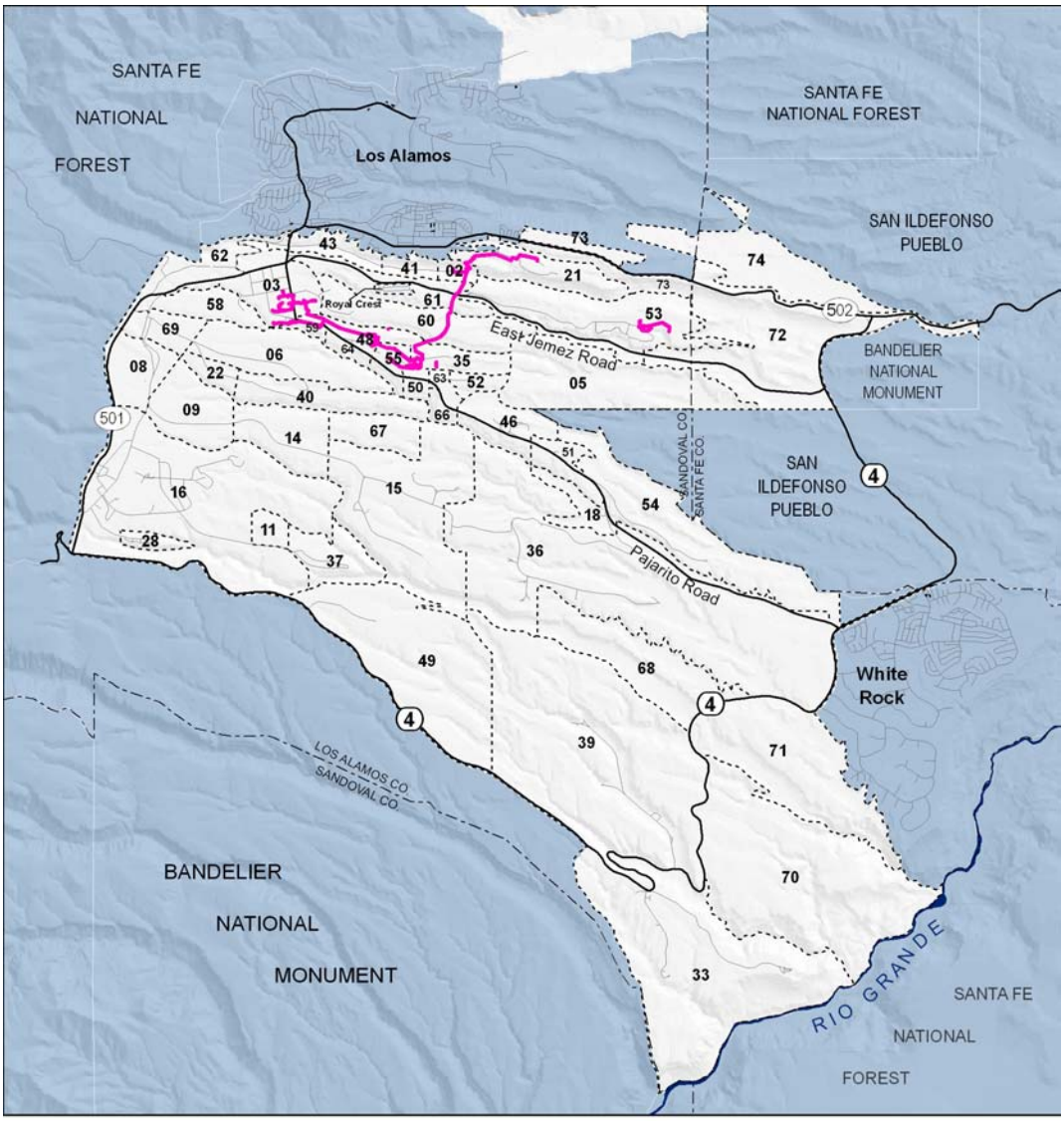

Radioactive Liquid Waste

LEGEND

Radioactive Liquid Waste Line

0 4,000 8,000 16,000
Feet

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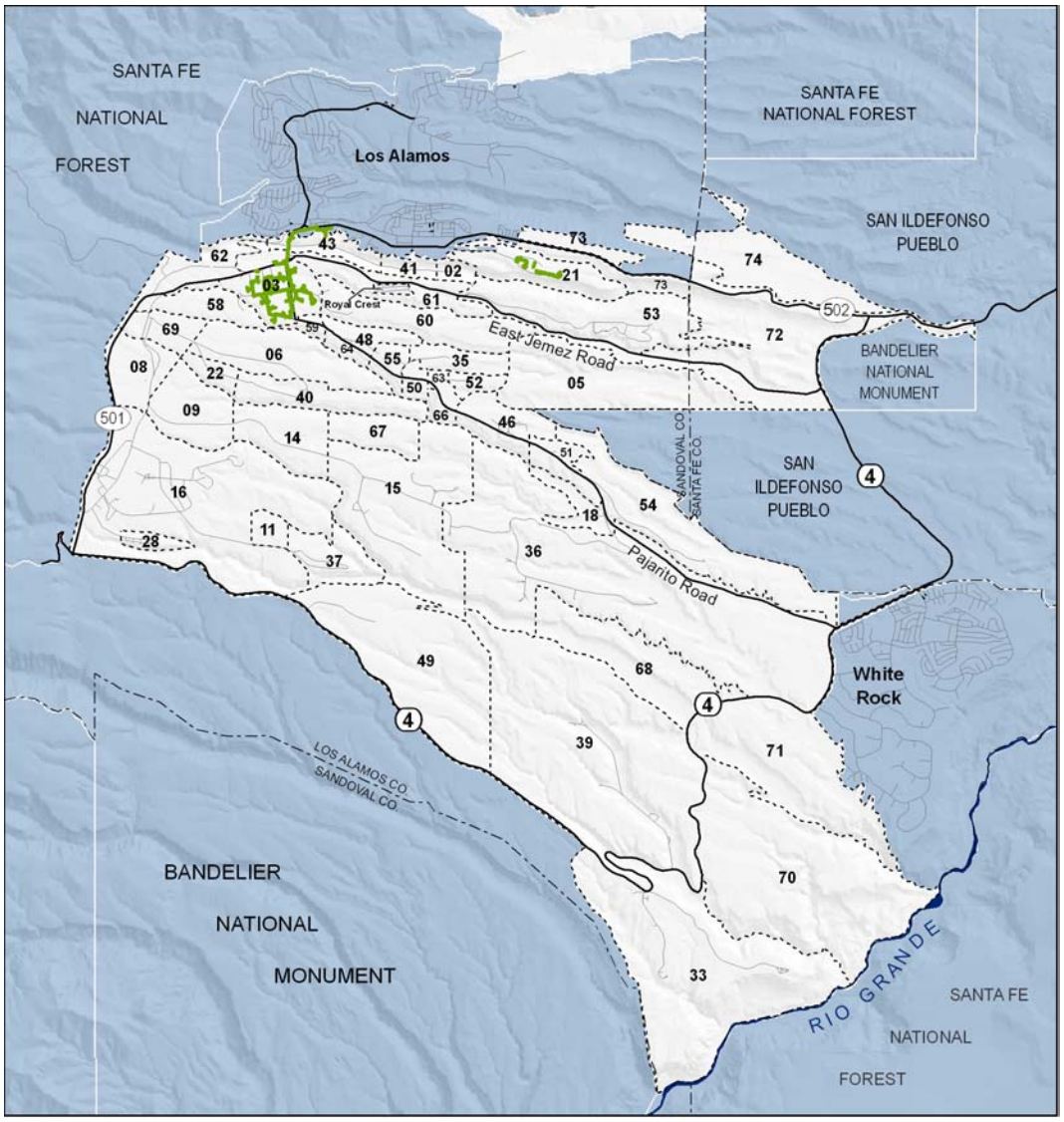

Steam Utilities

LEGEND

Steam Distribution Line

0 4,000 8,000 16,000
Feet

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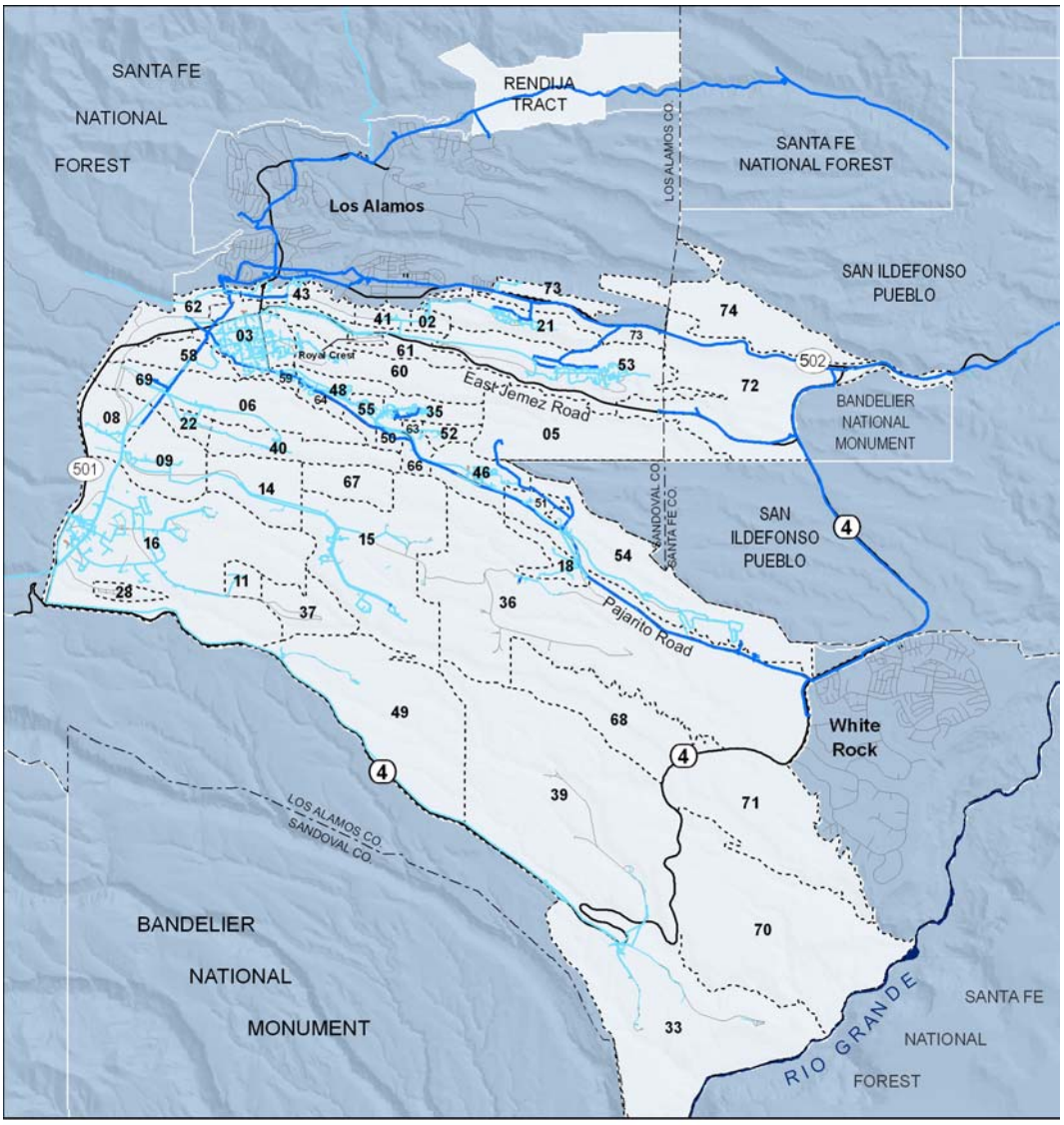

Water Utilities

LEGEND

Water Transmission

Water Distribution

0 4,000 8,000 16,000

Feet

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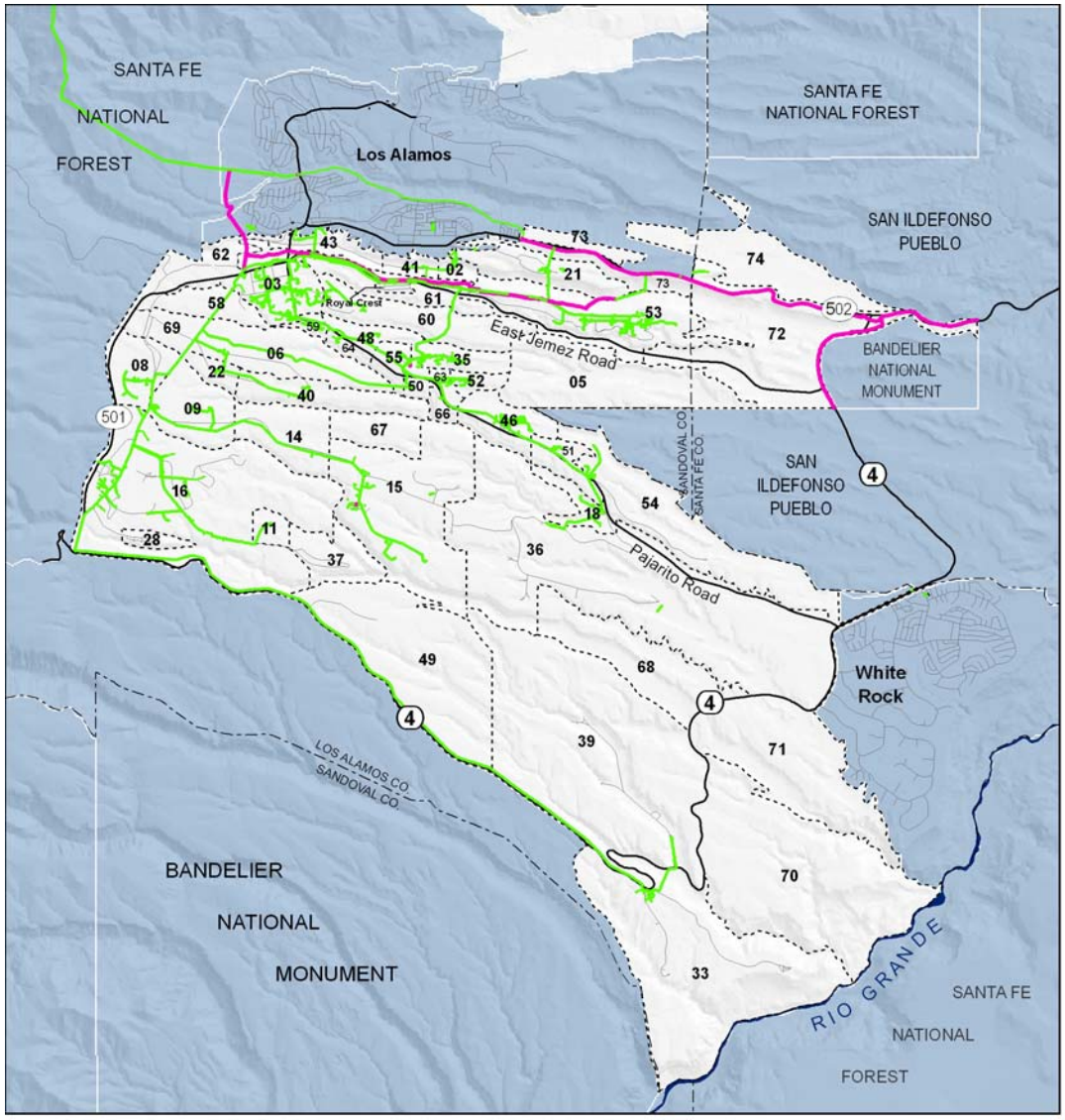

Natural Gas Utilities

LEGEND

Gas Transmission

Gas Distribution

0 4,000 8,000 16,000

Feet

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UNITED STATES GOVERNMENT DEPARTMENT OF ENERGY

memorandum

National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

DATE: SEP 2 8 2005
REPLY TO ATTN OF: OPL-TLW-05-115
SUBJECT: Los Alamos National Laboratory FY06-FY15 Ten Year Comprehensive Site Plan Transmittal

TO: Thomas P. D'Agostino, NA-10, NNSA-HQ/FORS

This memorandum transmits the Los Alamos National Laboratory (LANL) Ten Year Comprehensive Site Plan (TYCSP) for FY06-FY15. This plan details the overall site plans and recommendations for the next 10 years.

The site office has requested that the LANL TYCSP's originating office, Principal Associate Director for Nuclear Weapons Programs (PADNWP), provide a full scope briefing to elements of NA-10 and NA-50 on the document. We will coordinate with you to ensure that these briefings occur.

Additionally, if there are any questions regarding the document contact Will Chavez of my staff at 505-667-5288.

Edwin L. Wilmot
Manager
Los Alamos Site Office

cc: w/attachment

D. Cobb, Deputy Director, LANL, MS-A100
J. Leeman, PADNWP-WI, LANL, MS-F611
L. Goen, PADNWP-WI, LANL, MS-F627
B. Scott, NA-50, NNSA-HQ/FORS
X. Ascanio, NA-12, NNSA-HQ/FORS
M. Thompson, NA-117, NNSA-HQ/GTN
G. Allen, NA-118, NNSA-HQ/FORS

Los Alamos
NATIONAL LABORATORY
EST. 1943

The World's Greatest Science
Protecting America
Office of the Director

Date: September 26, 2005
Symbol: DIR-05-348

Mr. Edwin Wilmot, Manager
U.S. Department of Energy/NNSA
Los Alamos Site Office
Mail Stop: A316
Los Alamos, NM 87544

SUBJECT: SUBMITTAL OF THE TEN-YEAR COMPREHENSIVE SITE PLAN, FY06–FY15

Dear Mr. Wilmot:

With this submittal of the Ten-Year Comprehensive Site Plan, FY06–FY015, we respectfully request your concurrence in forwarding this document to Headquarters. This document has been prepared in accordance with the guidance received January 2005 as modified by the July 12, 2005, letter that extended the submittal due date to September 30, 2005.

Significant within this plan is the infrastructure needed to support the Nuclear Weapons Program. The weapons infrastructure strategy encompasses nuclear facility consolidation, improved program/project/facility management, a security and design basis threat implementation that is relatively insensitive to changes, and strategic infrastructure investment and footprint reduction. This strategy will allow for sustainability for the future as well as allow for flexibility to be responsive to changing programmatic demands, and we believe we are making progress in these areas. We acknowledge that some uncertainty exists at Los Alamos with the impending change to a new Management and Operations contractor and recommendations that may come about as a result of the Overski Report. In addition, we recognize that challenges remain in facility management and maintenance with constrained budgets. However, the Laboratory believes that the strategy presented in this plan will be consistent under any set of circumstances.

In addition, this plan documents our commitment to maintenance of Balance of Plant facilities and meeting our deferred maintenance reduction target. We will also continue to gather the data necessary for future decisions on facility consolidation and will begin implementation of the Green Building initiative in FY06.

P. O. Box 1663, MS A100, Los Alamos, NM 87545
505-667-5101/FAX 505-665-2679
An Equal Opportunity Employer / Operated by the University of California for the
National Nuclear Security Administration of the U.S. Department of Energy

Within this document we have addressed both the LASO comments on the mid-year update and the draft of the final document, as well as Headquarters comments on the mid-year update. NNSA comments on this document are valuable and LANL recognizes the need for accurate and clear communication of its content and acknowledge the importance of the TYCSP in the planning and budgeting processes. Summary resolution of these comments will be sent under separate cover.

Should you have any questions concerning this document, please contact me, Joel Leeman at 606-0800 or Craig Leasure at 606-0000.

Sincerely,

Donald D. Cobb
Deputy Director (Acting)

Enclosure

DDC/JL/rfd

Enclosure

Cy: W. Chavez, LASO, MS A316
R. Snyder, LASO, MS A316
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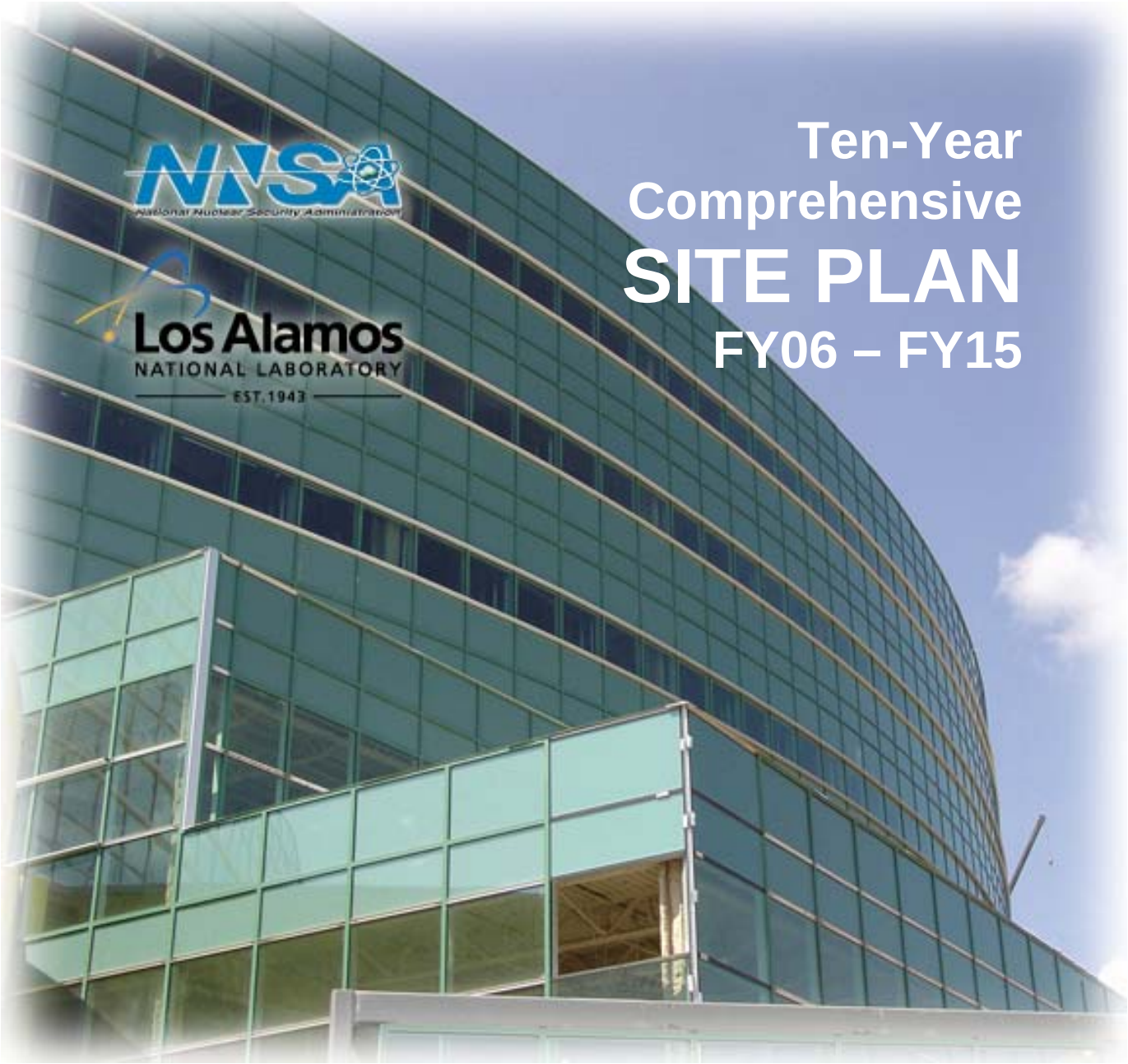
L. Goen, PADNWP-WI, MS F627
DIR-05-348 File, MS A100
WI Program Files, MS F611
IM-9, MS A150



Ten-Year Comprehensive SITE PLAN

FY06 – FY15

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May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552),
Exemption number and category:
Exemption 2, Circumvention of Statute; Exemption 5, Privileged Information
Department of Energy review required before public release.
Name/Org: Rae Anne Tate, Site Planning & Project Initiation Group (SPPI)
Date: September 20, 2005
Guidance (if applicable): n/a
Distribution Limitation Statement: Further dissemination authorized to U. S. Government agencies and their contractors; other requests shall be approved by the originating facility or higher DOE programmatic authority.

LA-CP-05-0992

Prepared by
Site Planning and Project Initiation Group (SPPI)

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EXECUTIVE SUMMARY

This Ten-Year Comprehensive Site Plan (TYCSP) for Los Alamos National Laboratory provides vital input to meet the National Nuclear Security Administration's (NNSA) commitment to stewardship of the reliability, safety and security of the United States nuclear stockpile. The collective TYCSPs from all NNSA sites are the foundation for the complex-wide facilities and infrastructure strategic planning and the cornerstone of the program's initiative to restore, revitalize and rebuild the complex. Los Alamos remains a prominent contributor to the NNSA's missions through its programs and campaigns in developing unique science, design, engineering, testing, and manufacturing capabilities needed for long-term stewardship of the stockpile. The objective of this TYCSP is to provide the vision for achieving the state-of-the-art facilities and infrastructure supported by advanced scientific and technical tools to meet this Laboratory's specific operations and mission requirements.

The Laboratory's first submittal of the TYCSP was in 2001. Beginning with that document, the Laboratory's message has been consistent: facilities will only be operated in a safe and secure fashion. While past levels of funding have supported this, there has not been adequate funding to ensure sustainability for meeting current and future mission need. The Laboratory's principal strategies to address sustainability have been and will continue to be consolidation (footprint reduction) and a graded approach to maintenance based on long-term mission need.

While there are currently initiatives underway that will affect how the Laboratory will operate in the future (new maintenance and operating contractor) and how the NNSA complex may be configured in the future (Overski Report), the Laboratory believes that this plan contains the basic facility and infrastructure elements needed to execute current and future missions.

Current Situation

NNSA has specific goals for maintenance and deferred maintenance. The Laboratory is projecting that these goals will be achieved on time but not without significant challenges. The Fiscal Year 2005 (FY05) goal for stabilizing deferred maintenance has been met and demonstrated by the continual decline of deferred maintenance since FY03. The Laboratory is currently projecting that the FY09 deferred maintenance goals of having a Facility Condition Index (FCI) of less than 10% for non- mission essential facilities will be met in FY06 and of having an FCI of less than 5% for mission essential facilities will be met in FY09. However, FIRP funding beyond FY09 will be required to offset the heavy influence of the non-enduring Chemistry and Metallurgy Research (CMR) facility on the sitewide calculation of the mission essential facilities' FCI.

The final FY09 goal is to "Have responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards." Through formal management improvements, processes are being and will be developed for responsible facility management. In addition, through implementation of consolidation/footprint reduction strategies, constraints on projected budgets can be managed such that facilities can be sustained at or better than industry standards.

Current Future-Years Nuclear Security Plan (FYNSP) projections show that actual Readiness in Technical Base and Facilities (RTBF) and Facilities and Infrastructure Recapitalization Program (FIRP) annual buying power will be reduced in the years from Fiscal Year (FY)06-FY11. For operations of facilities, both the RTBF budget, which supports direct funded facilities, and the Laboratory's Infrastructure Support budget, which supports the indirect funded facilities, is flat from FY06 through FY15. Assuming an inflation rate of about 2.6% per year, the net result is less funding for maintenance in future years. For FIRP, the budget is about $52 million (M) in FY06 and FY07 and increases to about $75M in FY11. This is an increase over the February 2005 FYNSP projections but still less than original program projections. Without the Laboratory changing current program execution, these budgets could create a condition contradictory with NNSA mandates to increase maintenance funding and aggressively reduce deferred maintenance.

Corrective Actions

The Laboratory is taking action and has developed a strategy to carry the site into the future. Primary components of this strategy include the following:

- Nuclear Facility Consolidation,
- Improved Program/Project/Facility Management,
- Security and Design Basis Threat Implementation, and
- Strategic Infrastructure Investment and Footprint Reduction.

The Laboratory is making progress in each of these areas. Nuclear Facility Consolidation is ongoing and critical to increase program efficiency, improve security, and reduce footprint and operating costs. The CMR Replacement (CMRR) Project is the near-term centerpiece of the Laboratory's nuclear consolidation effort. The focus for this consolidation is on the Pajarito Road Corridor and Technical Area (TA)-55 to ensure Perimeter Intrusion Detection Alarm System (PIDAS) reduction, consolidation of capabilities, and future flexibility. Other key ongoing initiatives include:

- De-inventory Category I/II SNM from TA-18 and relocate it to the Device Assembly Facility at the Nevada Test Site,

- Relocate plutonium (Pu) radiography from TA-8 to TA-55, and
- Upgrade/maintain critical facilities at TA-55 and TA-50 to support current and future missions.

Improved facility/project/program management is also ongoing. Management of the weapons infrastructure, as well as the Laboratory infrastructure in general, was fortified during FY05 and continues into FY06 through implementation of basic management controls. This fortification will improve efficiencies in both real property maintenance and other maintenance of mission capability elements. In FY05, facility operations for RTBF funded facilities began reporting earned value against the infrastructure scope of work. In FY06 this will be expanded for all facility work at the Laboratory.

In the area of security and Design Basis Threat (DBT) implementation, investments are being made and activities are underway to implement the FY03 DBT, and planning is underway for the implementation of the FY04 DBT. Investments in this area include the recently completed Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP) Phase I; the initiation of the Security Perimeter Project; execution of the Red Net Infrastructure Expansion Project which improves computer security at the site; and NMSSUP Phase II which will upgrade the security systems at TA-55.

A new initiative for the weapons infrastructure is Strategic Investments and Footprint Reduction. Due to the age and condition of the Laboratory's infrastructure and current resource constraints, the Laboratory must invest funding wisely into enduring facilities and infrastructure (strategic investment) and eliminating facilities and infrastructure not required for the long-term (footprint reduction). This demands implementation of a dedicated effort, one the Laboratory initiated in FY05 by dedicating $13.5M in FY05 and another $18M in FY06 in preparation for NNSA funding in FY07 and beyond. Projects under this initiative will only be funded if they demonstrate a return on investment, reduce risk, improve safety and security, and/or increase program efficiencies.

One example of a strategic investment is CMR wing closures. The CMR will require strategic investments to reduce operating risk. The current Authorization Basis (AB) will expire around 2010, and the Laboratory has initiated efforts to invest in hazard reduction and wing closure. The reduced risk profile will be needed to support an assumed conditional AB operating environment beyond 2010 until the new CMRR is fully operational. Other potential strategic investments/footprint reduction initiatives include deactivation, decommissioning, and ultimate demolition of TA-21, bunker consolidation, and completion of the Engineering Sciences and Applications (ESA) Division consolidation.

Future Outlook

The infrastructure supporting nuclear weapons work at the Laboratory must provide facilities to meet near-term program deliverables, *and* be able to transform to ensure long-term viability. The 2015 vision of the Laboratory is exemplified by the following:

- Reduced overall footprint and consolidated nuclear infrastructure,
    - Overall footprint is reduced from 8.6M gross square feet (GSF) to 8.4M GSF (includes new construction GSF)
    - Nuclear facility footprint is reduced from 1.8M GSF to 0.7M GSF
- Protection strategy largely insensitive to DBT changes,
- Infrastructure maintained within projected resources,
- Best business practices implemented in the management of facilities, projects, and program,
- Continuous strategic investment, and
- Flexibility/responsiveness to support dynamic program needs.

Content Summary

The FY06 TYCSP follows the NNSA's *Ten-Year Comprehensive Site Plan (TYCSP) Guidance* (dated December 2004). Brief summaries of each chapter follow.

Chapter 1 introduces the TYCSP and presents an overview of the plan's content and the assumptions, current situations and changes from the FY05 TYCSP as affecting the long-range facilities and infrastructure planning process. Various assumptions that the Laboratory used in developing the FY06 TYCSP are updated, and new, current situations are described along with identification of deficiencies and challenges affecting upcoming initiatives. The role of the National Environmental Policy Act (NEPA) is reviewed with updates defined as it affects the planning or modification of new development activities. Finally, changes and processes in the document are summarized along with accomplishments since the prior year TYCSP.

Chapter 2 provides descriptions of the geographical setting in which Los Alamos National Laboratory exists and includes discussions of the Northern New Mexico regional ecosystems and natural/cultural resources available for integration into the Laboratory's development. Also presented here is a description of current land use, including past and future transfers of land. Summary maps illustrate the current and future status of buildings, including new construction projects and excess facilities. An overview of the current Laboratory workforce is also provided.

Chapter 3 focuses on mission needs and program descriptions. The role of the programmatic directorates devoted to achieving the Laboratory's mission is presented along with along with a summary of the Readiness in Technical and Base Facilities (RTBF) program. The chapter also includes a comprehensive table that captures the Laboratory's forecasted mission activities. Mission essential facilities are identified and their locations shown on a map. Finally, impacts from non-NNSA programs are described, and a discussion of the role of technology is provided.

Chapter 4 details the overall site plans and recommendations for the next 10 years. New discussions on facility Condition Assessment Survey (CAS) and deferred maintenance reduction are provided in this year's document, including information on the Laboratory's completed deferred maintenance baseline validation effort. Current and future space utilization is described, as well as efforts to decommission and demolish (D&D) excess space. Expanded discussions on sitewide environmental, safety, and health (ES&H) issues, utilities, transportation, and parking are included as well as an updated security section that describes efforts to integrate security planning with site planning. Another element included for FY06 is a discussion on sitewide master planning activities.

Chapter 5 discusses the various construction project funding sources and describes in detail the line item projects the Laboratory is planning over the next 10 years. For each of these projects, information on scope, costs, and benefits are provided.

Various attachments provide supporting information as required by the guidance. Two additional attachments have been included; the first section describes ongoing consolidation planning efforts by organizations; and the second section provides sitewide maps with greater detail than in those included in the chapters.

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Acronyms

AB	Authorization Basis
ACREM	Accountable Classified Removable Electronic Media
AD	Associate Director
ADA	Americans with Disabilities Act
ADAPT	Advances Design and Production Technologies
ADP	Area Development Plan
ADSFO	Associate Director for Security and Facility Operations
ADWEM	Associate Director for Weapons, Engineering, and Manufacturing
AO	Administrative Order
AOC	Area(s) of Concern
ARIES	Advanced Recovery and Integrated Extraction System
ASCI	Accelerated Strategic Computing Initiative
AUI	Asset Utilization Index
B	Bioscience Division
BSL	Biosafety Level
BTF	Beryllium Technology Facility
C	Chemistry Division
CAIS	Condition Assessment Information System
CAS	Condition Assessment Survey
CCF	Central Computing Facility
CCS	Computer and Computational Sciences Division
CD	Critical Decision
CFR	Code of Federal Regulations
CINT	Center for Integrated Nanotechnologies
CME	Corrective Measures Evaluation
CML	Classified Media Library
CMMS	Computerized Maintenance Management System
CMR	Chemistry and Metallurgy Research Facility
CMRR	Chemistry and Metallurgy Research Facility Replacement
CREM	Classified Removable Electronic Media
CSP	Comprehensive Site Plan
CWA	Clean Water Act
CX	Categorical Exclusion
D	Decision Applications Division
D&D	Decommissioning and Demolition
DARHT	Dual Axis Radiographic Hydrodynamic Facility
DBT	Design Basis Threat
DBTIP	Design Basis Threat Implementation Plan
DNFSB	Defense Nuclear Facility Safety Board
DoD	Department of Defense
DOE	Department of Energy
DM	Deferred Maintenance
DP	Defense Programs
DSW	Directed Stockpile Work

DX	Dynamic Experimentation Division
EA	Environmental Assessment
EES	Earth and Environmental Sciences Division
EIS	Environmental Impact Statement
EM	Environmental Management
EMS	Environmental Management System
EPA	Environmental Protection Agency
ER	Environmental Restoration
ESA	Engineering Sciences and Applications Division
ES&H	Environment, Safety, and Health
ESR	Environmental Surveillance Report
FAaRS	Facility Assessment and Ranking System
FCI	Facility Condition Index
F&I	Facilities and Infrastructure
FIMS	Facility Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
FFCA	Federal Facilities Compliance Agreement
FM	Facility Manager
FMU	Facility Management Unit
FONSI	Finding of No Significant Impact
FY	Fiscal Year
FYNSP	Future Years Nuclear Security Plan
GPP	General Plant Project
GSA	General Services Administration
GSF	Gross Square Feet
HE	High Explosives
HSR	Health, Safety, and Radiation Division
HSWA	Hazardous and Solid Waste Amendments
IAEA	International Atomic Energy Agency
ICPP	Integrated Construction Program Plan
IGPP	Institutional General Plant Project
INNST	Institute for Nuclear Nonproliferation Science and Technology
INP	Integrated Nuclear Planning
INPR	Integrated New Project Review
ISM	Integrated Safety Management
ISMP	Integrated Space Management Program
ISMS	Integrated Safety Management System
ISR	International, Space and Response Division
ISSM	Integrated Safeguards and Security Management
ISO	International Organization for Standardization
KSL	Kellogg, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates
kV	Kilovolt
LANL	Los Alamos National Laboratory
LANSCE	Los Alamos Neutron Science Center Division
LANSCE-R	Los Alamos Neutron Science Center Refurbishment

LASO	Department of Energy – Los Alamos Site Operations
LINAC	Linear Accelerator
LIR	Laboratory Implementing Requirement
LLNL	Lawrence Livermore National Laboratory
LLW	Low-Level Waste
LPR	Laboratory Performance Requirement
LRR	Laboratory Readiness Review
LTS	Long-Term Stewardship
M	Million
MDA	Material Disposal Area
ME	Mission Essential
MEL	Master Equipment List
MLLW	Mixed Low-Level Waste
MRT	Milestone Reporting Tool
MSA	Management Self Assessment
MSL	Materials Science Laboratory
MST	Materials Science and Technology Division
MTRU	Mixed Transuranic
N	Nuclear Nonproliferation Division
NA-10	Deputy Administrator for Defense Programs
NA-11	Assistant Deputy Administrator for Research, Development and Simulation
NA-12	Assistant Deputy Administrator for Military Application and Stockpile Operations
NA-50	Associate Administrator for Infrastructure and Environment
NA-52	Office of Infrastructure and Facilities Management
NCB	NEPA, Cultural Resources, and Biological
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NISC	Nonproliferation and International Security Center
NMED	New Mexico Environmental Department
NMSSUP	Nuclear Materials Safeguard and Security Upgrade Project
NMT	Nuclear Materials Technology
NNSA	National Nuclear Security Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NSF	Net Square Foot/Feet
NSSB	National Security Sciences Building
NWP	Nuclear Weapons Program
OE	Operational Efficiency
OPC	Other Project Costs
P	Physics Division
PADNWP	Principal Associate Director for Nuclear Weapons Program
PCB	Polychlorinated biphenyl
PE&D	Preliminary Engineering and Design

PHERMEX	Pulsed High-Energy Radiographic Machine Emitting X-Rays
PIDAS	Perimeter Intrusion Detection Alarm System
PF	Plutonium Facility
PPMT	Protection Program Planning Team
PR-ID	Permits and Requirements Identification
PRS	Potential Release Site
PTLA	Protection Technology Los Alamos
Pu	Plutonium
R&D	Research and Development
RAMROD	Radioactive Materials Research Operations and Demonstration
RANT	Radioactive Assay Nondestructive Testing Facility
RCRA	Resource Conservation and Recovery Act
RH	Remote Handled
RIK	Replacement-In-Kind
RIT	Requirements Integration Team
RLUOB	Radiological Utility Office Building
RLW	Radioactive Liquid Waste
RLWTF	Radioactive Liquid Waste Treatment Facility
ROD	Record of Decision
RPV	Replacement Plant Value
RRW	Reliable Replacement Warhead
RTBF	Readiness in Technical Base and Facilities
S	Security and Safeguards Division
S&S	Security and Safeguards
S&M	Surveillance and Maintenance
SB	Safety Basis
SCIF	Sensitive Compartmented Information Facility
SECON	Security Condition
SHEBA	Solution High Energy Burst Assembly
SHPO	New Mexico State Historic Preservation Office
SIP	Security Infrastructure Portfolio
SNL	Sandia National Laboratory
SNM	Special Nuclear Material
SR	Strategic Research Directorate
SRL	Special Recovery Line
SSMO	Space and Site Management Office
SSP	Stockpile Stewardship Program
SSSP	Site Safeguards and Security Plan
STP	Site Treatment Plan
SWEIS	Sitewide Environmental Impact Statement
SWMU	Solid Waste Management Unit
SWSC	Sanitary Wastewater Systems Consolidation
T	Theoretical Division
TA	Technical Area
TCP	Traditional Cultural Property
TEC	Total Estimated Cost

TR	Threat Reduction Directorate
TRU	Transuranic
TSFF	Tritium Science and Fabrication Facility
TSM	Technical Staff Member
TSR	Technical Safety Requirements
TSTA	Tritium Systems Test Assembly
TYCSP	Ten-Year Comprehensive Site Plan
UC	University of California
UCOP	University of California's Office of the President
U.S.	United States
USPS	United States Postal Service
WBS	Work Breakdown Structure
WCRR	Waste Characterization Reduction and Repackaging
WEM	Weapons Engineering and Manufacturing Directorate
WETF	Weapons Engineering Tritium Facility
WIPP	Waste Isolation Pilot Plant
WMD	Weapons of Mass Destruction
WNR	Weapons Neutron Research
WP	Weapons Physics Directorate

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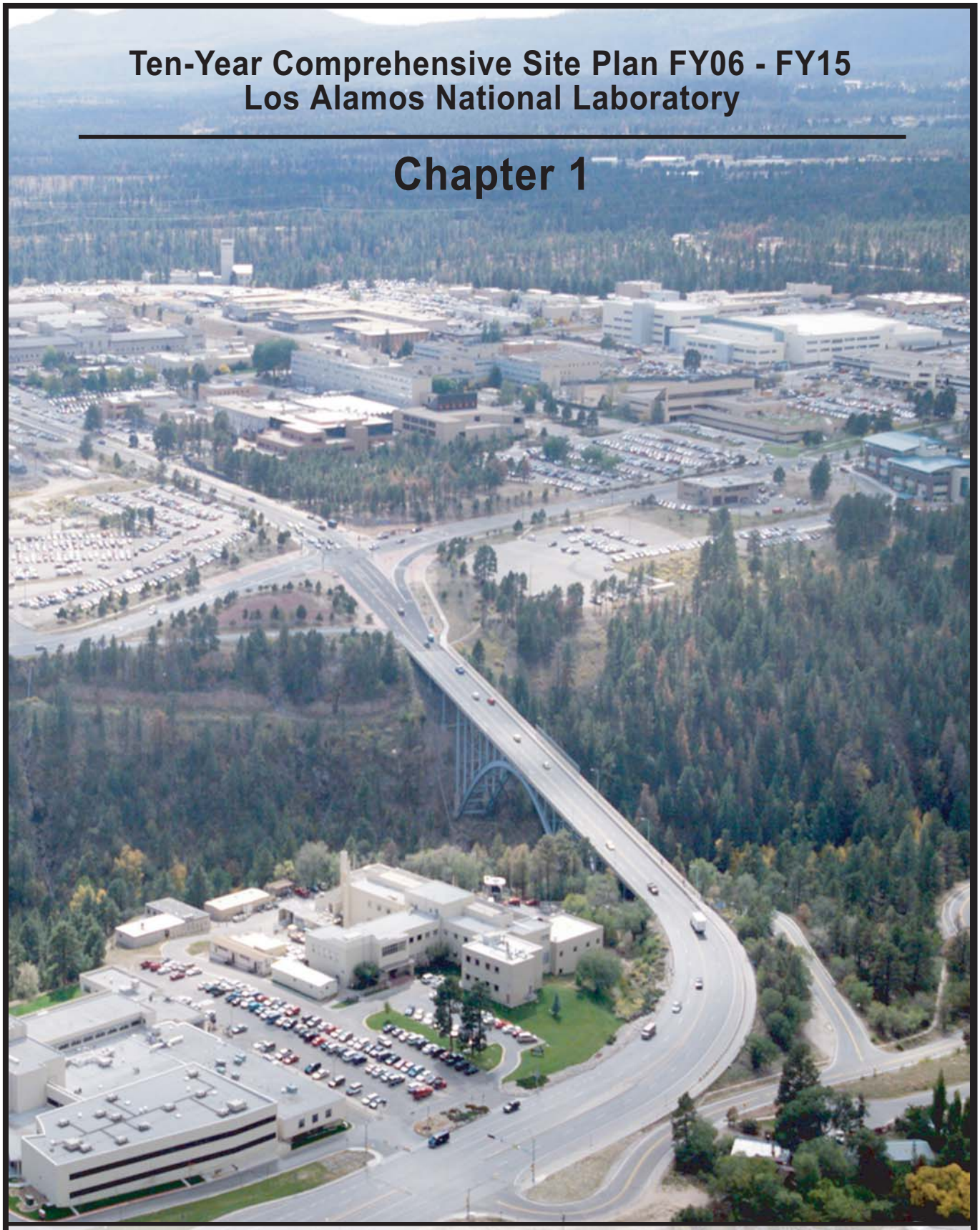
Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Chapter 1



Introduction

1.1 OVERVIEW

The Los Alamos National Laboratory (LANL) submits herein its fifth annual Ten-Year Comprehensive Site Plan (TYCSP) in response to December 2004 National Nuclear Security Administration (NNSA) guidance. This plan specifically provides strategic planning for the physical complex and includes direct and indirect NNSA funded facilities and infrastructure activities. It presents results of strategic planning processes employed at the Laboratory in support of NNSA's initiative to restore, revitalize, and rebuild the complex. Submission of this plan is one deliverable in the key goal to link physical asset long-range planning and proposed projects with fiscal budget submissions.

Included in this document are the following major topics.

General Site Information presents current and future physical conditions with supporting background data.

Deferred Maintenance Baselining activities are described as well as efforts supporting the NNSA corporate goals for deferred maintenance reduction.

Management of Site Footprint provides an accounting of excess facility elimination and new construction space added.

Current Planning Initiatives describes planning efforts as they affect facilities and infrastructure, including anticipated future impacts.

Figure 1-1: Nestled in the foothills of the Jemez Mountains in northern New Mexico, Los Alamos National Laboratory occupies about 40 square miles.

Facilities & Infrastructure (F&I) Cost Projection Spreadsheets provide insight to budget realities and consider all funding sources, including Readiness in Technical Base and Facilities (RTBF), Line Item, Indirect, and Facilities and Infrastructure Recapitalization Program (FIRP). The Laboratory has also included a summary of projects that are Campaign/Directed Stockpile Work (DSW) (non-line item), non-Defense Programs (DP), and Institutional General Plant Projects (IGPP).

The development process for this plan integrates institutional planning efforts for mission and programs, workforce, facilities, security, utilities, environment, safety, health, and operations.

1.2 ASSUMPTIONS

The following are key programmatic, budget, and planning assumptions used in developing the Fiscal Year (FY) 06 TYCSP.

- This document was developed by the University of California (UC), the current manager and operator of the Laboratory. The contract for the management and operation of the Laboratory is currently being competed. Recommendations made in the submitted proposals have not been incorporated in the FY06 TYCSP.

- No formal guidance has been provided by NNSA concerning the Overski Report, which discusses possible consolidation of the nuclear weapons complex. Recommendations from that report have not been incorporated in the FY06 TYCSP.

- The Laboratory's primary mission is to develop and apply science and technology to ensure the safety and reliability of the U.S. nuclear deterrent.

- The Laboratory's top five performance priorities that form the key organizing principles for its operations include the following:
    - Safety, security, compliance, and the environment,
    - National security mission,
    - Outstanding science in support of the Laboratory's mission,
    - Business operations and management practices, and
    - Community partnerships.

- Primary funding sources integrated in the TYCSP in support of the physical plant are the following:
    - RTBF,
    - FIRP,
    - Integrated Construction Program Plan (ICPP),
    - IGPP, and
    - Program specific funding not noted above.

- Aging facilities and infrastructure, coupled with declining budgets, will require consolidation strategies that close facilities and ultimately reduce the Laboratory's footprint.

- Funding targets for the RTBF Operations of Facilities and FIRP projects/activities Cost Projection Spreadsheets are based on those

identified by the Future Years Nuclear Security Program (FYNSP).

- FIRP funding will end in FY11.
- There are significant increases in physical site security, which will impact current construction projects and those in various aspects of development. Impacts of evolving design basis threats will be integrated within ongoing planning processes.
- The New Mexico Environmental Department (NMED) Consent Order is a new and substantial institutional regulatory driver affecting both programs and infrastructure.
- The Laboratory land area will decrease with future land transfers.

1.3 CURRENT SITUATION

Los Alamos recently celebrated its 62nd anniversary as one of the premier national laboratories for meeting today's and tomorrow's national security challenges. Since 1943, the Laboratory has consistently applied state-of-the-art scientific approaches to solving problems of national importance. However, attention to the state of infrastructure and facilities has not kept pace, and the Laboratory's physical plant is deteriorating to the point of jeopardizing its long-term ability to fulfill stockpile stewardship objectives.

Los Alamos has the greatest number and the oldest facilities among the three weapons laboratories and the Nevada Test Site. The cost of operations and maintenance, integrated safeguards and security management, environmental compliance, and other operations for these aging facilities is significant and growing. While real progress, as noted in the Executive Summary, has been made in recent years to address this issue, serious concerns and challenges remain.

1.3.1 Concerns and Challenges

Aging Obsolete and Inadequate Facilities

The Laboratory's facilities, built for the Cold War mission of the 1950s and 1960s, no longer adequately serve today's missions. The average facility age at Los Alamos is currently 33 years, with 50% of the permanent buildings older than 40. Thirty-one percent of the permanent buildings are older than 50. Forty percent of the Laboratory's facilities are in fair, poor, or failing condition. Some buildings, roads, sewer systems, electrical power grids, and other critical infrastructure are deteriorating.

A large percentage of the Laboratory's workforce resides in facilities that are in marginal condition and frequently overcrowded, which is a problem that has increased dramatically in recent years. Sixteen percent of the workforce is housed in "temporary" structures such as trailers and transportables, the majority of which are more than 10 years old. Over 1,600 employees are currently housed in dispersed, off-site leased space due to lack of adequate onsite facilities. Overall, these situations lead to diminished productivity and morale, present safety problems, and

hinder recruiting and retaining highly qualified staff.

Facility Maintenance

NNSA, along with its sites, has established aggressive corporate goals to stabilize deferred maintenance (DM) by the end of 2005 and reduce deferred maintenance to industry standards by 2009. In FY03, the Laboratory baselined its DM backlog to establish the basis of a stabilization and reduction plan. The stabilization goal for FY05 was met. However, to achieve the FY09 goals, facility operations must invest in maintenance at greater levels than in the past. These goals are not consistent with the FYNSP outyear funding profiles for RTBF and FIRP. In FY05, these profiles were significantly reduced so that the FY09 goals are now considerable challenges to meet.

Facility Disposition

A key component of the Laboratory's strategy to lower maintenance and operating costs and reduce DM is to aggressively reduce its facilities footprint. About 1.9 million (M) gross square feet (GSF) has been proposed for excess. Currently, FIRP is the primary source of funding for facility disposition. As FIRP achieves its NNSA corporate goal of eliminating 3M GSF complex-wide by 2009, FIRP funding may be reduced. Other sources of disposition funding will be needed. In addition, pathways and costs for the wastes associated with facility disposition must be identified.

1.3.2 Corrective Actions

To address these challenges, the Laboratory is proactively working to consolidate facilities and build new facilities in support of mission capabilities. This approach includes removing aging facilities no longer needed, consolidating operations with similar processes, replacing temporary structures with permanent facilities, strategically investing in new construction, and preparing excess buildings for demolition.

As stated previously, this plan does not anticipate the actions a new maintenance and operations contractor may implement or the resulting guidance from the Overski report. However, the Laboratory believes the strategy presented here will be consistent under any circumstances.

Over the past three years, the Laboratory has developed a detailed analysis of the cost of operating and maintaining facilities and a prioritization system to fund facilities and infrastructure. The Laboratory has been evaluating and implementing methods to reduce facility costs. Some of these initiatives, such as consolidation projects, require upfront funding to realize significant annual facility savings. With this investment, sustained use of the facilities can be achieved, thereby reducing risk to programmatic delivery. Below is a summary of facility and infrastructure current planning initiatives. More detail may be found in Section 4.7.

Integrated Nuclear Planning (INP) (Section 4.7.2) activities were initiated in 1998 to address the consolidation of

special nuclear materials (SNM) facilities (Section 4.7.1) and reduce security and operational costs. The Chemistry and Metallurgy Research Building (CMR) Replacement Project will allow Los Alamos to consolidate actinide chemistry and material characterization (AC/MC) activities at Technical Area (TA)-55 near the existing plutonium facility. The Laboratory is committed to vacating the existing CMR facility. Another project within INP is the Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP), Phase II, which will provide an effective, robust physical security system to support current and future protection strategies and security requirements at TA-55. The TA-55 Reinvestment Project, which will revitalize the existing plutonium facility for continued support of the Laboratory's mission, is planned for an FY08 construction start. A TA-55 Radiography Facility will reduce security risks and lower operating costs.

Los Alamos is also committed to vacating the existing TA-18 site, which is over 50 years-old and has experienced increased operational and security costs. The TA-18 Relocation Project, also known as the Criticality Experimental Facility, is currently underway.

Additional projects at Los Alamos address facility consolidation plans that reduce the overall footprint, reduce DM, and reduce the average age of facilities, utilities and infrastructure throughout the site. There are numerous consolidation and strategic planning efforts underway at the Laboratory, and the consolidation plans incorporate a cost/benefit analysis and productivity analysis to support recommendations for new projects, related excess space requests, and migration strategies.

Upgrades to essential infrastructure must also be planned and implemented if the revitalization of the Laboratory is successful. Examples of these projects include the Power Grid Infrastructure Upgrade (funded through FIRP), the Radioactive Liquid Waste Treatment Facility (RLWTF) Upgrade (currently in the Conceptual Design Report planning phase), and the Los Alamos Neutron Science Center (LANSCE) Refurbishment Project.

Within Weapons Infrastructure (Section 3.1.1), a new program, Strategic Investment and Footprint Reduction, has been initiated. Due to the age and condition of the Laboratory's facilities and infrastructure and the current resource constraints, the Laboratory must wisely invest funding into enduring facilities and infrastructure (strategic investment) and disposition those not required for the long term (footprint reduction). This requires implementing a dedicated effort the Laboratory initiated in FY05 and currently continues in preparation for NNSA funding in FY07 and beyond. Projects will only be funded if they show a return on investment, reduce risk, improve safety and security, and/or increase program efficiencies.

In summary, three distinct areas must continue to be addressed to ensure future infrastructure sustainability to meet the mission.

1. Implement formal facilities consolidation efforts and cost reduction initiatives to reduce facility footprints, which in turn reduces operating costs and improves safety, security, environmental protection, scientific interactions, and productivity.
2. Meet corporate DM goals and continue to improve facility management practices to achieve industry standards.
3. Invest in new construction projects, where appropriate and economically feasible, to ensure that the Laboratory can meet DP programmatic mission needs over the next 20 to 40 years.

Each of the areas identified above requires commitments to achieve positive results. The return on investment can be realized through reduced operating costs (maintenance and energy) and increased technical productivity to achieve mission requirements. In addition, each area addresses safety, security, and compliance needs and allows Laboratory facilities to be sustainable over the long-term.

1.4 National Environmental Policy Act

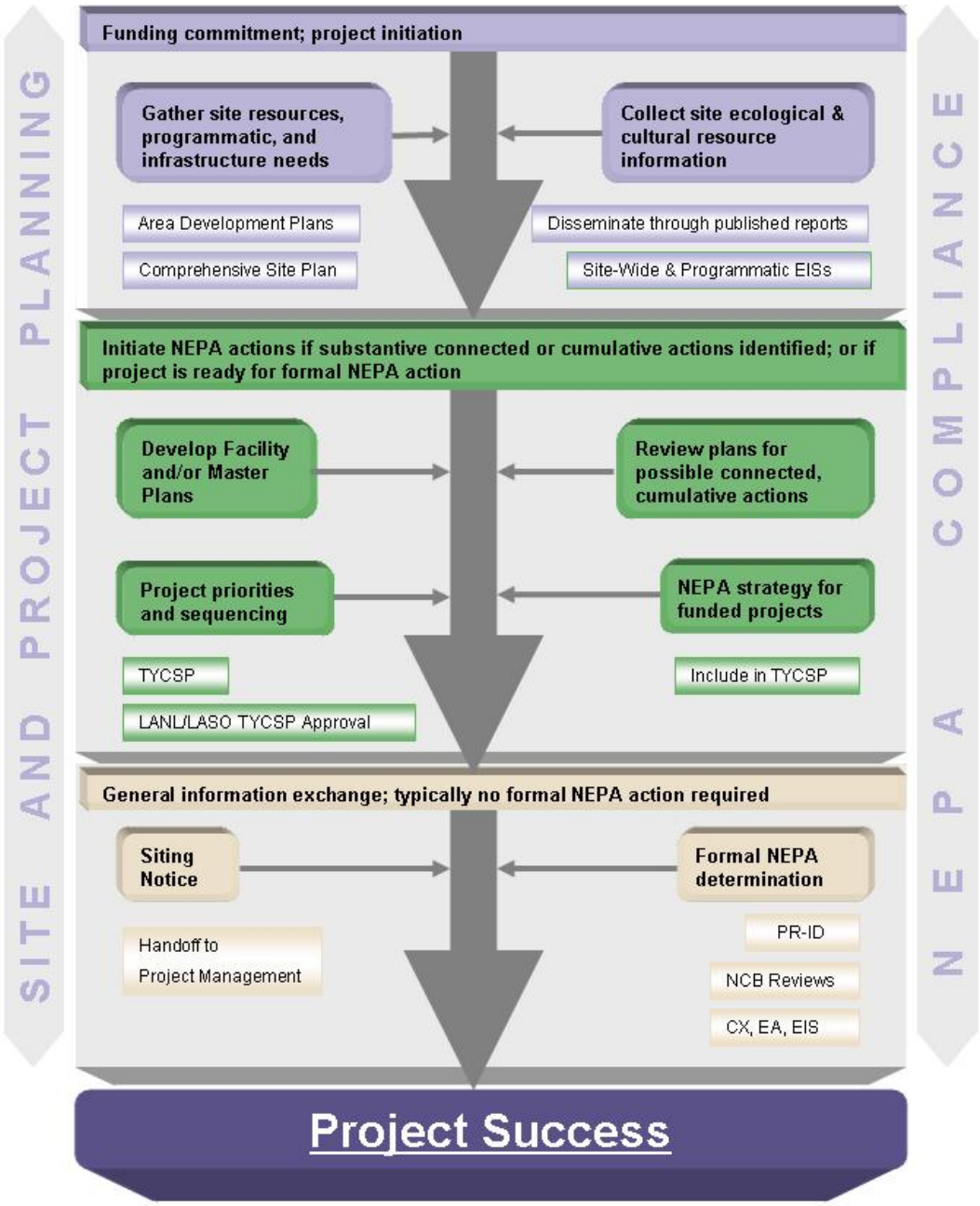
The specifics of the National Environmental Policy Act (NEPA) compliance process at the Laboratory are discussed in the following section. NEPA requires the responsible Federal agency (i.e., NNSA) to take a hard look at proposed activities that may potentially result in significant environmental impacts and disclose them to the public.

The Laboratory is committed to compliance with NEPA requirements and coordinates them with other environmental, health, safety, and security requirements, and the comprehensive site-planning program. Proposals developed by program and line organizations must be compliant with NEPA prior to decisions regarding implementation. Failure to ensure complete NEPA compliance could lead to adverse consequences for a project, ranging from delays to cost increases to possible litigation and could result in negative environmental, safety, and health impacts.

When proposed Laboratory projects are at a sufficient stage of planning to allow for detailed NEPA analysis, they are subject to review by NNSA to determine the appropriate level of compliance analysis. The review could result in a determination that the proposed activity was sufficiently analyzed in the Site Wide Environmental Impact Statement (SWEIS) or other previous impact analyses (environmental assessment (EA) or environmental impact statement (EIS)). NNSA also could determine that the proposed project is qualified to be categorically excluded (CX) from the requirement to prepare either an EA or an EIS, or it could determine preparation of an EA or an EIS is necessary.

The NEPA determination process is based on a number of criteria such as the potential for a project to have adverse environmental, safety, and health impacts, the type of mission the proposed project would perform, and public interest and concerns. The specifics of the determination process are discussed in greater detail in the Council on Environmental Quality Regulations for implementing NEPA (40 Code of Federal Regulations (CFR) 1500) and the Department of Energy (DOE) agency specific regulations for implementing NEPA (10 CFR 1021). The NEPA process, depicted in Figure 1-2, should be implemented during the project-planning phase when most of the project specific details are known and completed prior to Critical Decision (CD)-2, which is the equivalent of steps one and two of the Integrated Safety Management (ISM) process, plan the work and identify hazards.

Figure 1-2: NEPA compliance and the site and project planning process.



At the Laboratory, the NEPA process is generally initiated through the Permits and Requirements Identification System when an authorized reviewer conducts a NEPA, Cultural Resources, and Biological (NCB) review of a proposed project. The NCB review is implemented under the Laboratory's NCB Laboratory Implementation Requirements. The Laboratory performs several hundred NEPA reviews each year. A recommendation on the level of NEPA review (CX, EA, or EIS) is submitted to NNSA where a decision regarding the need for and the level of NEPA documentation is made. NEPA compliance is completed and a project can proceed once NNSA notifies the Laboratory that the action is categorically excluded, a Finding of No Significant Impact (FONSI) is issued for an EA, or a Record of Decision (ROD) is issued for an EIS.

The TYCSP, in general, represents implementation of the level of operations described in the 1999 SWEIS and selected by the ROD. However, a NEPA review should be accomplished when a specific action (site or facility plan/project) is "ripe for decision" and is being considered for funding and implementation to determine whether the SWEIS fully covers the current proposal. Site and facility plans may include projections of the future. To the extent they are not commitments to pursue a specific project or set of projects or are not yet discussed in a TYCSP, such plans typically do not engage NEPA analysis. Once a plan is proposed and considered for implementation, the NNSA must engage in the NEPA compliance process, have a NEPA strategy established, and obtain appropriate NEPA reviews in accordance with regulatory and Laboratory requirements.

DOE NEPA implementing regulations (10 CFR Part 1021.330(d)) require a SWEIS to be reviewed through a supplement analysis (SA) at least every 5 years to examine whether the SWEIS still adequately covers site operations. Preparation of a SA to the Laboratory's SWEIS was initiated in early 2004. In late 2004, NNSA made the decision to expand the SA to a Supplemental SWEIS (S-SWEIS).

In 2005, NNSA decided to convert the S-SWEIS into a new SWEIS and consider three alternatives for future operations at the Laboratory. The new SWEIS will consider operations for a period of 5 years, 2007-2011. The shorter timeframe for analysis was selected because the post 9/11 world is changing too quickly to ensure that a standard 10-year analysis would accurately reflect future operations and associated impacts.

The three SWEIS alternatives under consideration are:

1. The No Action Alternative: This alternative would continue operations at levels selected in the 1999 SWEIS ROD and other completed NEPA compliance reviews.

2. The Expanded Operations Alternative: This alternative would build on the No Action Alternative to include the construction of new facilities or the enhancement of existing facilities for on-going operations, expanded operations at a limited set of Key

Facilities (including increased pit production up to 50 pits per year), and enhanced waste management operations.

3. The Reduced Operations Alternative: This alternative would include operations reductions at several Key Facilities relevant to the No Acton Alternative level of operations at the Laboratory. This alternative would consider the shut down of operations at LANSCE and a slight reduction of operations at HE facilities.

The three alternatives will be analyzed and a preferred alternative will be selected in the SWEIS ROD. The preferred alternative could include elements from all three of the alternatives.

In May 2005, NNSA decided to remove the proposed biosafety level (BSL)-3 project from the scope of the new SWEIS. NNSA is currently drafting a notice of intent to prepare a separate EIS for the proposed BSL-3, and anticipates issuing a Record of Decision in August of 2006.

Under the current scheduled, an internal draft of the SWEIS could be completed in the first quarter of FY06, and a ROD could be available in the first quarter of FY08. A public release date for the Draft SWEIS has not yet been identified.

1.5 HISTORIC FACILITIES

In compliance with the National Historic Preservation Act (NHPA), Laboratory buildings and structures built between 1942 and 1963, or designated in the SWEIS as key facilities, must be reviewed for historical significance. In consultation with the New Mexico State Historic Preservation Officer (SHPO), 95 Laboratory properties have been determined eligible for inclusion on the National Register of Historic Places (Register) for their association with significant local, regional, or national events. An additional 344 properties have yet to be assessed for Register eligibility and are considered potentially eligible pending review. In general, the Laboratory's Register-eligible properties supported important scientific developments during the Manhattan Project and Cold War years.

The map at the end of this section shows both the eligible properties and the potentially eligible properties.

Impact on Historic Facilities in Developing Historic Properties Policy and Legislation

Federal historic preservation legislation requires the inventory and identification of significant historic properties. In addition, the most significant examples are evaluated for preservation and adaptive reuse potential. The DOE's Office of History and Heritage Resources has issued guidance over the last several years regarding historic facilities at DOE/NNSA sites. The DOE has identified the most significant remaining Manhattan Project properties at DOE/NNSA sites across the complex and has formally listed them as "Signature Facilities." The Office of History and Heritage Resources has recently requested that each DOE/NNSA site nominate significant Cold War

properties for inclusion on DOE's Cold War Signature Facility list. In compliance with the current administration's Preserve America Executive Order, DOE/NNSA site offices are also identifying other historic properties, in addition to DOE Signature Facilities, that would be suitable for "heritage tourism" activities as outlined in the executive order. In addition, the "Manhattan Project National Historic Park Study Act" (S. 1687), signed by President Bush on October 18, 2004, directs the Secretary of the Interior to evaluate the potential for a discontiguous National Park Service (NPS) unit consisting of Manhattan Project era facilities from across the country. The development of this NPS unit would have ramifications for the long-term management of the three Manhattan Project Signature Facilities and several other remaining Manhattan Project properties at the Laboratory and in the Los Alamos townsite, such as Fuller Lodge and the Bathtub Row houses.

Manhattan Project Signature Facilities

Manhattan Project Signature Facilities at the Laboratory include the Gun Site complex (TA-8-1, TA-8-2, and TA-8-3); V Site (TA-16-516 and TA-16-517); and the "Fat Man" Quonset hut (TA-22-1). These buildings are included in the "Historical Structures" section at the end of Attachment E-1 and have been identified as candidates for long-term retention. Funding opportunities for restoration and maintenance of the Laboratory's DOE Signature Facilities are being explored.

Cold War Signature Facilities

A list of Cold War Signature Facilities has not yet been formally adopted by the DOE but is currently being developed by each site. The Laboratory's list of candidates will be sent to the DOE's Office of History and Heritage Resources by the end of FY05 as part of the list of potential "heritage tourism" properties stipulated in the Preserve America Executive Order. Any potential DOE Cold War Signature Facilities on Attachment E-1, Excess Facilities Disposition Plan, are noted as such and are included in the "Historical Structures" section.

Other Significant Facilities

Although not of DOE Signature-level significance, other Laboratory properties have been identified as exceptionally significant. These buildings and structures represent important facets of the Laboratory's history and include a small number of representative Manhattan Project and Cold War experimental areas and laboratory/processing facilities. This list includes key perimeter facilities, accessible to the general public, that represent the closed and secret nature of Los Alamos (circa 1942-1957). Key buildings and structures, if included in Attachment E-1, have been identified as candidates for retention along with the three DOE Manhattan Project Signature Facilities and the nominees for Cold War Signature Facility status.

Impact of Historic Facilities Disposition

Eligibility for the Register does not mean that a building or structure will be

preserved. If determined eligible for the Register in consultation with the SHPO, a property identified for decommissioning and demolition (D&D) can be demolished once measures are developed to resolve any adverse effects to the property. Typical measures focus on architectural and historical documentation and include the compilation of updated as-built drawings, the production of archival quality black-and-white photographs, and the documentation of the property's history and the significance of its role at the Laboratory, often supplemented with historic photographs and oral interviews of former site workers.

The majority of the Laboratory's historic properties are not candidates for preservation and will ultimately be demolished once they no longer support missions. The demolition of historic properties is carried out after NHPA compliance activities are conducted. The Laboratory's Historic Building Program personnel have worked with D&D staff since the early 1990s to ensure compliance with the NHPA while facilitating the D&D of excess buildings.

Buildings and structures in Attachment E that have been identified as candidates for preservation represent approximately 46,000 GSF.

Preservation In Lieu of Demolition

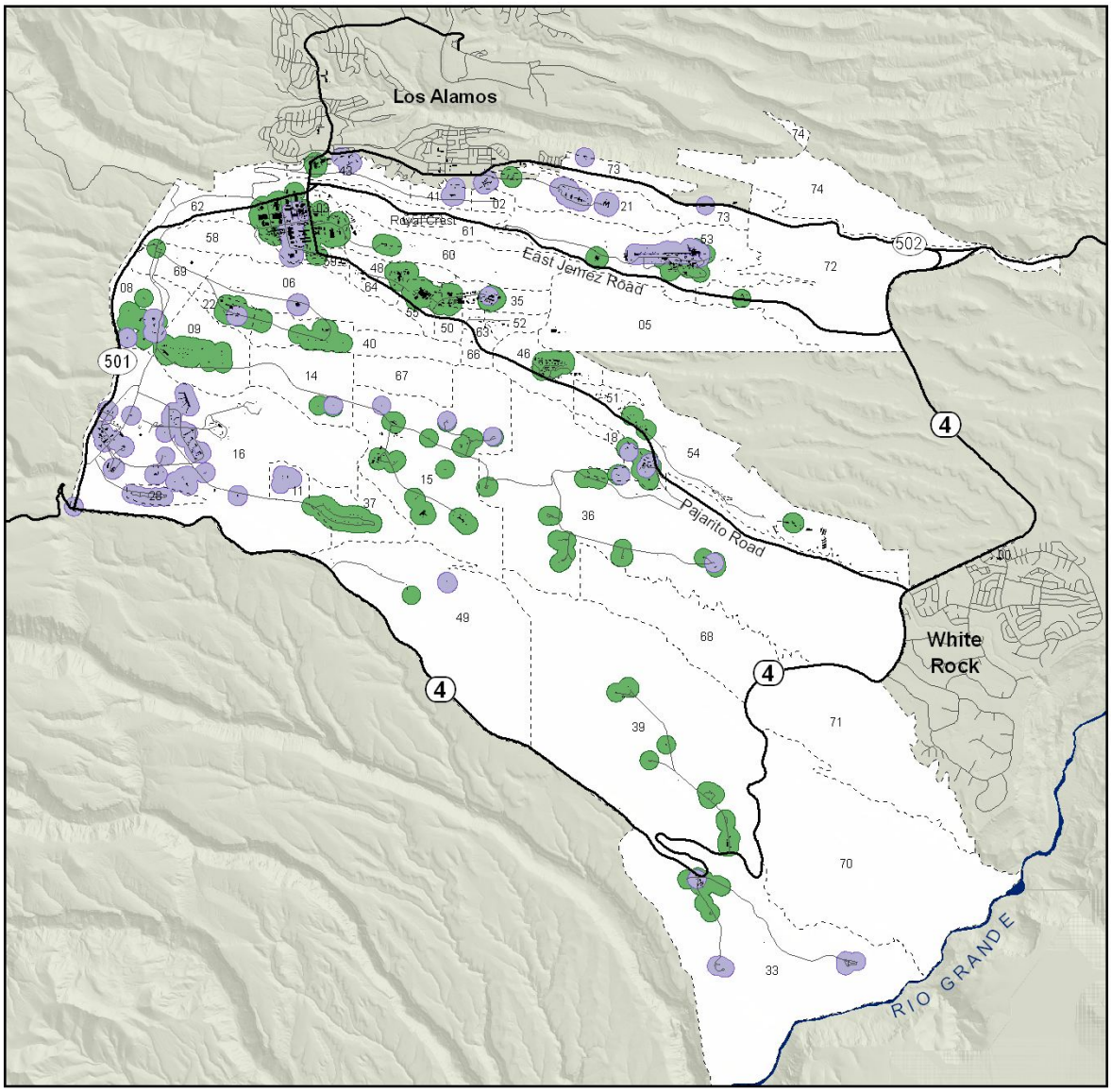
The preservation of many historic facilities would not significantly impact site operations. Many of the facilities to be preserved are located in areas that have already been evaluated for consolidation and revitalization, and retention of historic properties has been incorporated into long-range site plans.

Public tours of historic properties would likely be limited to once or twice a year. Limited-access bus tours of historic facilities conducted in the past have resulted in minimal impacts to site operations. These "windshield" tours have allowed uncleared U.S. citizens to view historic properties located at TA-6, TA-8, TA-16, and TA-22.

Associated Site Costs

Maintenance of historic properties will incur site costs. These, however, can be defrayed through the reuse of historic properties. Potential uses include office space, storage space, museum space, or conference facilities. Remodeling constraints are usually limited to the exterior historic fabric of the property.

When reuse is not an option, federal grants can be pursued to fund restoration or maintenance. For example, the Laboratory's V Site, one of the DOE's Manhattan Project Signature Facilities, is being stabilized this FY with a Save America's Treasures grant.



Historic Facilities

LEGEND

------ Technical Area Boundary

Facility is Eligible for National Register of Historic Places

Facility is Potentially Eligible for National Register of Historic Places

(Facility footprints are exaggerated, or buffered, for readability at a sitewide perspective)

N

0 4,000 8,000
Feet

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1.6 CHANGES FROM PRIOR YEAR TYCSP

In order to provide plan-to-plan traceability, the summaries below describe the major changes in the document chapters from the prior year. If changes resulted from formal NNSA comments or concerns provided during the review of the FY05 TYCSP, the source is noted in parentheses.

- Section 1.5, Historical Facilities, has been added per the guidance. Facilities that have received historic designation are identified and their impact on site operation, site cost, overall square footage, and historic property policy are discussed.

- Section 4.3.3.1, Regulatory Permitting and Compliance, includes a discussion on the New Mexico Environment Department Consent Order and the project specific activities needed to meet the Consent Order requirements.(NNSA Comment)

- Attachments A-6(a-d), Facilities and Infrastructure Cost Projection Spreadsheets for Security Infrastructure Projects, have been included per the guidance. These spreadsheets crosswalk security infrastructure projects currently accepted for execution and planning (for FY06 and FY07) as well as list planned, unfunded projects.

- FIRP project prioritization and ranking have been incorporated into Attachment A-4, the Facilities and Infrastructure Recapitalization Program (FIRP) Cost Projection Spreadsheet. As a result, Attachment B, a separate Prioritized List of Recapitalization Projects, has been eliminated.

- Attachment E includes additional data supporting progress towards meeting the Congressional requirements for managing the site footprint.

  - Attachment E-3, Grandfathered Footprint Added, identifies projects approved for start of construction prior to FY03.
  - Attachment E-4, Gross Square Footage (GSF) Tracking Summary, displays actual and projected total GSF based on Attachments E-1 and E-2.
  - Attachment E-5, GSF Waiver and Transfer, documents approved or pending requests for waivers and transfers of banked GSF.

- Attachment F-6, Identification of Replacement-in-Kind (RIK) Requirements, has been updated to reflect a new definition of RIK projects (>$500K).

- Attachment H, Site Security Infrastructure Portfolio, has been included per the guidance. This attachment identifies facilities and infrastructure critical to the Laboratory's safeguards and security mission. A map of Security Infrastructure Portfolio facilities is included in Section 4.5.4, Security Infrastructure Portfolio.

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Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Chapter 2

Image from Space Station by Astronaut John Phillips 2005.

Site Description

2.1 GEOGRAPHIC SETTING

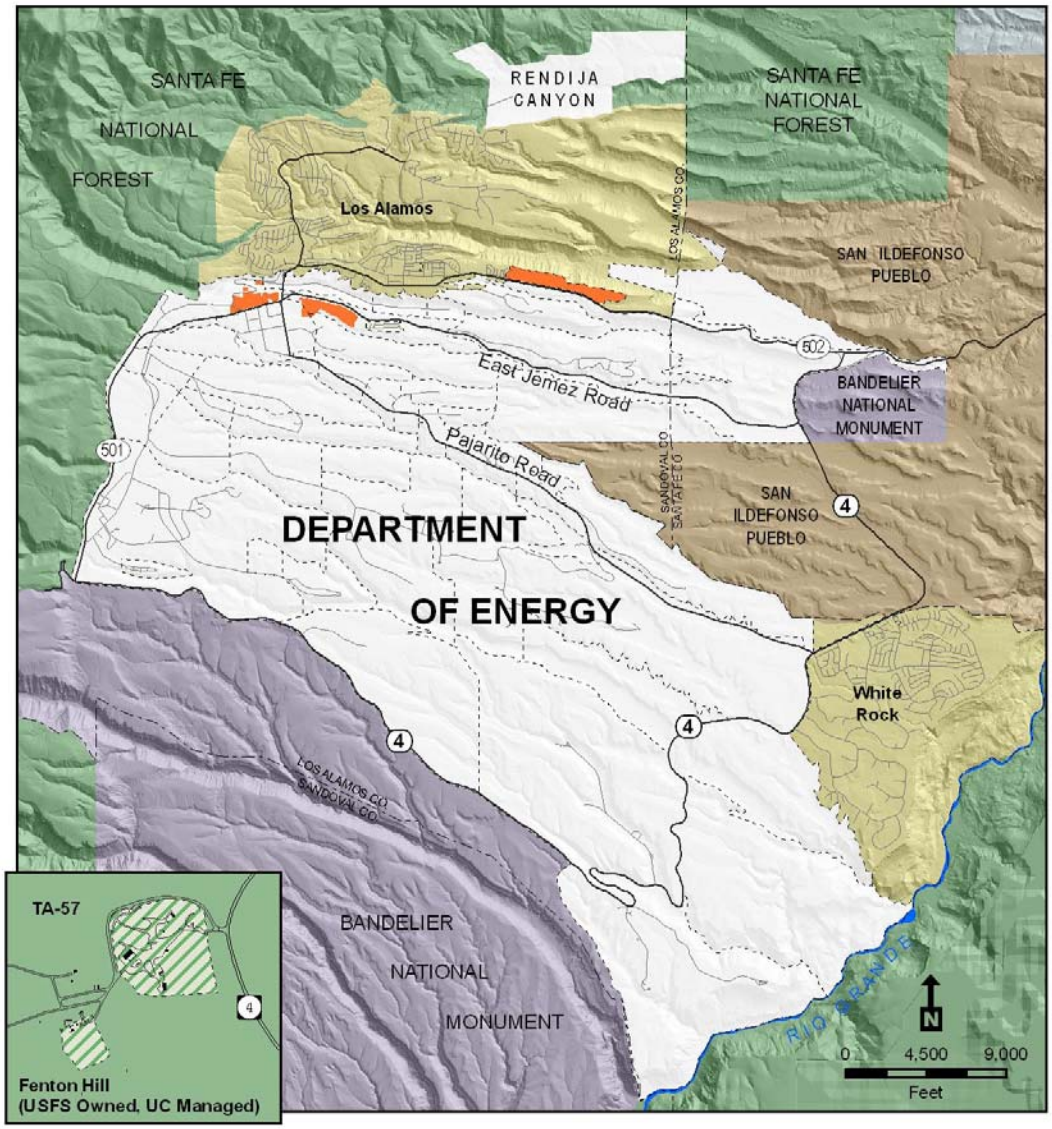
The Laboratory and residential areas of Los Alamos and White Rock are located in Los Alamos County in north-central New Mexico, approximately 60 miles north-northeast of Albuquerque and 25 miles northwest of Santa Fe. The approximately 40-square mile Laboratory site is situated on the Pajarito Plateau, which consists of a series of finger-like mesas separated by deep east-to-west oriented canyons cut by intermittent streams. Mesa tops range in elevation from approximately 7,800 feet on the flanks of the Jemez Mountains to about 6,200 feet at their eastern termination above White Rock Canyon and the Rio Grande. Plant communities on these mesas range from ponderosa pine forests on the flanks of the Jemez Mountains to piñon-juniper woodlands near the Rio Grande. The climate is moderate with relatively mild winters and summers.

Most Laboratory and community developments are confined to mesa tops. The surrounding land is largely undeveloped, and large tracts of land north, west, and south of the Laboratory are administered by the Santa Fe National Forest, Bureau of Land Management, Bandelier National Monument, General Services Administration, and Los Alamos County. The San Ildefonso Pueblo borders the Laboratory to the east.

The Laboratory is divided into TAs that are used for building sites, experimental areas, waste disposal locations, etc. However, these uses account for only a small part of the total land area. Development is limited by steep slopes and by the need for security and safety buffers because of the work performed.

Figure 2-1: Most Laboratory development is confined to mesa tops.

TheDOE/NNSA administers the area occupied by the Laboratory and has the option to completely restrict public access. However, the public is currently allowed limited access to certain areas of the Laboratory, along State Routes 4, 501, and 502.



Land Management / Ownership

- Road
- County
- Technical Area Boundary
- Bandelier National Monument
- U. S. Forest Service
- Private Land
- BLM
- San Ildefonso Pueblo

- DOE Owned:
  Includes Rendija Canyon (Sportsmen Club)
- DOE Owned and Leased:
  -Airport
  -Landfill and Concrete Plant
  -Research Park
  -Ice Rink
  -ICON Facility Land at TA-46
- U. S. Forest Service Owned / U. C. Managed (Fenton Hill, TA-57)

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2.2 LABORATORY RESOURCES

The following section discusses the regional ecosystem encompassing the Laboratory and resources specifically at the Laboratory. Information is drawn from the SWEIS and supporting documentation.

2.2.1 Regional Ecosystem

Administrative boundaries do not necessarily coincide with ecological boundaries. Laboratory facilities, infrastructure, operations, and impacts (positive, negative, neutral, and undetermined) are immersed in the patterns and processes of a complex regional landscape making up the Pajarito Plateau. Major habitat types and canyon systems are continuous across this plateau, which encompasses jurisdictional boundaries of the Laboratory, Bandelier National Monument, Santa Fe National Forest, Native American Pueblos, and other land management stewards. Seasonal migration routes for elk and deer and foraging or hunting ranges of black bears and mountain lions cross these jurisdictional boundaries.

Canyons

From their narrow, thickly forested beginnings on the flanks of the Jemez Mountains, to their confluence with the Rio Grande, major canyons are associated with the eight major watersheds. The canyons range in depth from about 200 to 600 feet. The steeply sloping, north-facing canyon walls and canyon bottoms are shadier and cooler and have higher levels of humidity and soil moisture than the often nearly vertical, south-facing canyon walls, which are sunnier, hotter, and more arid. These differences in slope, aspect, sunlight, temperature, and moisture cause a dramatic localized shift in major vegetation zones on canyon walls and in canyon bottoms beyond their typical range of elevation. This “canyon-effect” is responsible for fingers of coniferous forest extending down regional canyons.

Watersheds

The regional Laboratory ecosystem has been defined to include eight major watersheds, each of which has significant tributaries. Watersheds draining the Jemez Mountains and Pajarito Plateau are tributaries of the Rio Grande, which is the fifth largest watershed in North America. Approximately 11 miles of the Laboratory’s eastern boundary borders on the rim of White Rock Canyon or descends to the Rio Grande. The riverine, lake, and canyon environment of the Rio Grande as it flows through White Rock Canyon makes a major contribution to the biological resources and significantly influences ecological processes of the Laboratory region.

Wetlands

The majority of the wetlands in the Laboratory region are associated with canyon stream channels or are present on mountains or mesas as isolated meadows containing ponds or marshes, often in association with springs or seeps.

A 1990 survey (based on interpretation of aerial photographs) identified a total of 39

acres of wetlands within Laboratory boundaries. A 1996 field survey by Laboratory personnel identified an estimated 50 acres of wetlands within Laboratory boundaries, based on the presence of wetland vegetation (hydrophytes).

Currently, about 13 acres of wetlands within Laboratory boundaries are associated with process effluent wastewater from National Pollutant Discharge Elimination Systems (NPDES)-permitted outfalls. In 1999, the effluent from NPDES outfalls, both storm water and process water, was estimated to have contributed 317 million gallons to wetlands within Laboratory boundaries. Effluents are being reduced through a program of outfall reductions. It is expected that some wetlands will shrink and perhaps disappear entirely over time. A new wetlands survey is currently under preparation in support of the new Laboratory SWEIS.

Major Vegetation Zones

Although watersheds traverse all or part of the elevational gradient, major vegetation zones are organized into elevation- and aspect-defined bands across this gradient. Increasing temperature and decreasing moisture along the 12-mile-wide and 5,000-foot-elevational gradient from peaks of the Jemez Mountains to the Rio Grande result in the formation of six vegetative zones. The six vegetation zones that characterize this regional ecosystem are montane grasslands, spruce-fir forest, mixed conifer forest (with aspen forest), ponderosa pine forest, piñon-juniper woodland, and juniper savannah.

The montane grassland, spruce-fir, and mixed conifer vegetation zones are located primarily west of the Laboratory with little representation on the Laboratory proper. The vegetation zones and associated ecotones provide habitat, including breeding and foraging territory, and migration routes for a diversity of permanent and seasonal wildlife.

2.2.2 Resources for Integration

The resources included here are those that have high potential to be affected by or effect the Laboratory's operations and facilities. In either case, the potential impacts are discussed. Resources that have a lower potential to be affected by the Laboratory's operations, such as geology, are not included.

Air

The quality of ambient air is defined by federal and state regulations. The Environmental Protection Agency has set National Ambient Air Quality Standards for pollutants of nationwide concern. These pollutants, known as criteria pollutants, are carbon monoxide, sulfur dioxide, nitrogen dioxide, ozone, lead, and particulate matter. The area around the Laboratory is classified as an attainment area for all six criteria pollutants.

The State of New Mexico has also established ambient air quality standards. DOE/NNSA and Laboratory operations meet all state standards.

Water

Water is a limited resource in the semiarid climate of northern New Mexico. Canyon-bottom streams within Laboratory boundaries are mostly dry, and only portions of some streams contain water year round. Flash floods can occur following thunderstorms. Sediments moved by storm water events from upstream locations, hillsides, or mesa tops occur along the bottom of most Laboratory canyons, and flash floods move these sediments from the canyon bottoms into the Rio Grande.

Surface Water

Surface water in the Los Alamos area occurs primarily as short-lived or intermittent reaches of streams. Perennial springs on the flanks of the Jemez Mountains supply base flow into the upper reaches of some canyons, but volume is generally insufficient to maintain surface flows across the Laboratory site before they are depleted by evaporation, transpiration, and infiltration. Runoff from heavy thunderstorms or heavy snowmelt reaches the Rio Grande several times a year in some drainages. Effluents from sanitary sewage, industrial water treatment plants, and cooling-tower blowdown enter some canyons at rates sufficient to maintain surface flows for varying distances. Surface water within Laboratory boundaries is not a source of municipal, industrial, or irrigation water, but is used by wildlife that live within, or migrate through, the region.
Storm water and associated sediment transport are the major mechanisms by which contaminants are transported within and beyond Laboratory boundaries. Therefore, management efforts to reduce contaminant migration in the canyons at the Laboratory have historically focused on these transport mechanisms.

Ground Water

The Laboratory and the surrounding communities use ground water for drinking water supplies. Water levels in wells penetrating into the regional aquifer have declined in response to pumping, typically by several feet each year.

Like surface water, the presence of ground water is variable. The regional aquifer is the only body of ground water in the region sufficiently saturated and permeable to transmit economic quantities of water to wells for public use. All drinking water for Los Alamos County, the Laboratory, and Bandelier National Monument comes from the regional aquifer. Depth to water in the aquifer, from the ground surface, varies from approximately 1,200 feet along the

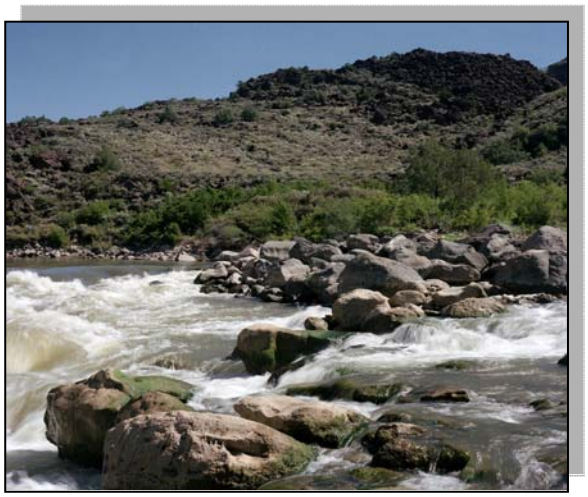


Figure 2-2: Water is a precious resource in northern New Mexico.

western boundary of the Pajarito Plateau to approximately 600 feet along the eastern edge of the Pajarito Plateau.

Water in the regional aquifer is under artesian conditions under the eastern part of the Pajarito Plateau near the Rio Grande. The source of recharge to the aquifer is presently under investigation. Recent results of a major, multiyear hydrogeologic study have indicated that there is significant ground-water recharge along the flank of the Jemez Mountains, and there may be more ground water recharge from canyon bottom alluvial ground water than previously believed. Characterization wells have found Laboratory contaminants in perched zones above the regional aquifer and in the regional aquifer. Work continues to increase understanding of the hydrogeologic conditions.

Soils

Several distinct soils have developed in and around the Laboratory as a result of interactions between bedrock, topography, and local climate. Construction activities at the Laboratory can displace these soils, and runoff from parking lots and buildings can cause erosion. In addition, surface contamination can result from open detonations at the firing sites, or from the deposition of contaminants released to the atmosphere from building vents and other operations.

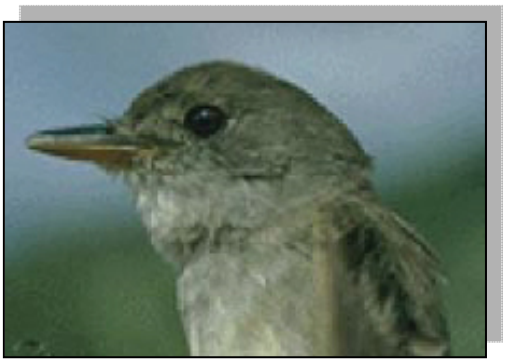


Figure 2-3: Laboratory lands support a variety of wildlife including several endangered species.

Biological

Though operations at the Laboratory are not expected to result in significant impacts to biological resources, ecological processes, or biodiversity (including threatened and endangered species), operations will continue to release small quantities of contaminants, disrupt natural migration routes, or otherwise disturb local environs.

The lands within and around the Laboratory have diverse, unique biological communities having complex ecological relationships. Plant communities range from urban landscaping to grasslands, wetlands, shrublands, woodlands, and mountain forest, which provide habitat for a wealth of animal life. This richness of animal life includes elk and deer, bears, mountain lions, coyotes, rodents, bats, reptiles, amphibians, invertebrates, and a myriad of resident, seasonal, and migratory bird life. In addition, threatened and endangered species of concern and other sensitive species use Laboratory resources. Because of restricted access to Laboratory lands and management of contiguous Bandelier National Monument for natural biological systems, much of the region provides a refuge for wildlife.

Wildlife

The Laboratory's lands support a diversity of wildlife ranging from state- and federal-listed threatened and endangered species to large and small game populations. A number of regionally protected and sensitive species of concern have been documented on or near the Laboratory's lands. These consist of one federal-listed endangered species, two federal-listed threatened species, and 18 species of concern (species that may be of concern to the United States (U.S.) Fish and Wildlife Service but do not receive protection under the Endangered Species Act). Operations at the Laboratory may impact these species by removal of key habitat, disturbing these species during breeding seasons, altering hunting and foraging areas, etc. Conversely, these species may impact operations by requiring certain areas to remain undisturbed and restricting the locations for new facilities.

Forest

There are three forest types that occupy the majority of Laboratory acreage: piñon-juniper woodlands, ponderosa pine, and spruce fir forests. Each of these forest types has its own characteristics; however, they all three show effects of fire suppression over the last hundred years coupled with restrictions in grazing by domestic livestock. The most obvious effects have been an increase in overall tree stand densities, continuity, and fuel loading with a concomitant decrease in understory cover. The heavily forested areas have dense stands of unhealthy trees with excessive amounts of standing and fallen dead tree material.

In the last 50 years, this region has seen five major wildfires: the Water Canyon Fire in 1954, the La Mesa Fire in 1977, the Dome Fire in 1996, the Oso Fire in 1998, and the Cerro Grande Fire in 2000. In each case, fire occurred during the late spring or early summer fire season when fire danger was high or extreme. Weather conditions were hot and dry, fuel moisture content was low, and fuel loads were high. Even after these five fires, overall conditions across the Pajarito Plateau are still conducive to wildfire, and as fuel loads regenerate in the burned areas, the probability of the next fire event increases.

Cultural and Historical

Cultural resources are any prehistoric or historic sites, buildings, structures, districts, or other places or objects (including biota of importance) considered to be important to a culture, subculture, or community for scientific, traditional, or religious purposes, or for any other reason. They combine to form the human legacy for a particular place.

Figure 2-4: Cultural resources exist on and near Laboratory property.

The cultural resources present within the Laboratory region are complex because of great cultural diversity in the inhabitants of this region. As structure and physical environment of the Jemez Mountains and Pajarito Plateau changed over time, cultures changed in response, as reflected in settlement patterns and technology that evolved over time.

The cultural resources present within Laboratory boundaries and the region have been classified into three categories: prehistoric, historic, and traditional cultural properties (TCPs). These three categories of cultural resources are protected variously under state and federal laws, regulations, and executive orders.

Archeological surveys have been conducted of approximately 90% of the land within Laboratory boundaries (with 85% of the area surveyed receiving 100% coverage) to identify cultural resources. The majority of these surveys emphasized prehistoric American Indian cultural resources. Information on prehistoric cultural resources is maintained in the Laboratory cultural resources database, which is a listing of the cultural resources identified through surveys and excavations recorded over the last decade. The database is organized primarily by site type and records 1,295 prehistoric sites. Of the 1,295 prehistoric sites in the Laboratory database, 1,192 have been assessed for potential nomination to the National Register of Historic Places (NRHP). Of these, 770 sites are eligible, 322 sites are potentially eligible, and 100 sites are ineligible. The remaining 103 sites, which have not been assessed for

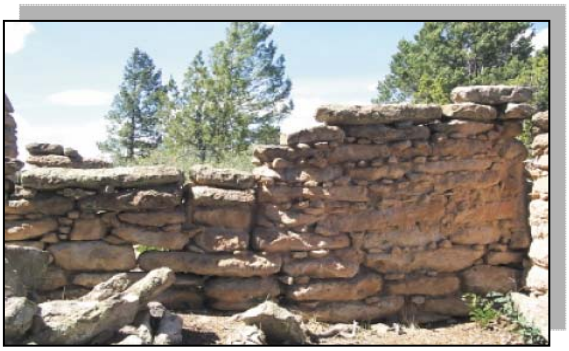


Figure 2-5: The complexity of cultural resources located within the Laboratory region serves as a testament to the cultural diversity of the area.

NRHP eligibility, are assumed to be eligible until a determination can be made. Historic cultural resources include all material remains and any other physical alteration of the landscape that has occurred since the arrival of Europeans in the region. The historic resources present with Laboratory boundaries and on the Pajarito Plateau can be attributed to three phases: Spanish Colonial, Early U.S. Territorial/Statehood, and the Nuclear Energy Period.

A TCP is a significant place or object associated with historical and cultural practices or beliefs of a living community that is rooted in that community's history and is important in maintaining the continuing cultural identity of the community. TCPs are essential in preserving cultural identity through social, spiritual, political, and economic uses.

An area may have TCP significance depending on a variety of factors, i.e., the site is remembered in prayers or tribal stories, traditional ritual knowledge of the site is passed on to other members of the community, or traditional customs

continue to be practiced by members of a community. TCPs that are considered culturally important by traditional communities include shrines, trails, springs, rivers, acequias, plant and mineral gathering areas (also referred to as ethnobotanical sites), traditional hunting areas, ancestral villages and gravesites, and petroglyphs. However, TCPs are not limited to ethnic minority groups. Americans of every ethnic origin have properties to which they ascribe traditional cultural value.

Within the Laboratory's boundaries, there are ancestral villages, shrines, petroglyphs, sacred springs, trails, and traditional use areas that could be identified by Pueblo and Athabascan communities as TCPs. DOE/NNSA and the Laboratory have a program in place to manage on-site cultural resources for compliance with the Native American Graves Protection and Repatriation Act and American Indian Religious Freedom Act. When an undertaking is proposed, DOE/NNSA and the Laboratory arrange site visits by tribal representatives from San Ildefonso, Santa Clara, Jemez, and Cochiti Pueblos to solicit their concerns and comply with applicable requirements and agreements. Provisions for coordination among these four Pueblos and DOE/NNSA is contained in formal agreements called accords that were entered into in 1992 for the purpose of improving communication and cooperation among federal and tribal governments. According to the DOE compliance procedure, American Indian tribes may request permission for visits to sacred sites within Laboratory boundaries for ceremonies.

Because of the very well-defined changes in the function of the Laboratory, the Nuclear Energy Period is broken into three periods: World War II/Early Nuclear Weapon Development, Early Cold War, and Late Cold War. The World War II or Manhattan Project era (1943-1946) and the Early Cold War (1947-1963) are two periods of particular historic significance for Laboratory structures. Of the 570 buildings at the Laboratory that are eligible for listing on the National Register of Historic Places or will require eligibility evaluations, 501 were built between 1943 and 1963. There are some buildings and structures built after 1963 that have historic significance because of their relationship to the exceptional events or historic figures of the two periods.

In light of the two periods of historic significance, the TYCSP plays a significant role in the determination of future potential impacts to historic properties. Attachment E-1 identifies excess "facilities and land that no longer support mission(s), program(s) and/or workload." Buildings and structures with high maintenance backlogs and low replacement values are classified as being in poor condition and considered for D&D. Buildings not on the "excess list" will be retained for the long-term mission of the Laboratory.

Of the 501 buildings built between 1943 and 1963, 289 (58%) are currently identified as excess, to be removed over the next 10 years. Given the proposed removal of a disproportionately high number of early historic properties at the Laboratory, an overall plan for the consideration of the historic significance

of these properties and opportunities for their preservation and/or interpretation is in development.

2.2.3 Established Natural Areas

DOE/NNSA (and its predecessor organization) recognized the diversity of natural resources at the Laboratory and provided particular protection to portions of the Laboratory by taking specific actions.

National Environmental Research Park

In November 1976, the U.S. Energy Research and Development Administration, precursor to DOE, designated four installations as National Environmental Research Parks, one of which was the Laboratory. The National Environmental Research Park facilitates self-supported environmental research on the interactions between human-altered systems and adjacent natural systems and is available to individuals and organizations both within and outside the Laboratory.

White Rock Canyon Reserve

The White Rock Canyon Reserve was dedicated by DOE on October 30, 1999. It contains approximately 1,000 acres on the southeastern portion of the Laboratory along the Rio Grande. The objective of the Reserve is to conserve, protect, and enhance the site's biological and cultural resources. Bandelier National Monument will co-manage it together with NNSA with input from the University of California (UC)/LANL, other state and federal agencies, nearby Pueblos, and the local community. A comprehensive resources management plan for the Reserve will be completed by 2006.

2.3 LAND

The Laboratory occupies an area of approximately 25,382 acres (10,280 hectares), or approximately 40 square miles (104 square kilometers), of DOE land which the majority lies within Los Alamos County. The remaining portion of Laboratory acreage lies within Santa Fe County, which also borders portions of Laboratory boundaries along the east and southeast. In this western portion of Santa Fe County, development is very limited, occurring primarily on American Indian lands within the Rio Grande Valley. A small isolated portion of Sandoval County borders the Laboratory on the east and is composed entirely of undeveloped lands belonging to San Ildefonso Pueblo. Additionally, a small portion of Sandoval County borders the Laboratory on its southwest boundary, with the remainder of the county being located (noncontiguously) to the south, west, and north. In the Laboratory area, Sandoval County is generally undeveloped, being primarily U.S. Forest Service and U.S. National Park Service lands.

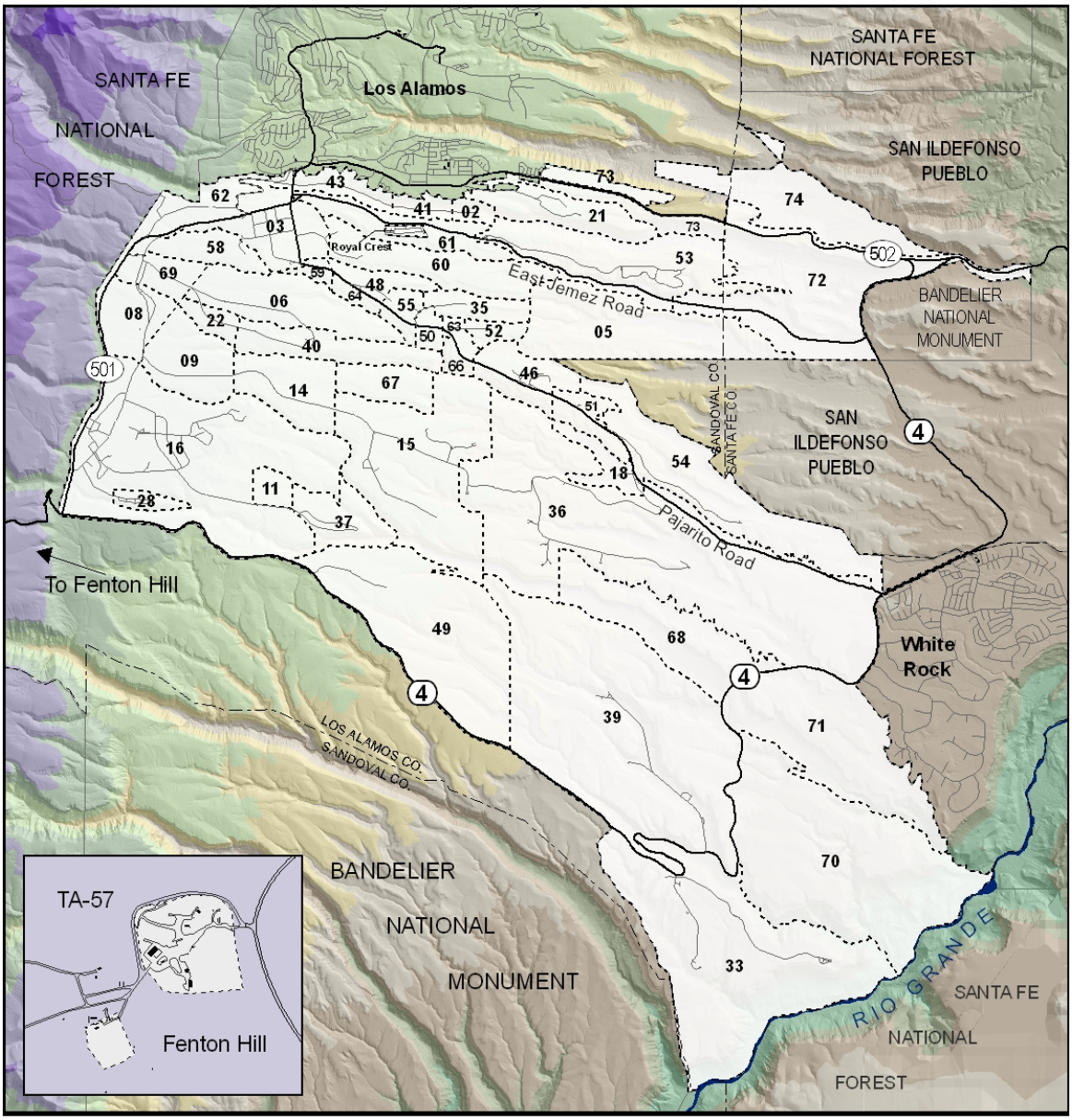
The total land area within the DOE boundaries is broken down by land manager as shown in Table 2-1. The DOE Managed category includes the Rendija Canyon/Sportsmen Club. The Leased category is land owned by DOE but leased to other entities, including the Los Alamos Research Park north of TA-3 and the Icon facility at TA-46. The Private category is privately owned land within the DOE boundary and includes the Royal Crest Mobile Home Park and the Los Alamos County ice rink. The remaining DOE-owned land is managed by UC and is where most of the Laboratory's operations are conducted. This table does not include any of the UC leased space in the communities of Los Alamos and White Rock.

The Laboratory is divided into 49 active and separate TAs with location and spacing that reflect the site's historical development patterns, regional topography, and functional relationships (see map on following page). There are over 80 miles of asphalt roads and parking areas. Unpaved roads are estimated to include up to an additional 200 acres (81 hectares).

Table 2-1: Area totals by land management type.

Category	Area in Square Miles	Area in Acres
DOE Managed	1	918
Leased	0.3	197
Private (within LANL Boundary)	0.1	27
UC Managed	39	25,382
Total	**40.4**	**26,524**

Amounts are rounded off.



Technical Area Boundaries

LEGEND

- Technical Area Boundary
- Major Road
- Department of Energy

N

0 4,000 8,000
Feet

Although at a cursory glance there appears to be sufficient land for further expansion at the Laboratory, the majority of it is very difficult to develop given significant physical and operations constraints. For example, over 25% of the Laboratory's acreage consists of slopes that exceed 20%. Adding to the scarcity of developable land is the type of work that the Laboratory performs. Security and safety buffers for defense-related work often require large reservations of land for these programs to continue without adversely affecting surrounding areas. These types of constraints severely limit developable land at the Laboratory.

2.3.1 Land Use Planning and Management

Land-use planning and management is a process based on the Laboratory-wide Comprehensive Site Plan (CSP) from which more detailed Area Development Plans (ADP) and master plans are developed. The CSP is a technical document presenting land-use issues, capabilities, and site opportunities and limitations upon which future land use decisions are made. Detailed background information regarding the site is included, such as geographic description, topography, soils, geological, cultural resources, natural resources, facilities, and transportation. The CSP is updated and revised periodically depending on significant changes in the Laboratory's mission, site conditions, or public policy.

The existing land-use map depicts the current status of land use at the Laboratory. The future land-use map depicts major land-use changes proposed for various locations where growth is anticipated. Proposed construction projects are evaluated against this land-use map and follow a formal siting process. Most site issues are resolved through the Permits and Requirements Identification (PR-ID) process that involves both planning and NEPA review. Generally,

Table 2-2: Sitewide land use.

Existing Land Use		Future Land Use	
Land Use Category	**Acreage**	**Land Use Category**	**Acreage**
Administration	24	Administration	14
Service/Support	254	Service/Support	172
Experimental Science	671	Experimental Science	1,125
High-Explosives R&D	1,311	High-Explosives R&D	1,293
High-Explosives Testing	7,209	High-Explosives Testing	7,209
Nuclear Materials R&D	122	Nuclear Materials R&D	94
Physical/Technical Support	276	Physical/Technical Support	246
Public/Corporate Interface	31	Public/Corporate Interface	64
Theoretical/Computational Science	17	Theoretical/Computational Science	17
Waste Management	198	Waste Management	40
Reserve	16,367	Reserve	14,403
Total	**26,480**	**Total**	**24,677**

Includes Rendija Canyon tract and other leased parcels.

major land use changes involve ongoing efforts to consolidate Nuclear Materials Research and Development (R&D) areas and the expansion of Experimental Science. In addition, the overall site was reduced by the recent transfer of "Reserve" land to Los Alamos County and San Ildefonso Pueblo.

The following 10 land-use categories describe the activities at the Laboratory and are shown on the following maps.

Service/Support—Nonprogrammatic technical expertise, support, and services for Laboratory management and employees.

Experimental Science—Applied research and development activities tied to major programs.

High-Explosives R&D—Research and development of new explosive materials. This land is isolated for security and safety.

High-Explosives Testing—Large, isolated, exclusive-use areas required to maintain safety and environmental compliance during testing of newly developed explosive materials and new uses for existing materials. This land also includes exclusion/buffer areas.

Nuclear Materials R&D—Isolated, secured areas for conducting research and development involving nuclear materials. This land use includes security and radiation hazard buffer zones. It does not include waste disposal sites.

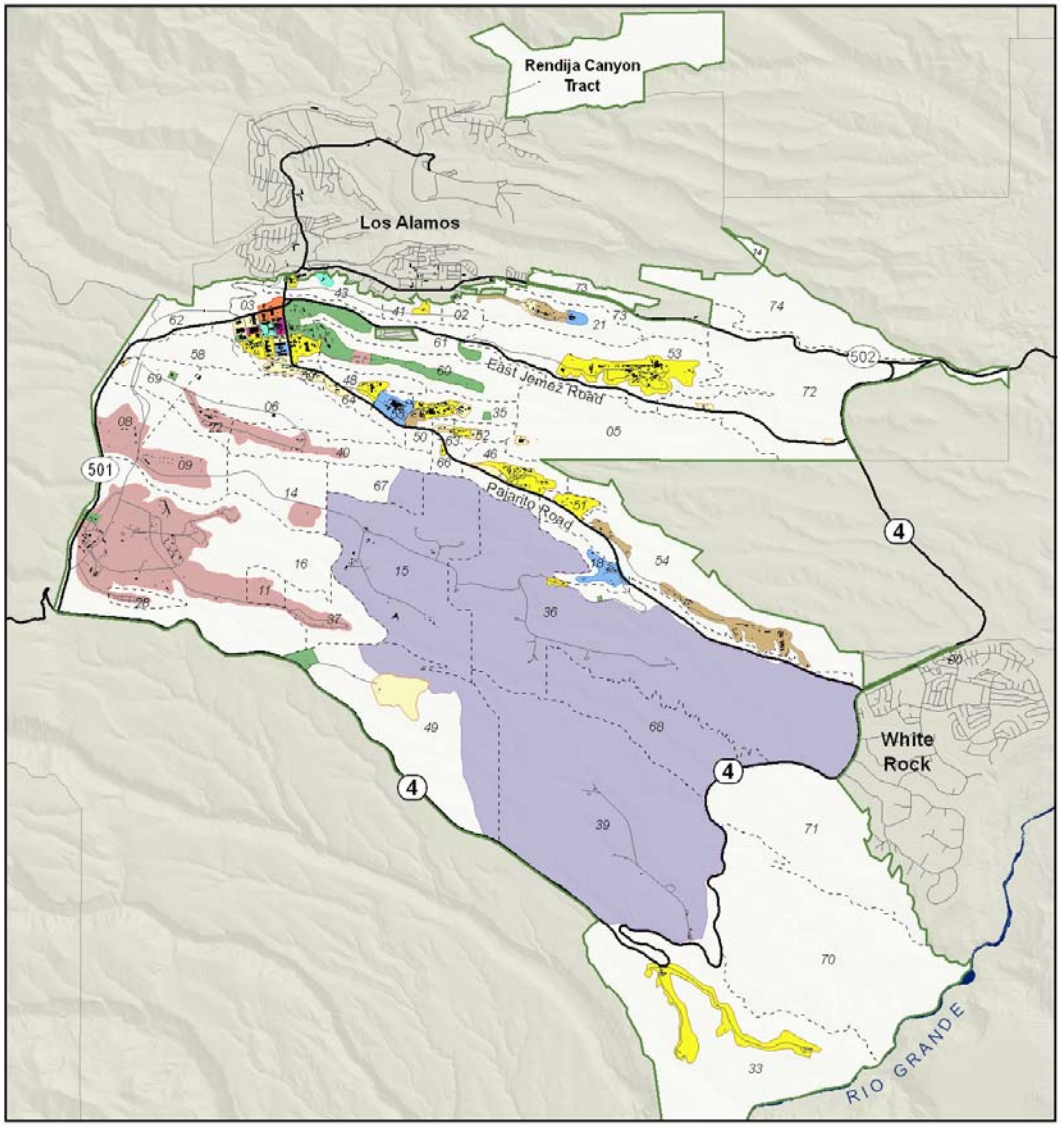
Physical/Technical Support—Includes roads, parking lots, and associated maintenance facilities; infrastructure such as communications and utilities; facility maintenance shops; and maintenance equipment storage. This land use is generally free from chemical, radiological, or explosives hazards.

Public/Corporate Interface—Provides link with the general public and other outside entities conducting business at the Laboratory, including technology transfer activities.

Theoretical/Computational Science—Interdisciplinary activities involving mathematical and computational research and related support activities.

Waste Management—Provides for activities related to the handling, treatment, and disposal of all generated waste products, including solid, liquid, and hazardous materials (chemical, radiological, and explosive).

Reserve—Areas that are not otherwise included in one of the previous categories. It may include environmental core and buffer areas, vacant land, and proposed land transfer areas.



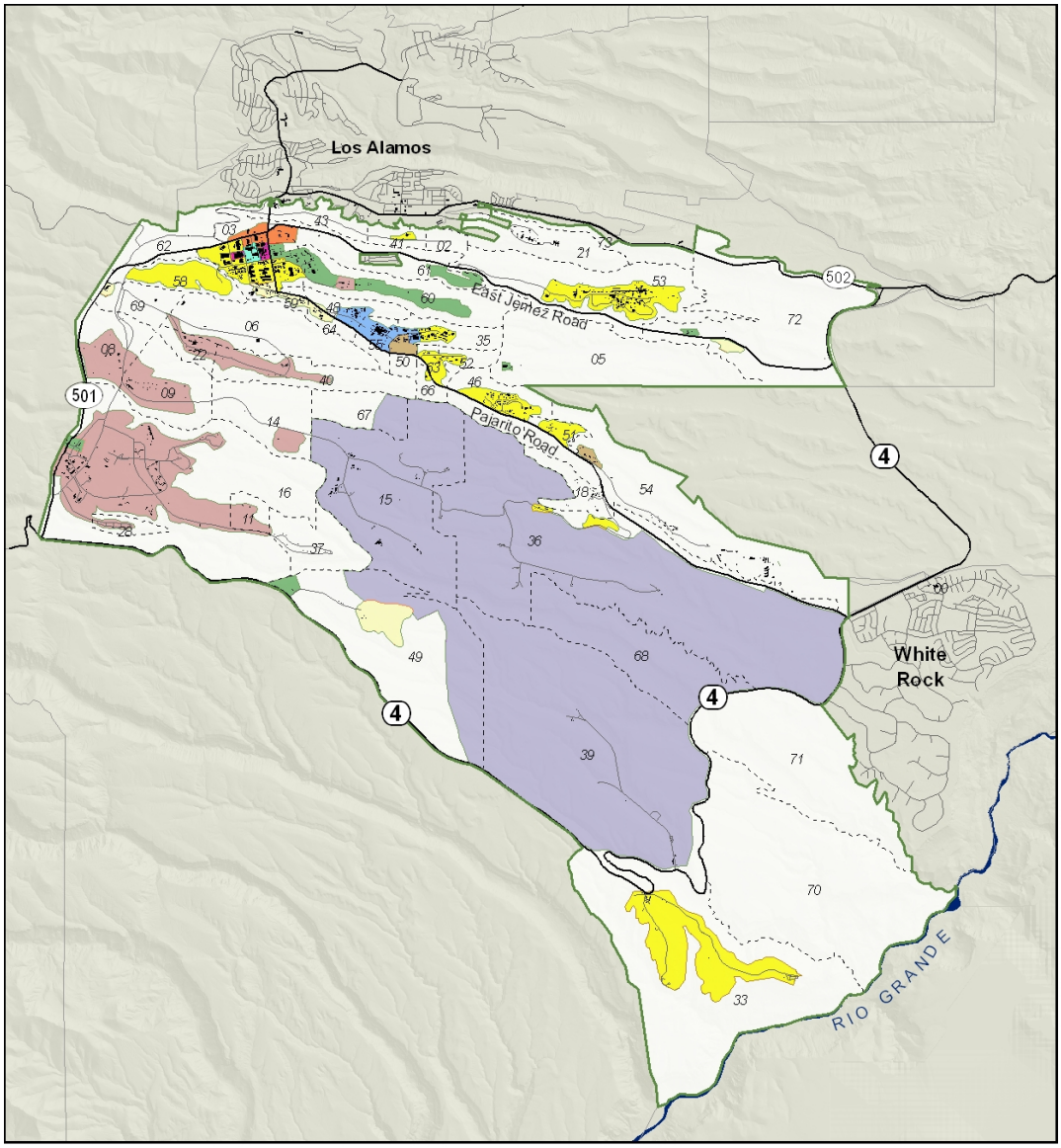
Existing Land Use

LEGEND

- Technical Area Boundary
- DOE Boundary
- Reserve
- High Explosive Testing
- High Explosive R&D
- Experimental Science
- Physical/Technical Support
- Nuclear Materials R&D
- Theoretical/Computational Science
- Waste Management
- Administration
- Public/Corporate Interface
- Service/Support

N

0 4,000 8,000
Feet



Future Land Use

LEGEND *(approximated acreages)*

- Future Tec Area Boundary
- Future DOE Boundary
- Reserve
- High Explosive Testing
- High Explosive R&D
- Experimental Science
- Physical/Technical Support
- Nuclear Materials R&D
- Theoretical/Computational Science
- Waste Management
- Administration
- Public/Corporate Interface
- Service/Support

N

0 4,000 8,000
Feet

2.3.2 Transfers of Land

Under the Atomic Energy Community Act of 1955, the federal government provided support for a period of time to towns that were strongly affected by their proximity to nuclear weapons complex sites. The intent of the act was to assist the towns in developing self-governance and self-sufficiency by, among other actions, transferring land.

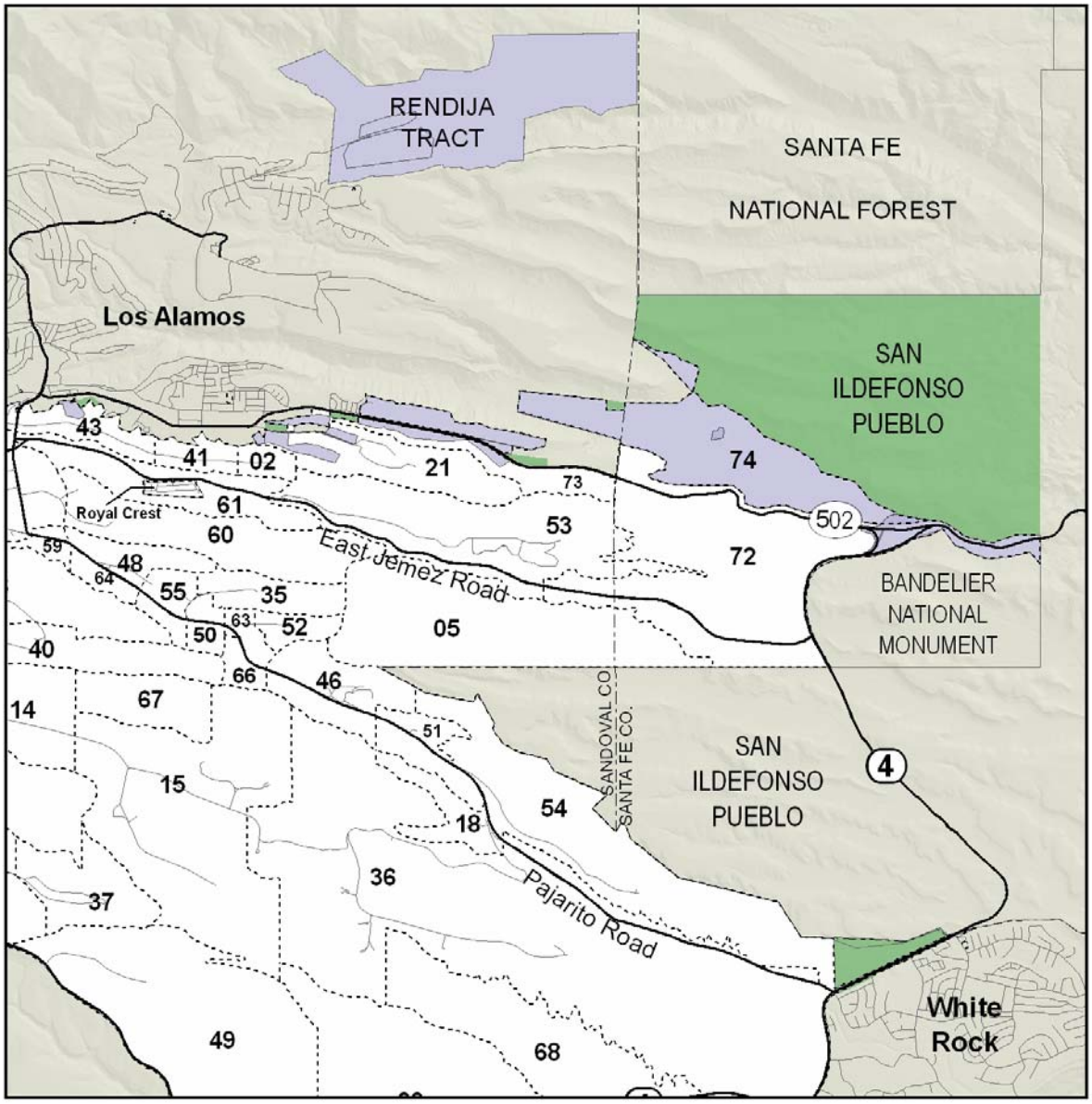
During the 1990s, NNSA's Los Alamos Site Office (LASO), the Laboratory, and representatives of Los Alamos County began discussions regarding the potential transfer of government properties to assist the County in becoming economically self-sufficient. In October 1996, Congress passed legislation terminating the annual assistance payment to Los Alamos County by mid-1997, with a lump-sum termination payment of $22.5M. Also, transfer of municipal functions and installations (water supply system, fire stations, and lease of the airport) began in 1997.

On November 26, 1997, Congress passed Public Law 105-119. Section 632 of the law directs the Secretary of Energy to convey land parcels to Los Alamos County or designee of the County. The legislation also calls for the transfer to the Secretary of the Interior, in trust for the San Ildefonso Pueblo, parcels of land under the administrative control of the Secretary of Energy at the Laboratory.

The tracts will be conveyed or transferred in accordance with the provisions of Public Law 105-119; the tract receipt agreement was between the County of Los Alamos and San Ildefonso Pueblo. The ROD was supported by the 1999 EIS for conveyance and transfer of certain DOE land tracts located at the Laboratory.

The tracts must meet the suitability criteria established by the Act before they can be transferred or conveyed. A parcel of land is suitable for transfer if not required for the national security mission before the end of November 2007; if it can be restored or remediated by November 2007; and if it is suitable for historic, cultural, or environmental preservation, economic diversification, or community self-sufficiency.

On October 30, 2002, eight parcels totaling 104 acres were deeded to Los Alamos County. These parcels are located in the Los Alamos townsite and White Rock community. Two parcels totaling 2,105 acres, primarily from TA-74, were transferred to San Ildefonso Pueblo. Tract A-5 Airport South, was released to be transferred by a DOE Record of Decision in June 2005. Seven tracts of land remain for potential transfer to Los Alamos County or to the Department of the Interior for San Ildefonso Pueblo. The seven tracts total approximately 1,882 acres.



Land Transfer

LEGEND

- Technical Area Boundary
- Transferred in 2002
- Future Transfer
- Department of Energy

N

0 4,000 8,000
Feet

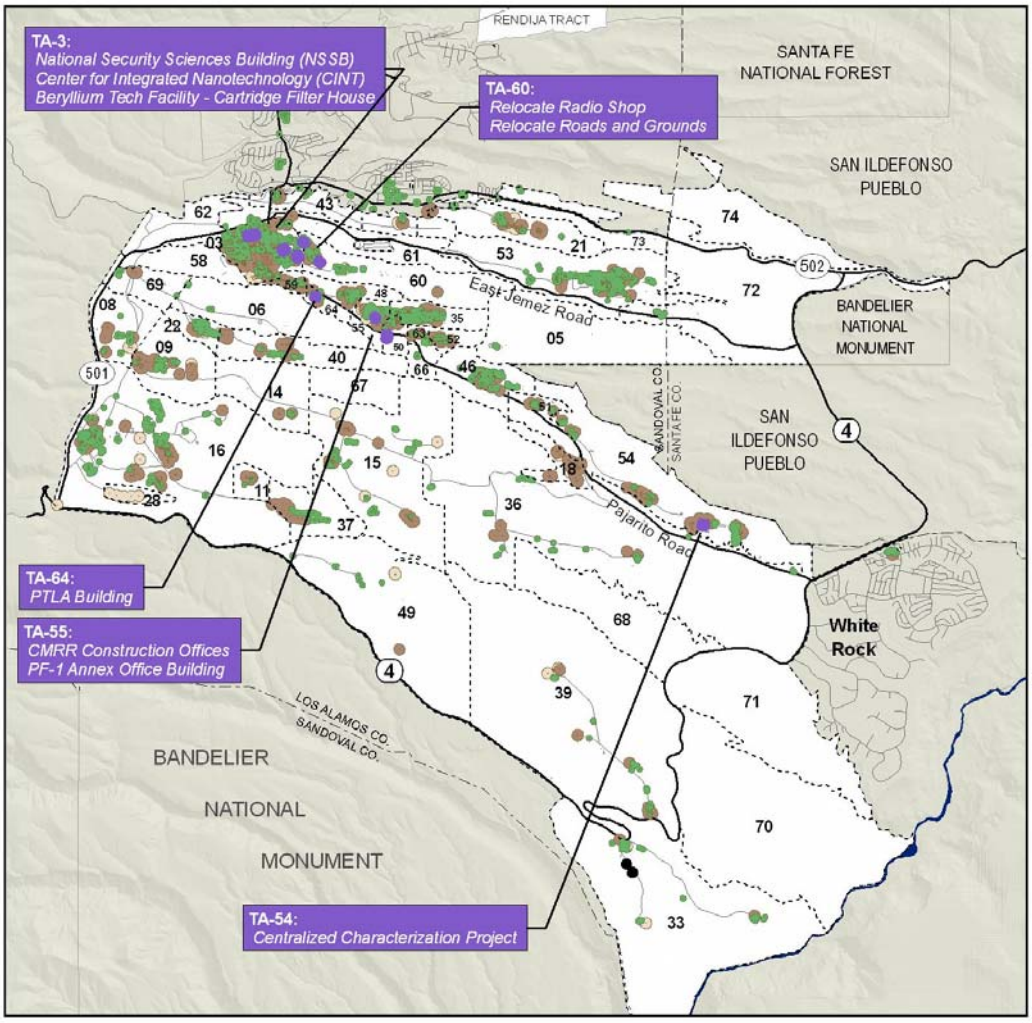
2.4 BUILDINGS

In 1943, development of the Laboratory began with the construction of a little more than 93,000 gross square feet of space. At the end of FY05, the Laboratory had approximately 8.6M GSF of space. While the number of structures changes slightly with time (there is frequent addition or removal of temporary structures and miscellaneous buildings), the current breakdown of structures is 952 permanent structures; 373 temporary structures (trailers, transportables, and transportainers); and 897 miscellaneous structures (e.g., sheds and utility structures). However, only about 2.4M gross square feet of space, in 409 buildings, is designed to house personnel in an office environment. In addition to onsite office space, 450,000 square feet of space is leased within the Los Alamos townsite and White Rock community to provide workspace for an additional 1,683 people. All onsite facilities and infrastructure, with the exception of five structures at TA-21, are owned by NNSA. Structures TA-21-0155, -213, -220, -0388, and -0420 have been transferred to Environmental Management (EM) and are currently awaiting D&D.

Overall, 43% of the Laboratory's structures (not including leased or rented space) are more than 40 years old, and 52% are more than 30 years old. A recent condition assessment survey determined the condition of the Laboratory's facilities as 23% are in excellent condition; 17% are in good; 11% are in adequate; 17% are in fair; 18% are in poor; and 11% are in failing condition (Attachment C).

Condition assessment requirements cover a wide range of criteria and standards (e.g., safety, severity, seismic, etc.).

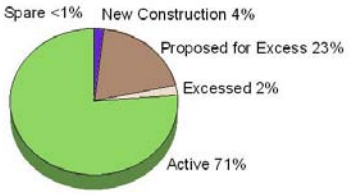
The map on page 2-24 shows current active (operating) facilities, spare and excess facilities, facilities currently active but *proposed* for excess by 2015, and the location of selected new construction projects that will achieve beneficial occupancy in FY06. Many of these facilities will start construction in the near term. The map on page 2-25 shows the active, excess, and selected planned construction projects that will achieve beneficial occupancy from FY07 through FY15. Maps with greater detail may be found in Attachment I. Funding profiles for the projects may be found in Attachment A, and a summary of gross square feet (GSF) added by year is provided in Attachment E-2.



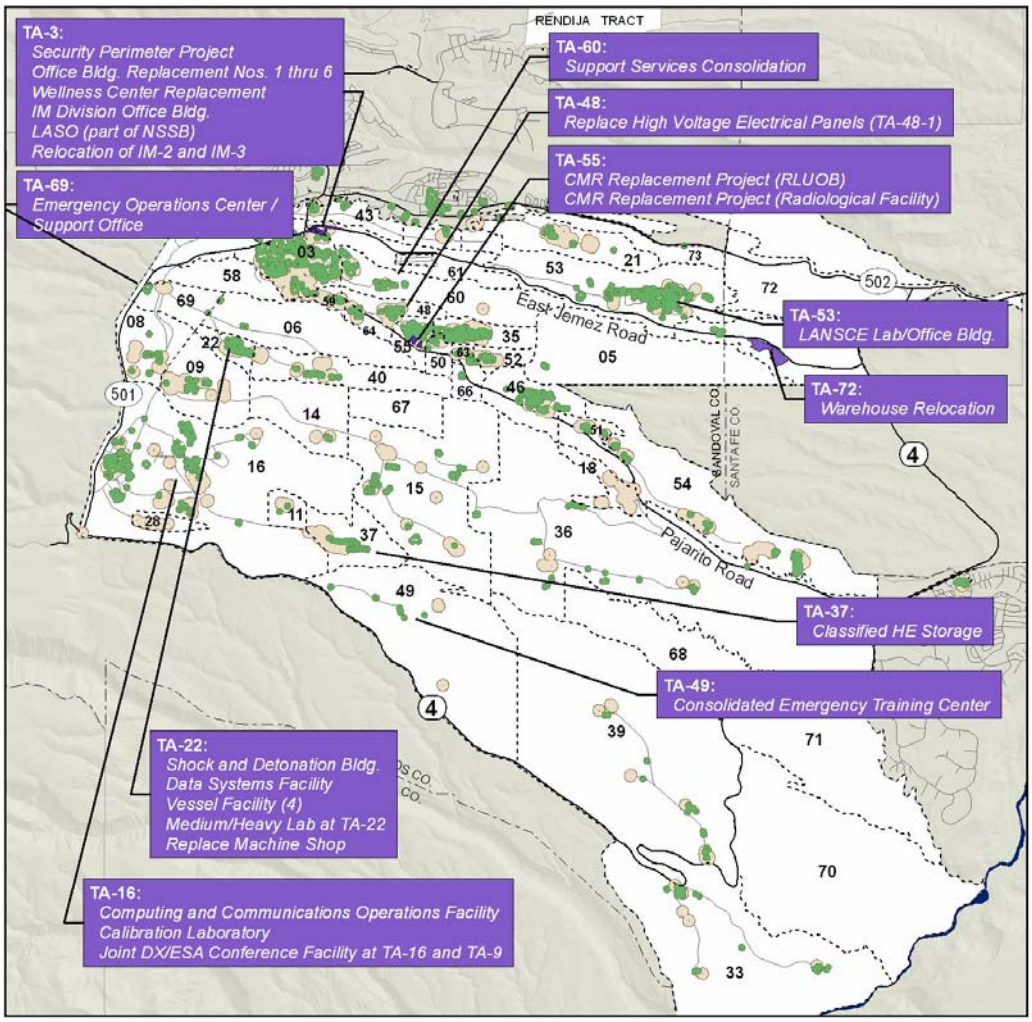
Facility Status, FY 2006
Overview with Currently Funded Construction

LEGEND

- Facility Construction Project Currently Funded
- Active Facility
- Active, Proposed for Excess by 2015
- Excessed Facility
- Spare Facility



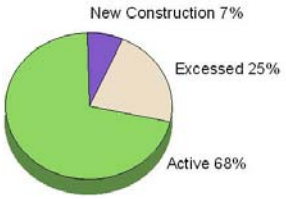
(Facility footprints are exaggerated, or buffered, for readability from a site-wide perspective)



Facility Status, FY 2015, Overview with Proposed Future Construction

LEGEND

- Proposed Future Construction
- Active Facility
- Excessed Facility



(Facility footprints are exaggerated, or buffered, for readability from a site-wide perspective)

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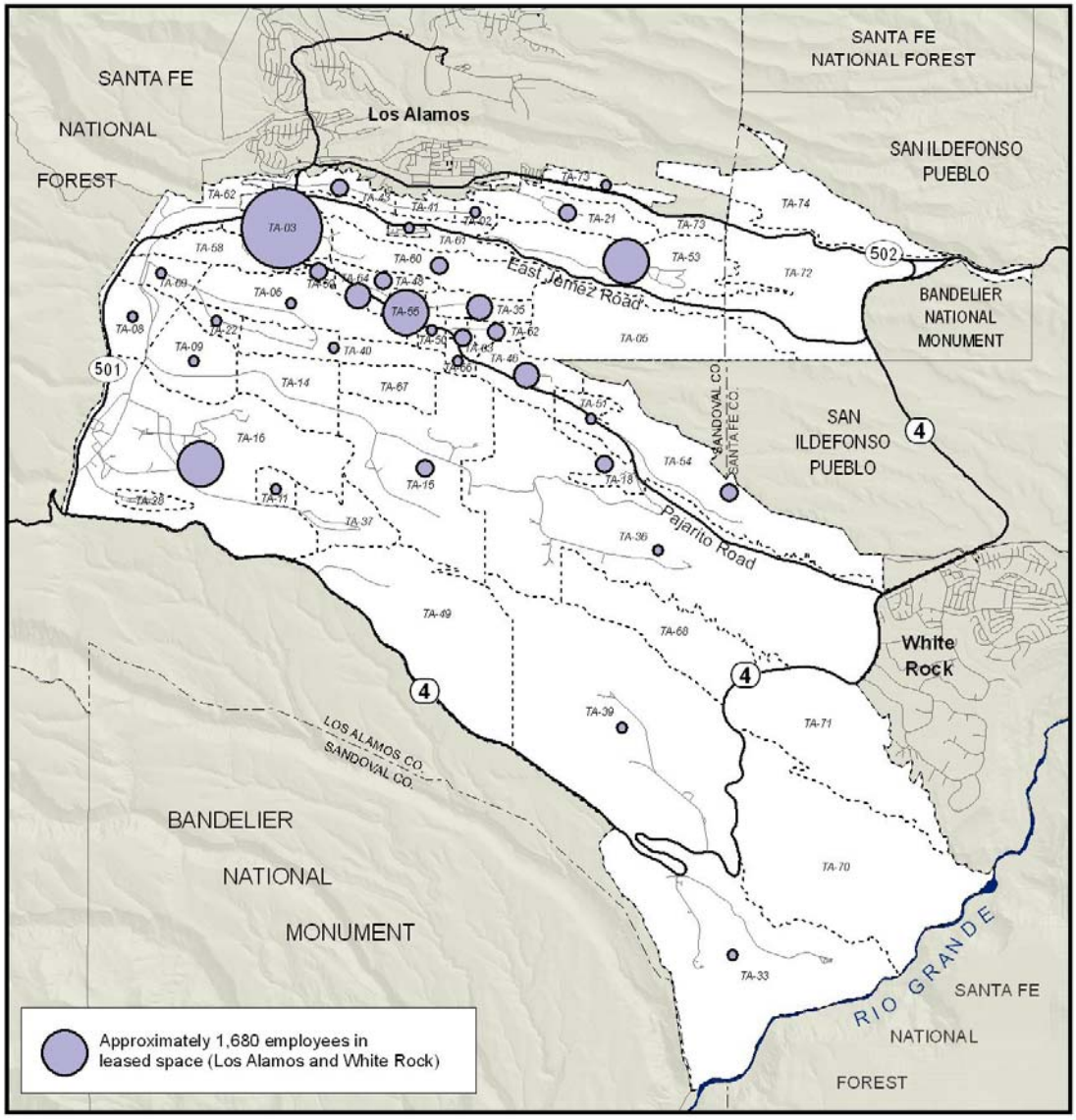
2.5 WORKFORCE

The Laboratory's affiliated workforce includes employees of the prime contractor, UC, and its subcontractors, of which the major employers are the Support Services Subcontractor—Kellogg, Brown, and Root/Shaw Environmental and Infrastructure/Los Alamos Technical Associates (KSL) and Protection Technology Los Alamos (PTLA). The Laboratory employs both technical and nontechnical supplemental labor, or staff augmentation contractors. These are limited term assignments (six months to two years) where the personnel are employed by subcontractors but are managed by UC line managers. Students from high school to graduate level are also employed in a variety of positions, and their numbers increase greatly during the summer months. Table 2-3 presents the breakdown of personnel by employer as of May 2005. The map on the following page show population distribution by TA.

Table 2-3: Los Alamos National Laboratory workforce as of May 2005.

Employer	Personnel	Percent of Workforce
UC Employees	9,450	64%
UC Students	1,314	9%
Guests/Affiliates	1,233	8%
KSL	1,453	10%
PTLA	568	4%
Supplemental Labor*	669	5%
TOTAL	14,687	100%

*This number does not include task order contractors.



Population by Technical Area

LEGEND

- Technical Area Boundary
- Major Road
- Department of Energy

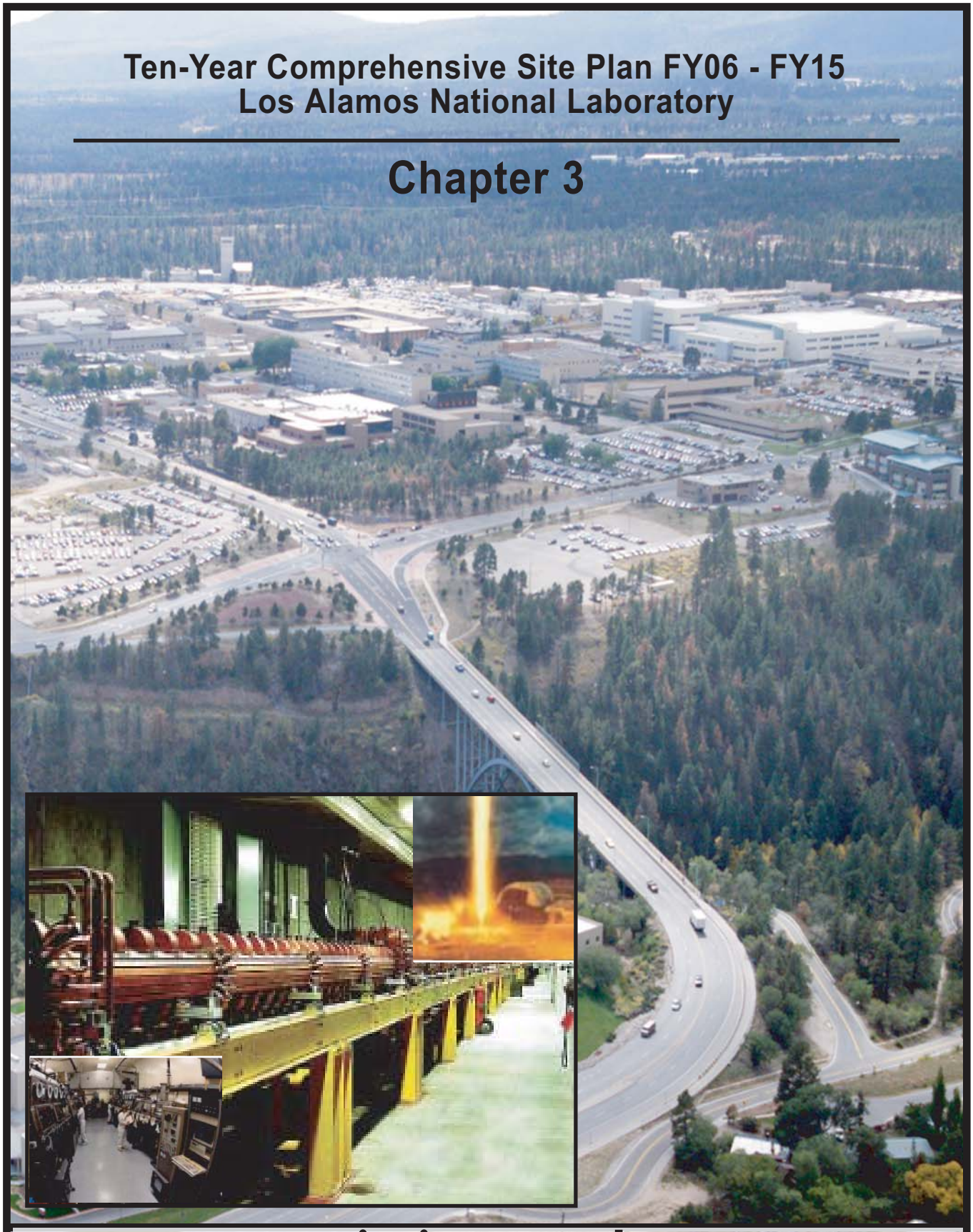
N

0 4,000 8,000
Feet

Employees: 1 - 150 151 - 400 401 - 700 701 - 1420 1421 - 6600

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Chapter 3



Mission Needs and Program Descriptions

3.1 CURRENT MISSIONS, PROGRAMS, AND WORKLOAD

Los Alamos National Laboratory is a multi-program scientific laboratory within the NNSA, a semi-autonomous entity within DOE. The Laboratory has been managed and operated for DOE by UC for over 60 years.

The Laboratory's contribution to national security has evolved to encompass maintaining the U.S. nuclear deterrent, advanced conventional weapons research, and technical solutions that reduce threats from the proliferation of weapons of mass destruction and terrorism to ensure homeland security. In support of its missions, the Laboratory maintains, sustains, and pursues broad, multi-disciplinary programs in basic science. The key elements of the Laboratory's national security mission today include the following:

- Ensure the safety and reliability of the U.S. nuclear deterrent,
- Reduce the threat of weapons of mass destruction, proliferation and terrorism, and
- Solve national problems in defense, energy, environment and infrastructure.

The Laboratory's mission and corresponding goals and priorities must respond to and anticipate national security requirements in a dramatically changing world. The programmatic and business strategies to carry out that mission are derived directly from the vision: *the trusted, competitive scientific solution for today's and tomorrow's national security challenges*.

The Laboratory is committed to meeting its core mission: nuclear weapons stockpile stewardship. This commitment includes support for required stockpile life extensions, pit manufacturing and certification, reliable replacement warhead options, a technically sound basis for certification science, and the experimental campaigns necessary to meet stewardship requirements.

Los Alamos is working with NNSA to develop stockpile stewardship into the mature, sustainable, and agile program necessary to support the current stockpile and respond to any future nuclear requirement. It is through this comprehensive capability that the Laboratory will establish itself as a fully capable element of the nation's responsive defense infrastructure. Goals for this evolving program include ensuring a sustainable weapon certification capability, providing limited but flexible manufacturing capability in support of NNSA needs, establishing and demonstrating the capability to extend the life or modify existing weapons, and if requested, exploring new concepts.

The broad and flexible science and technology base at the Laboratory underpins the nuclear weapon infrastructure and can be applied to other national defense technology requirements. Responsive infrastructure relies on sustainable nuclear weapon certification and manufacturing capabilities, and the

capability to meet new military requirements.

Los Alamos' outstanding science and technology base – the foundation for the nuclear weapons mission – can be applied to such related national needs as advanced fuel cycles, space nuclear power, nonproliferation, and fuel cell technology. The Laboratory gives special attention to core science and engineering capabilities, which include the following:

- Nuclear weapons science and engineering,
- Materials science, including nuclear materials and high explosives (HE),
- Information processing, computational science, modeling, and simulation,
- Measurement science and sensors,
- Bioscience,
- Systems analysis and assessment, and
- Complex systems design, engineering, testing, and evaluation, supported by theoretical and computational physics and materials science.

3.1.1 Weapons Infrastructure Portfolio

The infrastructure supporting the Laboratory's nuclear weapons work must provide facilities to meet near-term program deliverables and ensure long-term viability. The vision for the Laboratory's future state includes the following:

- Reduced overall footprint and consolidated nuclear infrastructure,
- Protection strategy largely insensitive to the Design Basis Threat (DBT) changes,
- Infrastructure maintained within projected resources,
- Best business practices implemented in the management of facilities, projects, and programs,
- Continuous strategic investment, and
- Flexibility and responsiveness to support dynamic program needs.

Through investments in RTBF, construction, and FIRP, the Laboratory is making progress.

RTBF ensures that the right facilities and infrastructure are in place to manufacture and certify the 21st century nuclear weapons stockpile and that the Laboratory is implementing the technologies and methods necessary to make construction, operation, and maintenance of DP facilities safe, secure, and cost effective. The RTBF program provides the physical and operations infrastructure required to conduct the scientific, technical, and manufacturing activities of the Stockpile Stewardship Program (SSP). The RTBF program is oriented at maintaining facilities and technologies in an appropriate condition so they are not limiting factors in accomplishing the NNSA DP missions.

FIRP invests in the existing infrastructure to curb the effects of facility aging. Through investments in recapitalization and utility line item construction, the Laboratory's deferred maintenance backlog is being reduced. Investments in facility disposition are eliminating excess

facilities, thereby reducing risk and associated surveillance and maintenance costs.

To achieve the weapons infrastructure vision, cost-effective investments in the Laboratory's infrastructure, workforce, facilities, and technologies must be made through effective program management. The Laboratory must deliver and maintain safe and secure facilities for performing and delivering the requisite levels of science and technology associated with maintaining the safety and reliability of the nuclear weapons stockpile. The Laboratory must also provide the balance of the physical and intellectual infrastructure underpinnings necessary to support the goals and mission of DP.

The scope and annual budget available for the Laboratory's Weapons Infrastructure activities include the following:

- Operations of Facilities ~$300M - The majority of RTBF direct funds support facility "warm standby" operations for almost all mission essential facilities.
- RTBF funds also support Material Recycle and Recovery, Program Readiness, and Special Projects (~$25M). MR&R is targeted at reducing SNM holdings.
- FIRP ~$50M – Reduction of the deferred maintenance backlog and disposition of excess facilities.
- RTBF Construction ~$75-$200M (projected budget) supports major projects, including the CMRR, RLWTF Upgrade, and Radiography (see Attachment A-1).

The weapons infrastructure is closely linked to the Safeguards and Security Program and Construction (~$170M) as well as Infrastructure Support (~$190M) for non-weapons facilities. This linkage is vital to achieve a sustainable Laboratory for the future.

NNSA, along with each site within the complex, has established corporate goals directed at deferred maintenance reduction and improved facility management practices. The corporate goals were established to mitigate the risk to missions associated with aging facilities and ultimately the failure of systems and facilities. These goals include stabilizing deferred maintenance by the end of FY05, aggressively reducing deferred maintenance to within industry standards by the end of FY09, and improving maintenance practices, with an emphasis on enduring mission essential facilities, such that the deteriorated facility condition seen in the last 10 years will not be repeated.

Current FYNSP projections show that actual RTBF and FIRP annual buying power will be reduced from FY06-FY11, which will create a condition that is contradictory with NNSA HQ mandates to increase funding of maintenance activities and aggressively reducing deferred maintenance. As a result, some weapons related missions may be at risk unless programmatic expectations are reduced and aggressive facility management actions are taken. The Laboratory has developed a strategy to carry the site into the future. The strategy includes the following primary components:

- Nuclear Facility Consolidation,
- Improved Program/Project/Facility Management,
- Security and DBT Implementation, and
- Strategic Infrastructure Investment and Footprint Reduction.

Nuclear Facility Consolidation is ongoing and critical to increase program efficiency, improve security, and reduce footprint and operating costs. Key ongoing activities include the following:

- De-inventory Category I/II SNM from TA-18 and relocate it to the Device Assembly Facility at the Nevada Test Site,
- Relocate CMR AC/MC from TA-3 to TA-55,
- Relocate plutonium (Pu) radiography from TA-8 to TA-55,
- Upgrade/maintain critical facilities at TA-55 and TA-50 to support current and future missions,
- Implement new DBT,
- Relocate Pu 238 Missions, and
- Consolidate/upgrade physical security assets.

The CMRR Project is the near-term centerpiece of the Laboratory's nuclear consolidation effort. The consolidation is focused on the Pajarito Corridor and at TA-55 to ensure Perimeter Intrusion Detection Alarm System (PIDAS) reduction, consolidation of capabilities, and future flexibility.

Improved facility/project/program management is also ongoing. Management of the weapons infrastructure, as well as the Laboratory's infrastructure in general, was fortified during FY05 and will continue into FY06 through implementation of basic management controls. This fortification will provide a tool to improve efficiencies in both real property maintenance and other maintenance of mission capability elements. In FY05 the Principle Associate Director for Nuclear Weapons Programs (PADNWP) Weapons Infrastructure Office (WI) began reporting earned value against the weapons infrastructure scope of work. Earned value management will be implemented for indirect funded facilities in FY06 through the Associate Director for Security and Facility Operations (ADSFO).

The Laboratory has taken steps to improve these controls for FY06 work scope by creating a two part work breakdown structure: one portion focuses on traditional project-like activities with time driven milestones (such as construction projects), and one portion focuses on the less traditional 'projects' that are more driven by continued level of effort activities.

In the area of security and DBT implementation, a variety of investments are being made and activities are underway. This includes implementing the FY03 DBT, which will be completed in FY06. Planning and strategies for implementing the FY04 DBT are underway with implementation scheduled for FY07-FY08. Investments include the recently completed NMSSUP Phase I which provided upgraded communications and alarm systems; the initiation of the Security Perimeter Project which provides improved site access and control;

execution of the Red Net Infrastructure Expansion Project which improves computer security at the site; and NMSSUP Phase II which will upgrade the security systems at TA-55.

A new initiative for the PADNWP-WI Office is Strategic Investments and Footprint Reduction. Due to the age and condition of the Laboratory infrastructure and current resource constraints, the Laboratory must invest its funding wisely into enduring facilities and infrastructure (strategic investment) and eliminate those facilities and infrastructure not required for the long-term (footprint reduction). This requires implementing a dedicated effort that the Laboratory initiated in FY05 by utilizing $13.5M and setting aside $18M in FY06 in preparation for NNSA funding in FY07 and beyond.

Projects will only be funded if they demonstrate a return on investment, reduce risk, improve safety and security and/or increase program efficiencies. Examples of strategic investments include CMR wing closures, radiography, and waste management.

The CMR will require strategic investments to reduce operating risk. The current Authorization Basis (AB) will expire around 2010, and the Laboratory has initiated efforts to invest in hazard reduction and wing closure. The reduced risk profile will be needed to support an assumed conditional AB operating environment beyond 2010 until the new CMRR is fully operational.

The Laboratory's radiography strategy includes discontinuing nuclear operations at TA-8-23 and relocating pit radiography to TA-55. In the near-term this includes the development of interim pit radiography capability at TA-55 using lower energy machines while the long-term capability line item project can be developed and executed within FYNSP constraints. HE radiography operations will continue at TA-8-23 in support of hydros.

Waste management is a critical support function for the enduring Laboratory missions. The overall strategy is to maintain reliable program support with compliant, cost-effective operations. Key initiatives include the following:

- Supporting programs by improving reliability with increased facility investment,
- Minimizing waste generation to reduce the environmental impacts and control cost,
- Legacy waste work-off to improve safety and reduce cost,
- Reduce nuclear facilities and cost at TA-54, and
- TA-55 direct waste shipment.

Other potential footprint reduction initiatives include deactivation, decommissioning, and ultimate demolition of TA-21, bunker consolidation, Engineering Sciences and Applications (ESA) Division consolidation, and Dynamic Experimentation (DX) Division consolidation.

3.1.2 Programmatic Directorates

Five programmatic directorates are devoted to achieving the Laboratory's programmatic missions: Principal

Associate Director for Nuclear Weapons Programs, Weapons Engineering and Manufacturing, Weapons Physics, Threat Reduction, and Strategic Research.

3.1.2.1 Principal Associate Director for Nuclear Weapons Programs

The position of Principal Associate Director for Nuclear Weapons Programs (PADNWP) was created in early March 2004 and is the focus for planning, priority-setting, resource allocation, and execution of the Laboratory's $1.2 billion nuclear weapons portfolio. The PADNWP has responsibility for developing an integrated program of weapons activities; balancing program priorities through risk-based management; and ensuring execution and effective partnering with the Associate Directors for Weapons Physics, Weapons Engineering and Manufacturing, Strategic Research, Technical Services, and Security and Facility Operations. This directorate is the customer interface (DOE, NNSA, Department of Defense (DoD)) and maintains a "one voice" corporate posture at all times.

3.1.2.2 Weapons Engineering and Manufacturing Directorate

The Weapons Engineering and Manufacturing (WEM) Directorate is a multidisciplinary, integrated organization that sustains and advances engineering and manufacturing technologies required to support the stewardship of the nation's nuclear weapon stockpile. WEM is responsible for maintaining the certification basis for weapon systems in the enduring stockpile and for developing the design, engineering, testing, and manufacturing capabilities needed for stewardship of the stockpile.

The WEM Directorate supports the Laboratory mission by ensuring the safety and reliability of the U.S. nuclear weapons stockpile by reestablishing the nation's capability to manufacture weapon components and by applying the best engineering, design, development, and diagnostic tools available to maintain and refurbish the stockpile.
Funding for the WEM Directorate comes from NNSA to conduct DSW and execute campaigns in support of stockpile stewardship and stockpile maintenance. DSW includes assessment, surveillance, maintenance, manufacturing, and the scientific and engineering development capabilities necessary for the refurbishment and certification of the weapon systems. Campaigns are tri-laboratory efforts to develop critical enabling capabilities with milestones and end dates to support confident certification of or manufacturing activities for the enduring stockpile.

The WEM Directorate manages a number of major facilities including the Plutonium Facility Complex (TA-55), the CMR, and the Machine Shops (TA-3-39).

3.1.2.3 Weapons Physics Directorate

The Weapons Physics (WP) Directorate is a multidisciplinary, integrated organization that sustains, advances, and applies science and technology to support sustainable stewardship of the nation's nuclear weapons stockpile.

WP has responsibilities within the Stockpile Stewardship Program to conduct several NNSA campaigns and contribute to key areas of DSW. WP is responsible for the Primary Certification Campaign, the Dynamic Materials Properties Campaign, the Advanced Radiography Campaign, the Secondary Certification and Nuclear Systems Margins Campaign, the Advanced Simulation and Computing Campaign, and the High Energy Density Physics Campaign. In addition, WP has key responsibility under DSW for Assessment and Certification, Baselining, Archiving, and Support Research and Development.

WP also manages a number of major facilities including the Dual-Axis Radiographic Hydrodynamic Test (DARHT) facility, LANSCE, and the Metropolis Center.

The WP Directorate supports the Laboratory's mission by ensuring confidence in the safety, reliability, and performance of the nuclear weapons in the nation's stockpile. This stewardship mission requires a science-based approach supported by a broad range of science and technology capabilities at the Laboratory. Decisions are based on sound technical and scientific understanding and expert judgment developed through theoretical studies, state-of-the-art computational simulations, and coordinated experimental activities.

3.1.2.4 Threat Reduction Directorate

The Threat Reduction (TR) Directorate supports the Laboratory's mission through the following work:

- Preventing, detecting, assessing, and responding to threats of proliferation and/or use of weapons of mass destruction by nations or sub national groups,
- Providing technical innovation and leadership for U.S. arms-control initiatives, and
- Providing analyses and advanced technologies to protect the nation's critical infrastructure.

The directorate's work includes programs to counter nuclear, biological, and chemical terrorism; programs to encourage cooperative threat reduction; activities to promote national and international nuclear safeguards and security; efforts toward threat monitoring and analysis; and related research. These programs contribute to dissuading and deterring possible threats, particularly threats from weapons of mass destruction (WMD). Research and development on behalf of the DoD and other agencies is aimed at defeating enemies. These activities range from developing technologies to detect and defeat terrorists to inventing cutting-edge science to support and equip conventional military forces. TR conducts research on methods to defeat or respond to attacks on the U.S. homeland from any source employing any type of weapon.

The directorate's programmatic budget for FY05 was $530M, with NA-20 being the largest sponsor at $227M. With the

national security focus on non-proliferation issues and the establishment of the Domestic Nuclear Detection Office within the Department of Homeland Security, it is expected that TR will see continued programmatic growth for the foreseeable future.

The TR Directorate manages a number of major facilities including the Health Research Laboratory and the Nonproliferation and International Security Center (NISC).

3.1.2.5 Strategic Research Directorate

The Strategic Research (SR) Directorate creates and develops science and technology in support of the Laboratory. The SR mission is to advance knowledge across a broad range of scientific disciplines. In collaboration with Nuclear Weapons and Threat Reduction directorates, SR promotes basic and applied research directed toward solving complex scientific and technological problems in support of the Laboratory's national security and threat reduction missions. SR leads the Laboratory's broad national security mission in energy security, environmental security, and critical infrastructure. As a broker of scientific knowledge and understanding, SR supports the mission of the Laboratory by fostering innovation and creativity by the staff, by supporting and enhancing the scientific reputation of the Laboratory through a vigorous basic research program and by serving as a gateway from the scientific world to industry and academia through collaborations with government laboratories, universities, and industry.

The SR Directorate operates a number of science and engineering facilities including the Laboratory's National High Magnetic Field Laboratory, the High-Temperature Superconductivity Technology Center and the Stable Isotope Resource. Access to the facilities is available to qualified members of the national and international science and engineering community.

3.1.3 Summary of Current Missions

The table on the following pages (Table 3-1) summarizes the Laboratory's current defense program missions by Level 1 and Level 2 milestones. The milestones are consistent with what is reported in the NNSA Milestone Reporting Tool (MRT). This tool tracks the status of all negotiated Level 1 and Level 2 milestones and is available to all sites and site offices in the nuclear weapons complex. The tool produces site-specific information on each milestone that can be rolled up by a federal program manager to assess the program status.

The table is separated by program and includes information on RTBF, Campaigns, and DSW.

The columns included in the table are defined as follows:

- **Program Description** provides high-level background information on the purpose of the program and end-state to be achieved by completing the programmatic activities.
- **Milestone ID** is consistent with the Milestone ID in the MRT.
- **Milestones** are the programmatic activities to be performed (the "work").
- **DP Organization** identifies the NNSA DP office responsible for the milestone.

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Table 3-1
Summary of Current Missions
Directed Stockpile Work

Directed Stockpile Work

DSWT Stockpile Management

Program Description	Milestone ID	Milestones	DP Organization
The Stockpile Management category includes certain management and workload activities that cannot be meaningfully associated with a particular system and may ultimately serve multiple systems.	**Level 1 Milestones**		
	332	Meet the delivery requirements established by the P&PD with particular emphasis on meeting established joint DoD and NNSA commitments in accordance with the Directive Schedule.	NA-12

DSWT Retired Systems

Program Description		Milestones	DP Organization
Retired Warhead system workload focuses on dismantlement, characterization of components, disposal of retired warheads systems, and surveillance of selected components from the retired	**Level 2 Milestones**		
	1529	Conduct & Complete Preliminary Study in preparation for SS-21 and site location decision for the Dismantlement & Disposal of the B53 (Includes DAF).	NA-12

DSWT Stockpile Services

Program Description		Milestones	DP Organization
The Stockpile Services R&D Certification and Safety activities provide the core competencies and capabilities for R&D efforts not directly attributable to a single specific warhead system. Efforts span all systems and include conducting modeling and assessment, safety and surety, warheads effects and system analysis studies, and model-based engineering and manufacturing; preparing and performing hydrodynamic tests for specific stockpile questions; providing engineering and information infrastructure support, production liaison and oversight, multi-system surveillance, material science support, and interagency support; subsystems, and other components for use in multiple systems; and, archiving legacy and current knowledge pertaining to warheads.	**Level 1 Milestones**		
	341	Complete and execute a full year of hydro tests as documented in the National Hydrotest Plan.	NA-11
	1266	Deliver for next FY National Hydrotest Plan.	NA-11
	343	Provide updated pit lifetime estimates for predominant pit types.	NA11; NA-12
	Level 2 Milestones		
	1428	Meet Site-approved Implementation Plan Schedules required for QC-1, Rev. 10.	NA-12
	630	Complete FY05 Annual Nuclear Weapons Stockpile Surety Assessment.	NA-11
	640	Provide an assessment of the nuclear explosive safety program to NNSA HQ.	NA-11
	1319	Submit draft Life Extension Option (LEO) tables for FY06 Component Description Document.	NA-11
	210	Conduct, Investigate, and Provide data to Close-out High Priority SFIs per approved closure plan.	NA-11; NA-12
	907	Eliminate any CSA Radiography Surveillance Backlog.	NA-12
	1530	Meet FY05 NWC Classified Application Project deliverables (PCD, MNS, WIS, IPSS development & maintenance) in accordance with Baseline Schedule & site specific activity levels.	NA-12

DSWT R&D Services

Program Description		Milestones	DP Organization
The Stockpile Services R&D Certification and Safety activities provide the core competencies and capabilities for R&D efforts not directly attributable to a single specific warhead system.	**Level 1 Milestones**		
	334	Annually, assess the safety, security, and reliability of the stockpile and provide the required assessments of certifcation and reports to the Secretary for submission to the President.	NA-12
	339	Define and begin implementation of a framework for developing advanced warhead concepts, including completion of 6.2/2a RNEP, to support the Nuclear Posture Review and the emerging needs of the DoD.	N/A

Directed Stockpile Work

DSWT B61

Program Description		Milestones	DP Organization
Enduring stockpile workload efforts on all modifications of the B61 will include ongoing assessment and certification activities; cyclical limited life component exchange activities; surveillance activities; and any required alterations, modifications, repairs, safety studies, and military liaison work.	**Level 1 Milestones**		
	344	Complete certification of a B61 warhead with quantified design margins and uncertainties.	NA-11
	Level 2 Milestones		
	179	Meet IWAP authorization deliverables for B61 Family D&I and Assembly Processes IAW SMT Approved Project Plan.	NA-12
	734	Meet all program deliverables (Initiate 6.4, complete design, PPI, & provide hardware to flight test) IAW the Approved Program Plan.	NA-12
	1384	Complete Final Weapon Development Report (NWC Deliverable).	NA-12
	213	Meet site specific requirements to perform surveillance for the B61 Family including D&Is, rebuilds, build & deliver components, perform flight & lab tests IAW the Directive Schedule & P&PD site standards.	NA-12
	1302	Meet site specific requirements for the B61 family to perform annual assessment and update to support publishing the Annua Assessment Report, Weapon Reliability Report, and issue the Director's Annual Assessment Letter.	NA-11

DSWT B61 Life Extension Program

Program Description		Milestones	DP Organization
The B61 Life Extension Program includes refurbishment of the canned subassembly (CSA); and replacement of associated seals, foam supports, cables and connectors, the group X kit, and limited life components on the B61 Mods 7 and 11.	**Level 1 Milestones**		
	345	Complete the life extension refurbishment of the first production unit for the B61 in accordance with the approved project baseline.	NA-11; NA-12
	Level 2 Milestones		
	1368	Provide hardware that meets design definition and Start AAU-1A Test IAW the B61 7/11 LEP (Alt357) Test Plan (SAR#18).	NA-11; NA-12
	653	Provide hardware that meets design definition and complete Combined Environment (CE)-2 system-level test IAW the B61 7/11 LEP ALT 357 Test Plan (SAR No. 22)	NA-11; NA-12
	1369	Provide hardware that meets design definition and Start CPD-2 System-level Test (Hi-Fi) IAW the B61 7/11 LEP (Alt357) Test Plan (SAR#20).	NA-11; NA-12
	1370	Provide hardware that meets design definition and Start BT-1 System-level Test IAW the B61 7/11 LEP (Alt357) Test Plan (SAR#24&25).	NA-11; NA-12
	1371	Provide hardware that meets design definition and Start BT-2 System-level Test IAW the B61 7/11 LEP (Alt357) Test Plan (SAR#28&29).	NA-11; NA-12
	1475	Provide hardware that meets design definition and start CPD-3 System-level Test IAW the B61 7/11 LEP (Alt357) Test Plan (SAR#23) (Formerly #1048 from FY04)	NA-11; NA-12
	1476	Start CE-1 System-level Test IAW B61 7/11 LEP (Alt 357) Test Plan (SAR#21).	NA-11; NA-12

DSWT W80 Life Extension Program

Program Description		Milestones	DP Organization
The W80 Life Extension Program extends the life of the W80 for an additional 20 years with the FPU in FY 2008.	**Level 2 Milestones**		
	1380	Provide Requirements and Achieve NTTL Build Requirements IAW SNL FY05 Requirements	NA-12
	1525	Conduct Interlaboratory Peer Review to transition Phase 6.3 to 6.4 IAW W80-3 Baseline Plan.	NA-11

Directed Stockpile Work

DSWT W76

Program Description		Milestones	
Enduring stockpile workload efforts on the W76 will include ongoing assessment and certification activities, limited life component exchange activities, surveillance activities, and required alterations, modifications, repairs, safety studies, and military liaison work.	**Level 1 Milestones**		
	352	Complete certification of a W76-1 warhead with quantified design margins and uncertainties.	NA-11; NA-12
	361	Complete the life extension refurbishment of the first production unit for the W76-1 in accordance with the approved project baseline.	NA-11
	Level 2 Milestones		
	1068	Meet IWAP deliverables provided in the SMT Approved W76-1 Project Plan.	NA-12
	215	Meet site specific requirements to perform surveillance for the W76 including D&Is, build & deliver components, perform flight & lab tests IAW the Directive Schedule.	NA-12
	1304	Meet site specific requirements for the W76-0 to perform annual assessment and update to support publishing the Annual Assessment Report, Weapon Reliability Report, and issue the Director's Annual Assessment Letter	NA-11

DSWT W76 Life Extension Program

Program Description		Milestones	
The W76 Life Extension Program will extend the life of the W76 for an additional 30 years with the FPU in FY 2007.	**Level 1 Milestones**		
	352	Complete certification of a W76-1 warhead with quantified design margins and uncertainties.	NA-11; NA-12
	361	Complete the life extension refurbishment of the first production unit for the W76-1 in accordance with the approved project baseline.	NA-11

DSWT W76 Life Extension Program

Program Description		Milestones	
The W76 Life Extension Program will extend the life of the W76 for an additional 30 years with the FPU in FY 2007.	**Level 2 Milestones**		
	1298	Provide hardware that meets design definition and complete flight and joint ground tests required to certify the W76-1 IAW FSED baseline schedule.	NA-11
	1377	Achieve Total Program Cost Target for the W76-1 LEP as approved by the Cost Control Board for FY05	NA-12
	669	Issue sub-system engineering releases to production plants IAW W76-1 FSED baseline schedule.	NA-12
	1299	Complete FY05 certification/qualification activities required to certify the W76-1 with margins & uncertainties required for FPU	NA-11
	1523	Complete the work necessary to conduct the Preliminary W76-1 design review and acceptance review (DRAGG)	NA-11
	667	Provide hardware that meets design definition and complete planned hydros required to certify IAW W76-1 FSED baseline schedule.	NA-11
	668	Conduct and Complete Peer Review to initiate Phase 6.4 IAW W76-1 FSED baseline schedule	NA-11
	1374	Provide Resource Loaded Baseline Cost Report for Production for W76-1 IAW FSED baseline schedule (SAR#15)	NA-12
	364	Begin Phase 6.4 Production Engineering activities IAW W76-1 FSED baseline schedule (SAR #16)	NA-12
	182	Complete Final Design Review IAW W76-1 FSED baseline schedule (SAR #17)	NA-11
	712	Provide ER & Release POs for W76-1 Phase II LOP Procurement	NA-12

Directed Stockpile Work

DSWT W88

Program Description		Milestones	Organization
Enduring stockpile workload efforts on the W88 include ongoing assessment and certification activities, limited life component exchange activities, surveillance activities, and required alterations, modifications, repairs, safety studies, and military liaison work.	**Level 2 Milestones**		
	1386	W88 Bay & Cell SS-21 Project--Complete HAR activities IAW SMT Approved Project Plan. (Split from original #148, M14.2 from FY04)	NA-12
	175	Meet site specific requirements to perform surveillance for the W88 including D&Is, rebuilds, build & deliver components, perform flight & lab tests IAW the Directive Schedule.	NA-12
	1310	Meet site specific requirements for the W88 to perform annual assessment and update to support publishing the Annual Assessment Report, Weapon Reliability Report, and issue the Director's Annual Assessment Letter	NA-11
	1001	Conduct design, manufacturing, & shipment of LLCs for W88 in support of directive schedules.	NA-12
	615	Issue 4T Qualification Plan	NA-11

DSWT W78

Program Description		Milestones	Organization
Enduring stockpile workload efforts on the W78 will include ongoing assessment and certification activities, limited life component exchange activities, surveillance activities, and required alterations, modifications, repairs, safety studies, and military liaison work.	**Level 2 Milestones**		
	170	Meet site specific requirements to perform surveillance for the W78 including D&Is, build & deliver components, perform flight & lab tests IAW the Directive Schedule.	NA-12
	1305	Meet site specific requirements for the W78 to perform annual assessment and update to support publishing the Annual Assessment Report, Weapon Reliability Report, and issue the Director's Annual Assessment Letter	NA-11
	997	Conduct design, manufacturing, & shipment of LLCs for W78 in support of directive schedules.	NA-12
	1078	Meet FPU and produce the W78 JTA 6 First Production Unit per the directive schedule.	NA-11

Table 3-1
Summary of Current Missions
Campaigns

Campaigns

Primary Assessment Technologies (C1)

Program Description	Milestone ID	Milestones	Organization
Achieve ability to predict primary performance to within specific classified uncertainty levels through development and implementation of quantitative certification methodology.	**Level 1 Milestones**		
	340	Complete transition to and maintain the capability to conduct underground nuclear testing within 18 months of the President's decision to conduct testing.	NA-11
	343	Provide updated pit lifetime estimates for predominant pit types.	NA-11
	1540	Accounting for both simulation and experimental uncertainties, assess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models. (Cycle I)	NA-11
	1541	Publish documented plan to reduce major source of uncertainty based on FY10 certification capability. (Cycle II)	NA-11
	1542	Accounting for both simulation and experimental uncertainties, reassess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models (Cycle II)	NA-11
	Level 2 Milestones		
	475	Report nuclear test priorities and capabilities (annually).	NA-11
	756	Demonstrate the ability to conduct experiments to evaluate boost-related phenomena.	NA-11
	1272	Predict primary performance and identify major sources of uncertainty for the W-76 LEP. Quantify these sources where possible or develop requirements of a plan to do so.	N/A
	1273	Develop probabilistic tools and methods to combine various sources of uncertainty for primary performance.	NA-11
	1281	Execute FY05 hydro tests as documented in the National Hydrotest Plan and maintain the required facilities.	NA-11
	1288	Publish documented plan to reduce major sources of uncertainty. (Cycle I)	NA-11

Dynamic Material Properties (C2)

Program Description	Milestone ID	Milestones	Organization
Provide the physical data and physics-based materials models of the thermodynamic and mechanical properties necessary for the assessment of weapons performance, safety, and reliability without nuclear testing.	**Level 1 Milestones**		
	343	Provide updated pit lifetime estimates for predominant pit types.	NA-11; NA-12
	Level 2 Milestones		
	1271	Complete measurements of neutron capture cross sections on 234U and 236U using the DANCE detector system over the latetime neutron energy range.	NA-11
	1288	Publish documented plan to reduce major sources of uncertainty. (Cycle I)	NA-11
	773	Conduct an NNSA workshop on ejecta, to result in program direction decisions regarding future experiments and ASC activities.	NA-11
	1278	Deliver coordinated implementation plans for the Pu strategy.	NA-11
	768	Deliver plutonium alloy data set supporting uncertainty quantification for a specific weapons system.	N/A
	774	Deliver Pu alloy dynamic strength data suite supporting uncertainty quantification.	N/A
	593	Perform formulation and characterization of candidate replacement PBX 9501 explosive.	N/A

Advanced Radiography (C3)

Program Description	Milestone ID	Milestones	Organization
Assess and develop radiography capability to determine integral performance of a nuclear weapon during the primary implosion phase. Translate stockpile certification requirements into quantitative time-dependent, three-dimensional radiographic requirements.	**Level 2 Milestones**		
	1269	DARHT second axis CD-1 submitted.	NA-11
	1288	Publish documented plan to reduce major sources of uncertainty. (Cycle I)	NA-11

Table 3-1
Summary of Current Missions
Campaigns

Campaigns

Secondary Assessment Technologies (C4)

Program Description	Milestone ID	Milestones	Organization
Provide modern scientific tools, methods, and knowledge required to certify the performance of nuclear secondaries. Focus is on developing a predictive capability and advanced simulation for the performance of the nuclear system as a whole.	**Level 1 Milestones**		
	351	Complete the first ZR stewardship experiment.	NA-11
	1539	Publish documented plan to reduce major sources of secondary uncertainty (Cycle I).	N/A
	1540	Accounting for both simulation and experimental uncertainties, assess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models. (Cycle I)	N/A
	1541	Publish documented plan to reduce major source of uncertainty based on FY10 certification capability. (Cycle II)	N/A
	1542	Accounting for both simulation and experimental uncertainties, reassess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models (Cycle II)	N/A
	Level 2 Milestones		
	1279	Complete an assessment of strength and damage model.	NA-11
	605	Complete an assessment that contributes to the closure of a particular SFI.	NA-11
	1288	Publish documented plan to reduce major sources of uncertainty. (Cycle I)	NA-11

Enhanced Surety (C5)

Program Description	Milestone ID	Milestones	Organization
Demonstrate enhanced use-denial and advanced initiation options for the entire stockpile. Provide validated technology for inclusion in the stockpile refurbishment program to assure that modern nuclear safety standards are fully met and a new level of use-denial performance is achieved.	**Level 2 Milestones**		
	1335	Conduct design review for W78 direct optical initiation (DOI) option.	NA-11

Weapons Systems Engineering Assessment Technology (C6)

Program Description	Milestone ID	Milestones	Organization
Establish a science-based engineering certification methodology and define required underlying engineering research. Conduct experiments and provide data necessary to develop and validate engineering computational models.	**Level 2 Milestones**		
	486	Deliver HERT-instrumented EFI-B-1 NEP in support of flight test FCET-34.	NA-11

Nuclear Survivability (C7)

Program Description	Milestone ID	Milestones	Organization
Demonstrate capability to support the nuclear survivability of the enduring stockpile, its certification and life extension, without underground tests, through radiation hardening, modeling and validation, and aboveground testing. Develop validated computational tools to reevaluate threat nuclear weapon radiation environments and system radiation responses, develop radiation-hardened technologies, and improve radiation sources and diagnostics.	**Level 2 Milestones**		
	606	Complete re-assessment of the output of threat (Redbook) warheads and the W76 warhead (a Bluebook system).	NA-11

Table 3-1
Summary of Current Missions
Campaigns

Campaigns

Enhanced Surveillance (C8)

Program Description	Milestone ID	Milestones	Organization
Provide component and material lifetime assessments and develop predictive capabilities for early identification and assessment of stockpile aging concerns.	**Level 1 Milestones**		
	343	Provide updated pit lifetime estimates for predominant pit types.	NA-11; NA-12
	Level 2 Milestones		
	1021	Provide improved component aging models for CSAs, HE main charge, and HE initiation systems to support lifetime assessments.	NA-11
	1226	Provide improved experimental and modeling capabilities for pit aging assessment.	NA-11
	1345	Provide updated report on lifetimes of predominant pit types.	NA-11
	1491	Complete aging or lifetime assessments for B61 LEP (Alt 357) certification.	NA-11

Advanced Design and Production Technologies (ADAPT) (C9)

Program Description	Milestone ID	Milestones	Organization
Integrate and develop new technologies and enhanced capabilities to improve the effectiveness of the production complex and to deliver qualified refurbishment products upon demand.	**Level 2 Milestones**		
	508	Demonstrate methods to transfer 3-D product definition to FEA meshing software tools by September 2005. (Supports Life Extension Program requirements).	NA-12
	514	Provide tritium recover and isotope separation capability at WETF facility utilizing TCAP technology by September 2005. (Supports Life Extension Program requirements).	NA-12

Inertial Confinement Fusion Ignition and High Yield (ICFI&HYC) (C10)

Program Description	Milestone ID	Milestones	Organization
Provide experimental and theoretical capabilities in the regime of High Energy Density Physics that are applied to scientific problems in the nuclear weapons program. Emphasis is on quantitative experimentation that provides data needed for validation of advanced modeling.	**Level 1 Milestones**		
	351	Complete the first ZR stewardship experiment.	NA-11
	Level 2 Milestones		
	1430	Begin hohlraum experiments on NIF first quad.	
	1452	Complete initial set of equation of state experiments on NIF to support stockpile assessment.	NA-11
	974	Complete OMEGA experiments that validate complex hydrodynamic modeling in support of SAT Campaign milestones relevant to specific weapons systems.	NA-11
	247	Demonstrate acquisition of complex radiation transport data on Z that will validate aspects of ASCI models and establish test bed for more complex experiments to be done in FY07 for SAT Campaign.	NA-11
	1249	Document capsule and hohlraum specifications for room temperature transport ignition target designs.	NA-11
	1257	Place specifications and requirements of cryogenic system engineering for NIF under configuration control.	NA-11
	827	Specify first cluster phase plates for NIF.	NA-11
	819	Validate use of tritium with NIF ignition target components.	NA-11
	1114	Complete feasibility demonstration of measurement of weapons materials properties on Trident for DMP Campaign milestones.	NA-11; NA-16

Table 3-1
Summary of Current Missions
Campaigns

Campaigns

Advanced Simulation and Computation (ASCC) (C11)

Program Description	Milestone ID	Milestones	Organization
Predict, with confidence, the behavior of nuclear weapons through comprehensive, science-based simulations.	**Level 1 Milestones**		
	342	Document the requirements to move beyond a 100TF ASC computing platform to a petaflop platform.	NA-11
	343	Provide updated pit lifetime estimates for predominant pit types.	NA-11; NA-12
	349	Deliver advanced ASC physics and engineering simulation capabilities to support the W76 and the W80 LEP/certification.	NA-11
	359	Complete modern baseline of all enduring stockpile systems with ASC codes.	NA-11
	1540	Accounting for both simulation and experimental uncertainties, assess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models. (Cycle I)	N/A
	1541	Publish documented plan to reduce major source of uncertainty based on FY10 certification capability. (Cycle II)	N/A
	1542	Accounting for both simulation and experimental uncertainties, reassess ability to reproduce the full UGT data sets for a representative group of nuclear tests (including nominal and marginal performers) with consistent set of models (Cycle II)	N/A
	Level 2 Milestones		
	1361	A specific transport capability in-line in Project A & B codes.	NA-11
	1357	Code Verification, Calculation Verification and Solution Error Analysis for LANL Physics and Engineering Codes.	NA-11
	501	Deliver and demonstrate an interface steepening component to Code Project A.	NA-11
	18	Deploy a Limited Avaliability Red Storm user environment.	NA-11
	1360	Final Project B code release supporting major primary design requirements for W76-1 LEP.	NA-11
	500	Fully functioning 64-bit software environment deployed on the LANL Lightning capacity computing system functioning at full scalability.	NA-11
	1355	HE EOS model for PBX9502 products, validated against fundamental data, delivered to Code B.	NA-11

Advanced Simulation and Computation (ASCC) (C11)

Program Description	Milestone ID	Milestones	Organization
	Level 2 Milestones (Cont.)		
	1356	High Fidelity Nuclear Library.	NA-11
	1352	Immersive Visualization Environment Deployed for ASC Users.	NA-11
	1362	Intermediate Project A code release supporting major secondary design requirements for W76-1 LEP.	NA-11
	477	Model for Damage with Accompanying Data implemented into Project B Code & validated.	NA-11
	1487	Deliver validation assessment capability for improved-fidelity engineering shock response.	NA-11
	1354	Performance study against LANL workload of potential systems considered for the next LANL capability platform procurement.	N/A
	1351	SCC Infrastructure Upgrade (Phases 2 & 3).	N/A
	470	Simulate casting of the Qual Type 126 pit and compare the results of the simulation to the available experimental data for the same process.	NA-11
	476	The Capsaicin Project will demonstrate a robust and accurate 2D-RZ discrete ordinates radiation transport capability.	NA-11
	502	Publish SQE policies and procedures and report on assessments of software projects.	N/A
	1488	General availability secure capacity platform (LIGHTNING).	N/A
	1490	Initial primary V&V assessment.	NA-11

Campaigns

Pit Manufacturing and Certification Campaign (PM&C) (C12)

Program Description	Milestone ID	Milestones	Organization
Ensure the readiness of the nuclear weapons complex to manufacture and certify pits.	**Level 1 Milestones**		
	354	Begin type 126 pit manufacturing capability at ten pits per year.	
	353	Certification of W88 warhead with a Los Alamos manufactured pit, using qualification of margins uncertainties.	NA-11
	343	Provide updated pit lifetime estimates for predominant pit types.	NA-11; NA-12
	Level 2 Milestones		
	1104	Complete preliminary design of Machining, Assembly and Inspection Module.	NA-11
	428	Manufacture four certifiable pits.	NA-11
	1449	Deliver 6 Type 126 Qualification Pits.	NA-11
	947	Complete B61 characterization studies to identify plutonium process issues in the manufacture of B61 pits	NA-11
	942	Krakatau Final Dry Run.	NA-11
	939	Unicorn Final Dry Run.	NA-11
	1450	Unicorn Pre-Shot Report.	NA-11
	1456	Development of Pit Manufacturing and Certification Project Integrated Plan (PMCPIP).	NA-11

Program Description	Milestone ID	Milestones	Organization
Stockpile Readiness (C13)			
N/A		No Level 1 or Level 2 milestones	
High Explosives and Weapon Operations (C14)			
N/A		No Level 1 or Level 2 milestones	
Nonnuclear Readiness (C15)			
N/A		No Level 1 or Level 2 milestones	
Material Readiness (C16)			
N/A		No Level 1 or Level 2 milestones	
Tritium Readiness (C17)			
N/A		No Level 1 or Level 2 milestones	

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Table 3-1
Summary of Current Missions
Readiness in Technical Base and Facilities

Readiness in Technical Base and Facilities

Operations of Facilities

Program Description	Milestone ID	Milestones	DP Organization
Operates and maintains "NNSA-owned" programmatic capabilities in a state of readiness, ensuring each capability (workforce and facility) is operationally ready to execute programmatic tasks identified in Campaigns and Directed Stockpile Work (DSW). Operates the program infrastructure and facilities in a safe, secure, reliable, and "ready for operations" manner.	**Level 1 Milestones**		
	333	Annually, prepare and execute an integrated, comprehensive RTBF/Facilities and Infrastructure Recapitalization Program (FIRP) plan consistent with the Nuclear Weapons Complex Enterprise Strategy to ensure a flexible, responsive, robust infrastructure.	NA-11
	Level 2 Milestones		
	639	Maintenance: For RTBF mission essential facilities and infrastructure, achieve adequate maintenance baseline funding to support NNSA maintenance and deferred maintenance commitments.	NA-11; NA-12
	1323	Annual percentage of scheduled days that mission-essential facilities are available is greater than 90%.	NA-11; NA-12
	1324	Number of reportable accidents per 200,000 hours of work is less than 6.4 (vs. BLS national standard).	NA-11; NA-12
	1325	Annual NNSA complex-wide aggregate Facility Condition Index (FCI), deferred maintenance costs per replacement plant value, for all mission-essential facilities and infrastructure is less than 9%.	NA-11; NA-12
	1346	Annually, received no significant violations/adverse actions from environmental regulators.	NA-11; NA-12
	1347	Annually, achieve full compliance with applicable nuclear safety rules and no significant nuclear safety non-compliances.	NA-11; NA-12
	1387	Los Alamos TA-18 Mission Relocation.	NA-11; NA-12
	1417	DNFSB 94-1/100-1: Stabilize excess nuclear material in accordance with the approved Defense Nuclear Facilities Safety Board Recommendation 94-1/00-1 Implementation Plan.	NA-12
	1426	PU 238 scrap recovery line start-up.	NA-12
	1536	Cerro Grande Rehabilitation project, 1.5.05 Partial Sitewide Fire Alarm System Replacement.	NA-11

Containers

Program Description	Milestone ID	Milestones	DP Organization
The Containers activity includes container research and development, design, certification, recertification, test and evaluation, production and procurement, fielding and maintenance, and decontamination and disposal, and off- site transportation authorization of nuclear materials and components transportation containers.	**Level 2 Milestones**		
	1388	TA-18 Special Nuclear Material Movement to DAF.	NA-12

Construction Line Item Projects

Program Description	Milestone ID	Milestones	DP Organization
The Construction program includes the cost of new and ongoing line- item construction projects that support the nuclear weapons complex, except for the major programmatic specific projects that support specific campaigns. RTBF Construction projects range from complex, state-of-the-art facilities and advanced scientific and technical tools to replacement facilities and basic infrastructure.	**Level 2 Milestones**		
	1193	Construction Line Item - CGR-1.5.06-Waste Management Mitigation TA50/54.5 NA-11	NA-11
	1194	Construction Line Item - CGR-1.5.03-Multi-Channel Comm. System NA-11	NA-11
	1200	Construction Line Item - National Security Sciences Building-NSSB NA-11	NA-11
	1214	Construction Line Item - Rapid Reactivation LANL NA-12	NA-12
	1219	Construction Line Item - CGR-1.2 Restoring Services NA-11	NA-11
	1220	Construction Line Item - CGR-1.1 Physical Damage & Destruction NA-11	NA-11
	1221	Construction Line Item - CGR-1.3 Emergency Response NA-11	NA-11
	1222	Construction Line Item - CGR-1.4 Re-Entry Plan-Resuming Operations NA-11	NA-11

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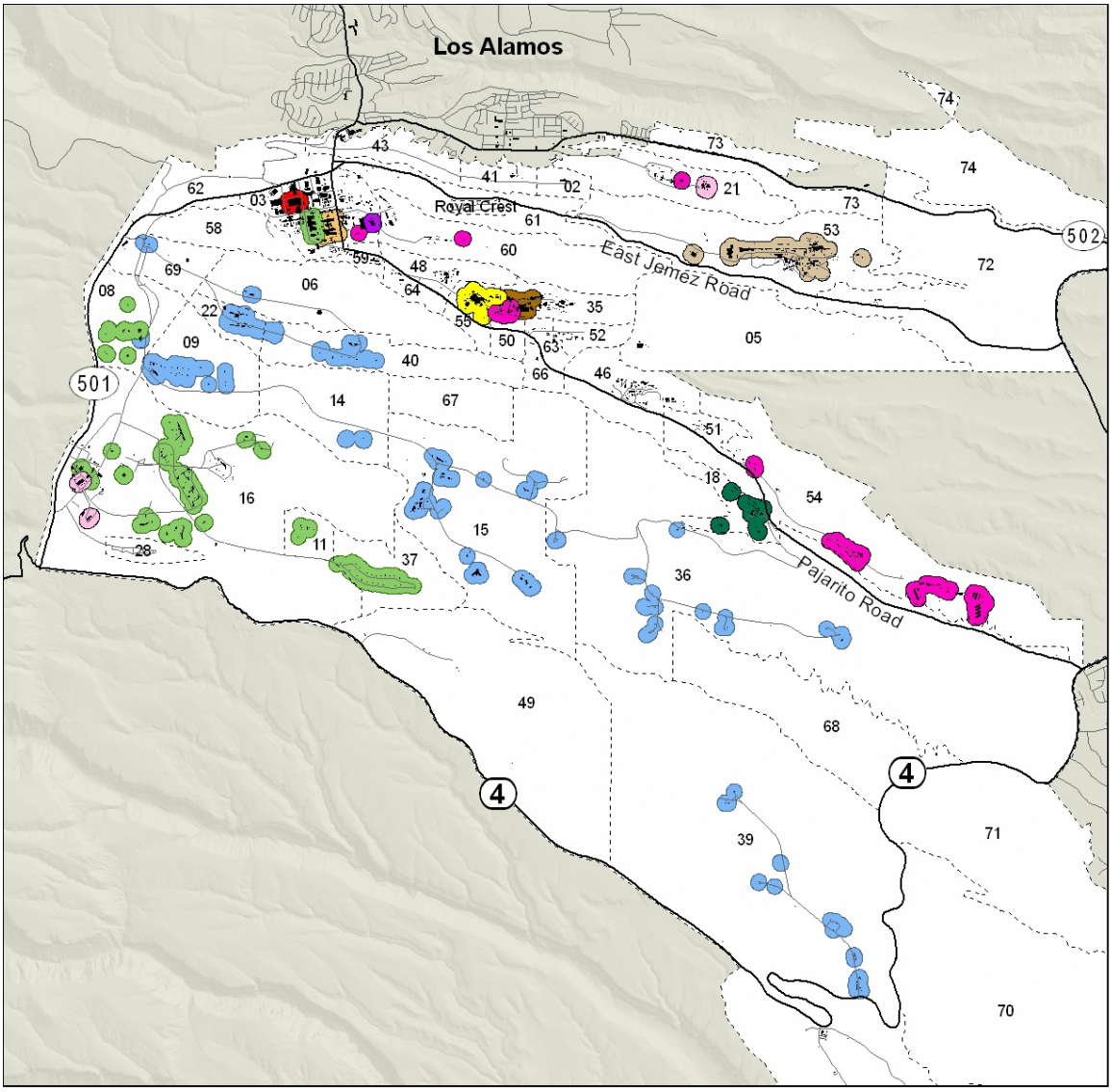
3.2 MISSION ESSENTIAL FACILITIES AND INFRASTUCTURE

By identifying mission essential facilities and infrastructure, NNSA Headquarters will be able to prioritize maintenance, restoration, and recapitalization activities towards meeting the Deferred Maintenance Reduction commitment. The mission essential facilities and infrastructure will be assigned priority in RTBF and FIRP funding decisions. A definition of mission essential was developed at the Deferred Maintenance Reduction Summit II on December 3-4, 2002 and agreed to by NNSA Headquarters, the sites, and Management and Operations contractors.

> **NNSA Definition of Mission Essential**: Those facilities and infrastructure that are necessary to perform the primary NNSA missions assigned to the Site. This would encompass any facility or infrastructure where the majority of the structure or utility, or its predominant use, is to support scientific research, production, or testing to conduct the Stockpile Stewardship Program.

The Laboratory has determined the set of NNSA mission essential facilities and infrastructure to include ***all facilities that are direct funded within the DP budget.*** Each of these facilities has a direct link to specific mission components with a NNSA/DP program sponsor. All NNSA facilities not included in this category, while still important to NNSA missions as a whole, are indirect funded (including utility systems). Table 3-2 shows the mission essential facilities broken out by individual mission component. Overall, there are 490 mission essential facilities totaling approximately 3,745,000 GSF. More information on the mission essential facilities may be found in Attachment G, and a map of their locations is on the following page.



Mission Essential Facilities

LEGEND

- Technical Area Boundary
- NMT Facilities, TA-55 - NA-12
- Waste Management Facilities - NA-11
- NMT Facilities, CMR - NA-12
- Beryllium Technology Facility - NA-12
- Dynamic Experimentation Facilities - NA-11
- Engineering Facilities - NA-11
- Tritium Facilities - NA-12
- LANSCE Facilities - NA-11
- TA-18 Facilities - NA-12
- ASCI Facility - NA-11
- ICF Facilities - NA-11

N

0 4,000 8,000
Feet

(Facility footprints are exaggerated, or buffered, for readability at a sitewide perspective)

Table 3-2: Mission essential facilities by mission component.

Mission Essential Facilities	NA-11	**Engineering Facilities 87 buildings 530,806 GSF**			
		High Explosives (HE) Facilities Machine Shops Environmental Testing Facilities	Assembly & Storage Facilities Nondestructive Testing Facilities	Enduring 51 buildings 232,769 GSF	Non-Enduring 36 buildings 298,037 GSF
		Dynamic Experimentation Facilities 203 buildings 474,460 GSF			
		Dual-Axis Radiographic Hydrodynamic Test Facility (DARHT) & Associated Facilities HE Science Facilities	Firing Sites Detonator Facilities	Enduring 107 buildings 288,280 GSF	Non-Enduring 96 buildings 186,180 GSF
		Los Alamos Neutron Science Center (LANSCE) 48 buildings 615,041 GSF			
		Accelerator Facilities Lujan Center Facilities	Weapons Neutron Research Facilities	Enduring 37 buildings 609,685 GSF	Non-Enduring 11 buildings 5,356 GSF
		Waste Management Facilities 73 buildings 312,432 GSF			
		Radioactive Liquid Waste Treatment Facility (RLWTF) Radioassay and Non-Destructive Test (RANT) Facility	Waste Characterization, Reduction, and Repackaging (WCCR) Facility TA-54 Solid Waste Facilities	Enduring 20 buildings 164,440 GSF	Non-Enduring 53 buildings 147,992 GSF
	NA-12	**Nuclear Materials Technology (NMT) Division Facilities 43 buildings 1,074,757 GSF**			
		TA-55 Facilities CMR & Associated Facilities		Enduring 29 buildings 500,636 GSF	Non-Enduring 14 buildings 574,121 GSF
		Tritium Facilities 8 buildings 100,350 GSF			
		Weapons Engineering Tritium Facility (WETF) & Associated Facilities Tritium Science and Fabrication Facility (TSFF) & Associated Facilities		Enduring 3 buildings 50,094 GSF	Non-Enduring 5 buildings 50,256 GSF
		Beryllium Technology Facility (BTF)			
		TA-3-141		Enduring 32,269 GSF	
		TA-18 Facilities			
		TA-18 Facilities		Non-Enduring 22 buildings 74,389 GSF	
	Campaigns	**Advanced Strategic Computing Initiative (ASCI)**			
		TA-3-2237		Enduring 368,900 GSF	
		Inertial Confinement Fusion (ICF)			
		Target Fabrication Trident		Enduring 4 buildings 161,408 GSF	

All of the Laboratory's facilities are being evaluated for the projected longevity of mission need. *Enduring* facilities are those facilities with mission needs extending beyond 10 years while *proposed excess* facilities have a mission need of less than 10 years or are temporary structures in "poor" or "failing" condition. Consequently, investment in the reduction of deferred maintenance will be prioritized with the length of mission need as a factor. As appropriate, facilities with a defined "end of mission need" will be identified for exclusion from the NNSA corporate goals for FY09 (reduce deferred maintenance to within industry standards).

Table 3-3: Summary of square footage and deferred maintenance (FY05 actuals).

<table>
<tr><td colspan="3">Institution/Total Plant
8.6M GSF
$486M Deferred Maintenance</td></tr>
<tr><td colspan="2">Mission Essential
3.7M GSF
490 Structures
$238M Deferred Maintenance</td><td rowspan="2">Balance of Plant
4.9M GSF
$248M Deferred Maintenance</td></tr>
<tr><td>Enduring Mission Essential
2.5M GSF
253 Structures</td><td>Proposed Excess Mission Essential
1.2M GSF
237 Structures</td></tr>
</table>

Application of 2009 goal of industry standard – FCI "good to excellent"

3.3 FUTURE MISSIONS, PROGRAMS, AND WORKLOAD

The Laboratory's projected future DP missions are defined by NNSA strategic planning, production, and fiscal guidance and direction. The SSP will require continued use of the existing and planned production and research, development, and testing facilities to support DSW and Campaign deliverables. Over the next 10-20 years, the Laboratory will exercise its unique facility, equipment, and personnel resources to provide critical experimental and computational capabilities. These capabilities will predict performance and support design and production at the Laboratory and within the Nuclear Weapons Complex (NWC) for the warhead refurbishment programs, limited life component production and surveillance, and pit manufacturing and certification.

In addition to these ongoing missions, the Laboratory's weapons infrastructure will have to address several challenges and evolving programmatic needs within the nuclear weapons program. Key among these is the potential expanded manufacturing mission, while additional needs include the emerging security environment, experimental programs, and consolidation of critical NWC capabilities.

3.3.1 Manufacturing Mission

The number and composition of the active and inactive stockpile, as well as the expected lifetimes of the various components will ultimately determine design, production, and testing requirements. The Laboratory is responsible for key nuclear components within the majority of active weapons systems. Most notably, TA-55 provides the only fully functioning plutonium facility used for R&D and pit manufacturing capability with the NWC. TA-55 represents the only pit manufacturing capability for the next 20 years. The manufacturing program is currently addressing the immediate needs of the W88 system as planned.

The Laboratory and Lawrence Livermore National Laboratory (LLNL) are engaged in a competitive study of the Reliable Replacement Warhead (RRW). The RRW will provide an alternative to refurbishing existing warheads. This may result in a series of designs that have reduced life-cycle costs, improved surety, and a more simple design that could be easier to manufacture and certify for use without underground testing. If the RRW mission is assigned to the Laboratory, a significant development and manufacturing development program would be anticipated.

The future stockpile is projected to be smaller and less diverse, leading to changes in the associated production requirements. These production requirements are currently being analyzed. The Modern Pit Facility (MPF) program provides for a new, robust pit manufacturing capability to meet significant production requirements (>125 pits per year). However, new components must be manufactured in the near-term, over at least the next 15-20 years, while the need for a MPF or similar facility is

analyzed and then a facility constructed and commissioned.

The Laboratory, through existing capabilities and planned nuclear facility consolidation and construction activities, has established a stable weapons infrastructure to meet near-term manufacturing needs and is poised to provide additional capacity for expanded pit production missions (for an accelerated RRW or current warheads) over the long-term. Ongoing or planned projects within the FYNSP include the following:

- CMRR,
- RLWTF Upgrade Project,
- TA-55 Radiography Facility,
- TA-55 Reinvestment Project,
- TA-18 Early Move,
- Criticality Experimental Facility, and
- NMSSUP Phase II.

Many of these projects are described in detail in Section 5.3.1. Through these efforts, the Laboratory has provided NNSA with a means to address current requirements yet remain flexible and responsive to pending stockpile evaluations and associated decisions on future nuclear facilities.

3.3.2 Security Environment

The increased security requirements defined in the FY03 and FY04 DBT guidance have required significant changes to the current and planned operations across the NWC. This is especially true at sites such as the Laboratory that have large SNM inventories. Increased security asset requirements and associated costs will drive many sites to eliminate, reduce and/or consolidate their SNM holdings. Currently, the Laboratory's missions require significant inventories of SNM. The inventory may be impacted, and even increased, if the Laboratory's production missions are expanded, off-site shipments of excess materials cannot be dispositioned as planned, and/or if the Laboratory is required to support consolidation of SNM from other sites. An example would be the Laboratory accepting SNM from LLNL to support the de-inventory of Building 332.

The Laboratory has developed a protection strategy to meet DBT requirements and ensure continued weapons program missions. Section 4.5 describes the security initiatives. The NFC efforts were developed and integrated with the security initiatives to provide a weapons infrastructure that could support current and future missions and remain largely insensitive to DBT changes. The TA-55 complex, with planned modifications, can support the potential expanded missions and the CMRR SNM vault could accommodate the transfers of SNM from other sites.

3.3.3 Experimental Programs

The LANSCE is a multi-program user facility that provides critical support to DP and other DOE programs. LANSCE also serves as a science magnet to attract and develop new personnel. Proton radiography is the key capability that provides unique data contributing to the understanding and prediction of the physics and performance of nuclear weapons. LANSCE cannot be sustained

long-term without a significant upgrade. The Laboratory, NNSA, and DOE are evaluating a LANSCE Refurbishment (LANSCE-R) project proposal to upgrade key accelerator systems in support of long-term facility viability. A decision on the project is pending. If LANSCE is to be utilized long-term, LANSCE-R will be completed over the next decade with modified operations allowing completion of equipment installation and construction activities. If not, the Laboratory will develop a closure and D&D plan for the accelerator. Either outcome will have significant ramifications for experimental capabilities, personnel, and funding resources at the Laboratory.

The completion of the DARHT Second Axis is critical to meeting future missions such as DYNEX. A radiographic roadmap in the Bi-Lab Primary Certification and Capability Plan has identified potential decision points that may require investments in Advanced Radiography beyond DARHT II.

3.3.4 Nuclear Weapons Complex – Capability Consolidation

NNSA has been evaluating the capabilities within the complex to align limited current and projected resources against priority program needs. Results of these analyses have regularly included proposals to eliminate or reduce redundant capabilities within the complex. The NWC capabilities associated with tritium, HE, and beryllium have been repeatedly cited as opportunities for consolidation. Because the Laboratory has both R&D and production capabilities in these areas, potential changes to the mission assignments should be expected. Tritium capabilities also reside at LLNL and Savannah River Site. LLNL and Pantex have HE facilities. However, a certain base HE capability is required at the Laboratory and that capability is deteriorating. The Laboratory will continue to implement its HE consolidation plan, but investments may be required to stem the deterioration and provide the base capability for the long-term. Beryllium metal capabilities only exist at the Laboratory with beryllium oxide capability at Y-12. However, the future use and need for beryllium components is being critically challenged as part of the RRW competition. NNSA and the Laboratory are determining the best means to balance and optimize available resources to support program needs within these key capabilities. This may result in additional changes to key tritium, HE and beryllium facilities at the Laboratory.

All of the aforementioned challenges and evolving programmatic needs are being analyzed to provide planning scenarios and options to DOE, NNSA and the Laboratory. Through these evaluation processes, NNSA and the Laboratory can optimize current investments and maintain flexibility to reduce risk and respond to dynamic program needs.

3.3.5 Threat Reduction Capabilities

The Threat Reduction directorate's programmatic budget (BA) for FY05 was $324M, with NA-20 being the largest sponsor at $152M. With the national focus on issues of non-proliferation, intelligence, defense and overall homeland security, it is expected that Threat Reduction will see

programmatic growth for the foreseeable future.

Two specific and related areas where significant growth can be expected involve the laboratory's capabilities to provide end-to-end solutions for national security sponsors. The first area concerns the development of improved intelligence, surveillance, and reconnaissance technologies and systems applied to a broader range of critical national security needs for customers within NNSA as well as DoD and the Intelligence Community. The second calls for the expansion of information analysis products and tools to provide actionable intelligence designed to address identified threats for a similar customer set from the plethora of data. Both will require investments in staffing, the concomitant classified computing infrastructure and in increased light lab and Sensitive Compartmentalized Information Facility (SCIF) space.

3.4 FACILITIES AND INFRASTRUCTURE IMPACTS FROM NON-NNSA PROGRAMS

3.4.1 Non-DP Program Contributions

While the Laboratory is primarily an NNSA site, non-NNSA programs do provide financial support for facility operations. Non-NNSA contributions toward facility operations take the form of a slightly higher infrastructure support overhead rate for usage of general purpose facilities and a cost offset to DP for use of special purpose facilities. For general purpose facilities, costs of facility operations and maintenance are allocated to NNSA and non-NNSA programs on the basis of labor costs expended within these facilities (as determined by periodic analysis). Due to the higher proportional usage of general purpose facilities by non-NNSA programs, a 1.5% infrastructure support rate preference is enjoyed by NNSA programs. For use of special purpose facilities, a 3% (of labor costs) special purpose facilities usage fee is assessed to non-NNSA programs and credited to the RTBF program. These facility support collection mechanisms enable a financial synergy that is beneficial for all programs where they coexist.

Additionally, non-DP programs contribute to institutional initiatives in direct proportion to the magnitude of the program. Centralized infrastructure service costs—costs which are equally applicable to NNSA and non-NNSA programs alike—are allocated to programs on the basis of programmatic labor using a rate consistent between the program types. One such institutional area is the payment of utility costs, which includes a level of utility reinvestment as noted in the F&I Cost Projection Spreadsheet. Without the inclusion of non-NNSA programs, a higher level of NNSA investment would be required to sustain the facilities and infrastructure.

In addition to facility operations investments, there is also planned construction investment from sources other than what is included in the ICPP, RTBF, and FIRP. Refer to the Non-RTBF/FIRP Cost Projection Spreadsheet in Attachment A, which also includes non-NNSA construction investment.

3.4.2 Los Alamos Science Complex

The Los Alamos Science Complex will provide 402,000 GSF of new mission-related basic and applied scientific research facilities located at TA-58 Two-Mile Mesa North. 1,400 scientific staff members will be relocated, from across the Laboratory, in two state-of-the-art facilities that will be LEED Silver certified and highly cost effective. The facilities vacated by the four divisions and two institutes will be returned to the institution for either backfilling with personnel from poor and failing space or demolished in accordance with the Congressional one-for-one mandate. See Section 4.7.5 for more information.

3.4.3 Los Alamos Research Park

The Los Alamos Research Park is located on 40 acres immediately adjacent to TA-3, the Laboratory's main technical area. The site will eventually accommodate five buildings and two parking structures. One 83,000 square foot facility was completed in 2001, and it houses high quality office and light laboratory space. Further development of the research park may have an impact on the infrastructure and security requirements for TA-3 by bringing additional personnel onsite.

3.4.4 Environmental Management Program

Funding for the Laboratory's environmental restoration (ER), waste disposition and portions of D&D activities is provided by DOE EM. With the exception of D&D, the majority of these activities target environmental characterization, clean-up and monitoring, and are only indirectly related to the Laboratory's facilities and infrastructure. The Laboratory anticipates, however, that DOE EM will become an increasingly important source of funding for addressing the infrastructure and facilities aspect of the NMED Consent Order. For example, the Laboratory has proposed an EM-funded line item project to address the need to relocate current waste management operations at TA-54 to allow closure of Material Disposal Area (MDA)-G (Section 4.3). Additional EM funding implications will be reported in future TYCSPs.

3.5 ROLE OF TECHNOLOGY IN THE COMPLEX OF THE FUTURE

Prior to 1992, the nuclear weapons stockpile was certified primarily through nuclear testing, and advances in our knowledge of nuclear weapons operation were often obtained through the use of integrated nuclear tests. In addition, computational capabilities were a mere shadow of what they are today. Limitations in computational capability also limited the complexity of physical models used to simulate nuclear weapons operation. The continual replacement of weapons programs during the Cold War sidestepped the issues related to aging because as given system would remain in the stockpile for less than 20 years or so. The fast-paced weapon design, test, and delivery "schedule" during the Cold War forced the Laboratory and DOE to use resources for meeting near-term deliverables, while strategic investments were often deferred and key facilities allowed to decay. The Laboratory also avoided helpful planning tools like formalized project management in the race to field weapon systems as quickly as possible.

Today, in the current era of science-based stockpile stewardship, the enormous complexity of certification is finally emerging. The Laboratory has realized that past practices will not enable it to meet the requirements of the future and is starting to develop the requisite project/program management skills and tools to assess and manage certification commitments. More focus is being paid to deliverables and milestones through the following actions:

- Allocating resources to priorities,
- Establishing a greater level of accountability for program and project milestones,
- Reducing scope/options and assuming more risk to meet milestones,
- Retaining scope and moving milestones out,
- Focusing the workforce on the priorities,
- Developing a formal baseline to manage the program, and
- Improving business practices.

The key commitment for the Laboratory's new integrated weapons program is *building and maintaining an effective U.S. deterrent*. The following graphic provides a summary description of the capability requirements involved in this commitment.

To meet this commitment, the Laboratory is embarking on two technologies: sustainable manufacturing and predictive science and design. As shown in the graphic on the following page, sustainable manufacturing will be used for pit production and rapid prototyping. It is product driven rather than process driven and will increase the scientific basis for manufacturing. Other benefits of sustainable manufacturing include the following:

- Concurrent design-manufacturing has the potential to optimize the Laboratory's capabilities and technologies,
- Small lots with very high acceptance rates,

- Sustainable, state-of-the-industry technologies,
- Flexible manufacturing from one design to another, and
- Robust in-situ and non-destructive inspection technologies.

Predictive science and design will be used to closely integrate simulation and experimental programs. It will provide science-based understanding of uncertainties and exploit margins to avoid risk. Other benefits of predictive science and design include the following:

- Use quantifications of margins and uncertainties as a technical decision basis,
- Enhance test readiness as insurance and resource, and
- Legacy of predictive ability to address evolving requirements.

As discussed earlier in this chapter, the Nuclear Weapons Program Directorate will be overseeing the development of Five-Year Program Element Plans, Five-Year Project Plans, and activity worksheets for the Laboratory's nuclear weapons program. As these plans are implemented, infrastructure, facility, and technological needs will be clearer and become an integral part of developing the TYCSP.

A critical aspect of future programming will be to balance weapons program investments with those from other funding sources. Los Alamos is striving to become a responsive infrastructure laboratory that can successfully perform stockpile stewardship missions as well as make appropriate investments in infrastructure and technology. Recent progresses on the Laboratories' nuclear facilities consolidation projects (discussed in other sections of this document) will greatly enhance the infrastructure which supports Stockpile stewardship missions. As new infrastructure nears readiness, the technology enhancements and

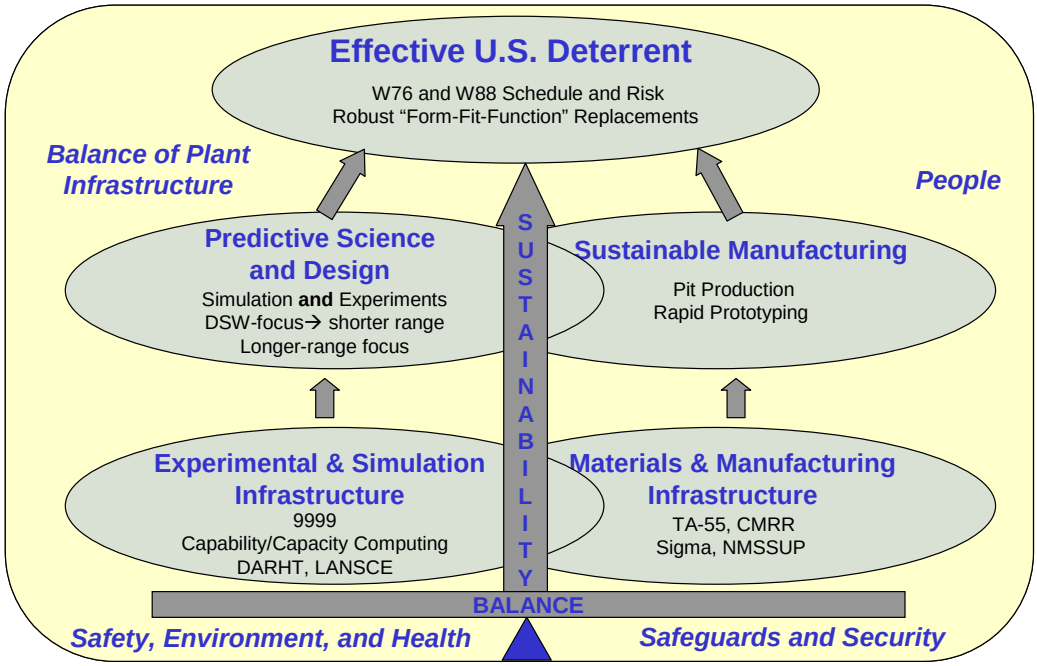


Figure 3-1: Building and maintaining an effective deterrent comprises many elements.

replacements associated with stewardship will be evaluated for inclusion in this new infrastructure.

Manufacturing Technology

The Laboratory will need to adopt new machining platforms that embody solid technical performance, state-of-industry control architectures, and compatibility with on-machine probing and in-process quality assessment. For inspection technology, the Laboratory needs to adopt inspection platforms that are preferably non-contact, have rapid data acquisition, and can be flexible in terms of types of parts being inspected. Additional needs include a model-based engineering approach that embodies all aspects of product life cycle, namely design, performance simulation, manufacturing, initial inspection, and field inspection.

As mentioned above, an example of an infrastructure project currently underway is a radiography facility for nuclear operations that would obviate the need for material transport and shipment. As the project continues working through the critical decision process, the inclusion of technologies, such as digital radiography and computed tomography, will be evaluated for inclusion in the project.

There is a Laboratory initiative funded under the NNSA Advanced Design and Production Technologies (ADAPT) program to incorporate models-based approaches into manufacturing. Over the next few fiscal years, there will be efforts aimed at machining operations in which on-machine inspection data will be utilized in a models-based context to provide near real-time comparisons between required shape and as-built shape for various components.

Several non-contact metrology projects are being pursued currently at the Laboratory with the aim of assessing these technologies in a Stage-Gate Technology selection process. The criteria to be used in the final down-select will include ability to meet measurement specifications, compatibility with various operating environments such as the nuclear manufacturing environment, and maintainability and ease of use.

Under the auspices of the ADAPT program, the Laboratory has launched an effort to validate and deploy an in-process quality approach on several key manufacturing operations. This two-year plan will develop a series of software and sensor tools that can unobtrusively sense and diagnose process quality on-machine and in real time. The project is a partnership with the Kansas City Plant, Savannah River Site, and Sandia-Livermore, so there will be NNSA-wide benefits to this work.

As discussed last year, the Laboratory will continue to pursue technology improvements in manufacturing. Inspection technology and machining technology are two key areas in which significant strides can be made by migrating to next-generation control platforms for machining and to non-contact inspection for dimensional metrology. Current scrap rates can be reduced by up to 30% by migrating to next-generation machine tool technology. For nuclear operations, in-line chemical

analysis could reduce the current manufacturing critical path by 30% if in-line chemical analysis can be validated and deployed. Advanced digital radiography and computed tomography would again reduce the critical path for inspection. In addition, new uranium casting technologies are being developed in conjunction with the Y-12 plant to further streamline uranium manufacturing capabilities.

Analytical Chemistry and Materials Characterization

Recently, the scope of the CMRR Line Item Project was reduced, necessitating analysis of the Project's capability to support a given suite of defense-related programs. This scope reduction increases the risk relative to programmatic support and necessitates an increased reliance on technological improvements in the analytical chemistry/materials characterization (AC/MC) area. Fortunately, technology in the AC/MC analysis areas is trending toward smaller instruments (reduced footprint requirements) and smaller sample sizes (reduced material requirements). The use of AC/MC by the programs is also a factor that can affect the required size of a facility. Technological analysis of the AC/MC operations will accomplish the following:

- Utilize pit manufacturing, pit surveillance and certification process flow diagrams and requirements documents to determine the capabilities that will be needed to analyze samples required to support the Los Alamos DP missions;
- Utilize subject matter experts and AC/MC process flows to determine the number of "tasks" that each capability could perform;
- Project annual number of tasks per capability based on historical records, process flows, and anticipated futures of the DP missions. Use this as the basis for estimating equipment requirements;
- Use the estimated equipment requirements and facility specific selection criteria to generate a space utilization plan for the Radiological Facility and the Nuclear Facility within the new reduced CMRR constraints; and
- Utilize space provided within PF-4 to form an interim capability plan to minimize the risk to Los Alamos DP programs during CMRR construction and aid in the early exit from the existing CMR.

A further study is ongoing to revisit requirements and approach for AC/MC in support of Pit Manufacturing, Pit Surveillance and Certification including the possible reduction of samples per pit by eliminating redundant inspections and implementing process controls where warranted. This study would then be used to increase the AC/MC capacity represented by the reduced CMRR. The analysis of AC/MC sample requirements and the planned investment in the CMRR Project are serving to ensure that Los Alamos will be able to support the Stockpile Stewardship Program into the foreseeable future.

Business Practices and the Enterprise Project

Current quality systems are too cumbersome, manually time-intensive, and do not provide actionable metrics for continuous improvement. All these areas must be rectified to have a forward-looking, continuous improvement based quality management strategy.
Los Alamos National Laboratory strives to put its business practices at the same level of excellence as its scientific and technical expertise: The World's Greatest Science Protecting America. The Enterprise Project will help the Laboratory meet this goal. The Enterprise Project is the Laboratory's name for an enterprise resource planning system. The Enterprise Project will utilize an integrated hardware and software architecture to ensure excellence in Los Alamos' business and manufacturing operations and is a key component of ongoing business process improvements at the Laboratory.

The Enterprise Project will guide the Laboratory in re-engineering key processes, capabilities and systems, including:

- Financial management,
- Human resources,
- Supply chain management,
- Information management,
- Project management, and
- Manufacturing.

Enterprise Project Mission

The Enterprise Project's mission is to build Laboratory-wide world-class systems and related processes that will significantly improve specific business operations and program/project management to support the Laboratory's mission. Under the Enterprise Project, the Laboratory will replace some of the stand-alone, custom business software systems with a single, integrated system that will allow better management of Laboratory resources. When completed and fully implemented, the Enterprise Project will:

- Enable rapid, cost-effective delivery of the Laboratory's research and development product,
- Move the Laboratory toward best business practices,
- Increase the Laboratory's compatibility with other DOE/NNSA-University of California laboratories,
- Allow managers to make decisions based upon complete, accurate and timely data, and
- Lower the long-term cost of doing business.

In April 2004 Los Alamos formally adopted the Enterprise Project's Phase 1 scope, schedule and budget baseline. The baseline, as amended through formal change control, includes the project's mission statement, project management plan, program requirements and functional requirements, which together define tasks through December 2005, including more than 7,300 scheduled activities. The Project's second phase, which runs through FY06, has been incorporated in the baseline in the form of planning packages; these planning packages will be converted into work packages at the end of FY05.

The Enterprise Project operates under formal project management principles, including the following:

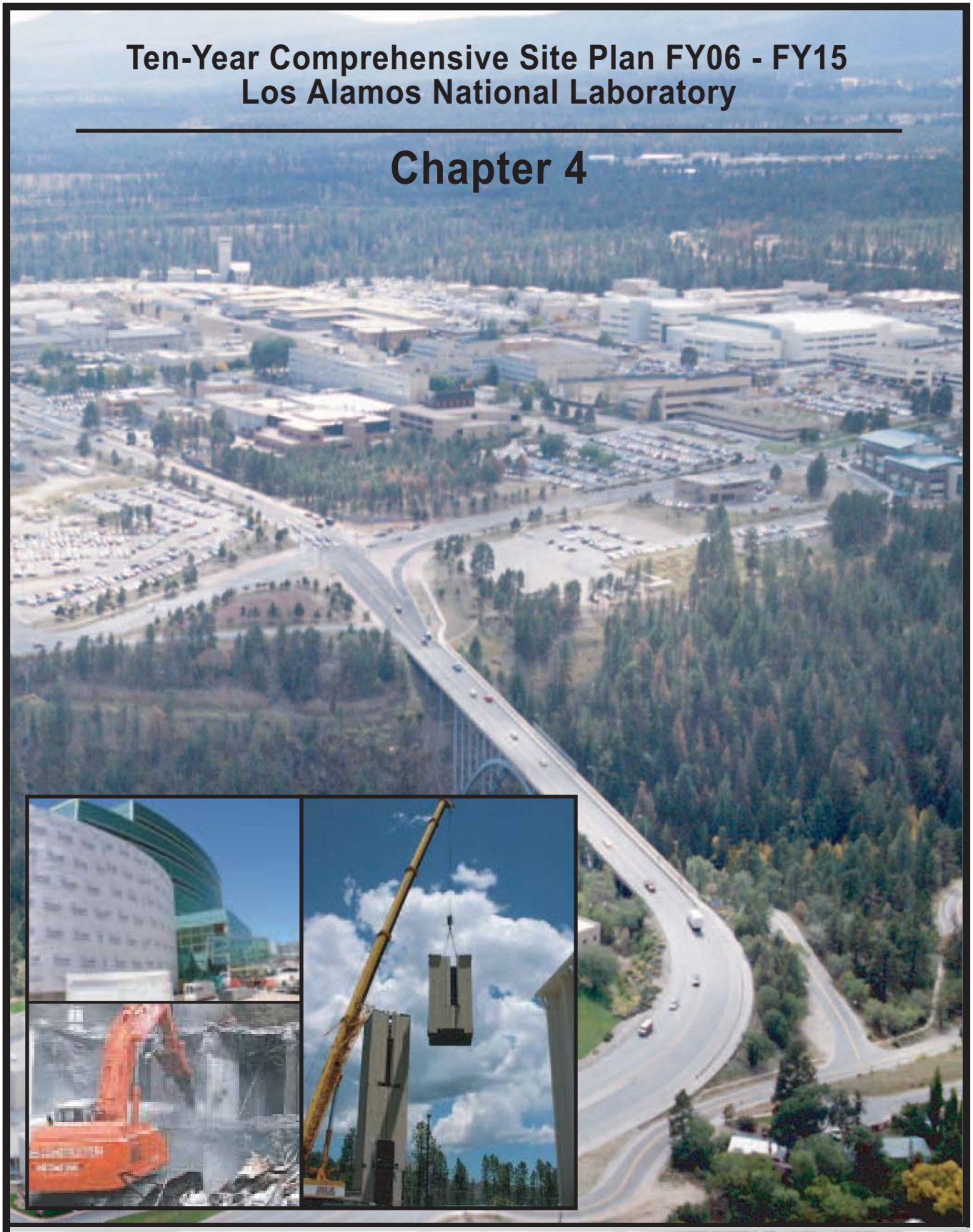
- An experienced management team;
- Formal processes for managing risk;
- Systems for reporting and tracking project controls; and,
- Internal and external oversight mechanisms.

The Enterprise Project will involve everyone across the Laboratory, from the Director to workers on daily tasks. Because the project provides mechanisms for employees to perform a wide variety of functions — from controlling direct deposits to managing large, complex projects — it is beneficial across the institution. The Enterprise Project truly gives Los Alamos a better way of doing business. The current "budgetary" estimate for the Enterprise Project is about $160M. The term "budgetary" is important because the cost estimates for FY06 has not been validated yet. This budgetary estimate is being refined as part of the Phase 2 planning and implementation.

The Enterprise Project will touch everyone across the Laboratory. Because the project provides mechanisms for employees to perform a wide variety of functions — from updating personal information to managing large, complex projects — it is beneficial across the institution. The Enterprise Project truly gives Los Alamos a better way of doing business. The current "budgetary" estimate for the Enterprise Project is about $160M. The term "budgetary" is important because the cost estimate for FY06 has not been validated yet at the detailed level. This budgetary estimate is being refined as part of the Phase 2 planning and implementation, however, LASO has approved the Phase 2 conceptual plan, including the high level budget estimate.

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Chapter 4



The Plan

4.1 PLANNING PROCESS

The FY06 TYCSP focuses on physical assets that support the Laboratory's missions and operations. It is one element of Laboratory strategic planning that includes NNSA and Laboratory requirements (in specific areas) and takes input from other plans to define facilities needed to accomplish the Laboratory's mission. Figure 4-1 diagrams the relationship of the TYCSP to other plans. Laboratory strategic planning processes evaluate four levels that build upon each other to achieve scientific and operational excellence. These levels are represented as *mission objectives, permit to operate, operational plans, and supporting plans*.

The *mission objectives* level defines the Laboratory's scope of work. It is developed through a top down strategic planning process, which includes development by the Laboratory's senior management of annual strategic goals in each program area.

Environmental protection, health and safety, and technical limits are defined at the *permit to operate* level. The SWEIS and supporting plans that address individual projects (e.g., environmental assessments) and site-wide management plans (e.g., Integrated Resource Management Plan) define operating envelopes. Health and safety of personnel and the public and technical requirements for the operation of specific facilities are evaluated in the AB process. These plans provide key operating limits that may affect facility planning.

Figure 4-1: The Laboratory's institutional planning.

The *operational plans* depicted in Figure 4-1 are sitewide in nature. They are interrelated in that each plan relies on information from and provides information to the other plans. Operational plans provide guidance and information from which facility investment plans are drawn or refined and included in the TYCSP process. The Site Safeguards and Security Plan provides vulnerability analyses results that support Safeguards and Security management and planning actions for the protection of DOE/NNSA assets. Program plans and budgets provide insights into prioritization and growth sectors. The workforce plan includes critical skills requirements and broad estimates of changes in the workforce population based on budget projections that in turn drive space requirements to house the population.

Supporting plans further define and assist Laboratory implementation of operational plans and mission programs. They generally present physical development recommendations and proposals from site-wide to site-specific levels. Only supporting plans that address facility investment are depicted for this TYCSP.

The TYCSP is also aligned with Laboratory policies and procedures that provide expectations for operations.

TYCSP Planning

Planning for the TYCSP includes a thorough review of the various Operational and Supporting Plans (Figure 4-1) to gather relevant information and to assure consistency with the Laboratory's stated expectations. These plans provide goals and assumptions (see summary below) that this TYCSP must maintain.

The TYCSP development process is collaborative and engages organizational owners of various Laboratory operational plans, Laboratory facility managers, line managers, and subject matter experts from various disciplines across the Laboratory (e.g., utilities, condition assessments, budgets, programs, and human resources). The DOE Facility Information Management System (FIMS) data are reviewed and analyzed and provides the

Goals

Comprehensive Site Plan
- Identify vision, principles, and strategies for physical systems

Area Development Plans
- Recommend best land-use for specific geographical areas

Facility Planning
- Identify more cost efficient approaches to perform future missions
- Propose structures (new or modified), land-use, and site selection to meet organizational strategic needs

Master Planning
- Propose structures (new or modified), land-use, and site selection to support area development.

Assumptions

- Strong mission focus with limited budgets will require that existing and future capabilities be carefully evaluated for long-term facility configuration.
- Budgets for facilities (new construction and improvements) will decline during the planning horizon.
- Security requirements will drive transportation and site selection considerations.
- Environmental concerns will continue to impact project approaches and cost.
- Transition points for NEPA review, space management, and project launch will be improved.
- Flexibility in implementing plans will enhance success.

basis for evaluation of facilities. Figure 4-2 represents the planning process specific to the TYCSP.

The TYCSP planning process (Figure 4-2) is a linear approach that evaluates cumulative facility requirements, including budget and future missions. Facility requirements result from various planning efforts, including area development planning, site specific master planning, and program specific facility planning, that rely on the Comprehensive Site Plan 2000 and 2001 to define key planning assumptions and direction.

The facility needs identified during these efforts are further developed into proposed construction projects by the Laboratory's operating organizations and submitted during an institutional call. Submissions provide definition, estimated cost, and prioritization within the requesting organization. The call includes all categories of funding (Line-item, general plant project (GPP), IGPP, and Expense) and all sources of funds (NNSA and non-NNSA). Proposed projects are grouped for review and prioritization by the Laboratory's senior management. These projects then become part of TYCSP and are included in Attachment A. Subject matter experts throughout the Laboratory are involved in a parallel review of all projects in a separate PR-ID system, which ensures consistency with other operational and supporting plans.

Figure 4-2: The TYCSP planning process.

Progress on Meeting Performance Measures and Indicators

FIRP

The FIRP has defined performance indicators for its two primary subprograms, Recapitalization and Facility Disposition, which are reported in the FIRP annual Implementation Plan. The previous performance indicator for Infrastructure Planning has been eliminated. A new performance indicator for Facility Condition Index has been included to track NNSA progress towards achieving the corporate FY09 deferred maintenance goal. The indicators and the Laboratory's implementation status are as follows:

- Annual dollar value and cumulative percentage of FY03 deferred maintenance baseline funded for elimination by FY09 (and cumulative percentage for the estimated total complex-wide deferred maintenance of $1.2 billion to be reduced).

In FY03, projects that were authorized reduced deferred maintenance by $24.8M. In FY04, projects that were authorized reduced deferred maintenance by $28.1M. In FY05, projects that were authorized reduced deferred maintenance by $15.9M. In total, projects have been authorized that reduce deferred maintenance by $68.8M or 5.7% of the $1.2B complex goal.

- Annual GSF of NNSA excess facilities space funded for elimination and cumulative percentage eliminated from FY02 to FY09 (for NNSA goal of eliminating three million GSF of excess facilities).

In FY02, FY03, FY04, and FY05, the Laboratory has been authorized to dispose 52,684, 109,795, 90,465, and 64,438 square feet, respectively with FIRP funding. The total area reduced by the FIRP from FY02 to FY04 is 252,944 square feet or 8.4% of the 3,000,000 square feet goal for the NNSA complex.

RTBF/Operations of Facilities

The applicable RTBF/Operations of Facilities Performance indicators for FY06 and the Laboratory's implementation status are as follows:

- Percentage of scheduled days that mission essential facilities are actually available to support work.
- Number of Reportable Incidents/200,000 hours of work.

These two performance indicators have been included as part of the Appendix F performance measures that are agreed upon between the Laboratory and the Los Alamos Site Office. They are reported to LASO on a quarterly basis.

- By FY09, achieve a complex-wide aggregate FCI for mission essential facilities and infrastructure of good or better (less than 5%).

Progress in achieving this indicator is discussed in Section 4.1.6 of this plan and illustrated in Attachment F.

NNSA Corporate Goals for Deferred Maintenance Reduction

- By the end of FY05 NNSA will stabilize its deferred maintenance
- By the end of FY09 NNSA will:
  - Aggressively reduce deferred maintenance to within industry standards
  - Return facility conditions, for mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance divided by the replacement plant value (RPV) is equal to or less than 5%)
  - Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards

Section 4.1.5 of this plan, Deferred Maintenance, discusses the Laboratory's plan to meet the NNSA corporate goals while Attachment F shows current and projected progress in improving facility condition and reducing deferred maintenance.

4.1.1 Facilities and Infrastructure Overview

More than half of Laboratory facilities are currently greater than 30 years old, including nuclear and non-nuclear facilities. Over the next 10 years, facilities aged 30 or more years old will increase to 7 million GSF. A dedicated revitalization effort is important for the long-term viability of the Laboratory.

Attachment C contains a summary of the current condition by use for all facilities listed in the Laboratory's FIMS database as of June 2005. Figure 4-3 shows a summary of current condition based on the six condition categories utilized in FIMS.

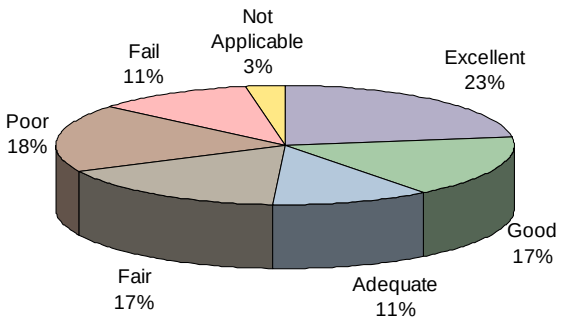


Figure 4-3: Summary of current condition by gross square feet

The Laboratory's FIMS database inventories only DOE real property; therefore a number of small storage facilities, mostly trailers and transportainers, are not included. Not all space in FIMS has been assigned a condition score, such as space the Laboratory leases from private entities and other miscellaneous facilities.

The Laboratory's projected sitewide FCI for the end of FY05 was 8.6%, or "adequate" condition. This FCI demonstrates an improvement in overall condition since the end of FY04, when the sitewide FCI was 9.5%. As illustrated in Attachments F-4 and F-5, the sitewide condition is anticipated to improve over

the next 10 years. Figure 4-4 shows a summary of projected future condition, and sitewide FCI is anticipated to be 6.3%.

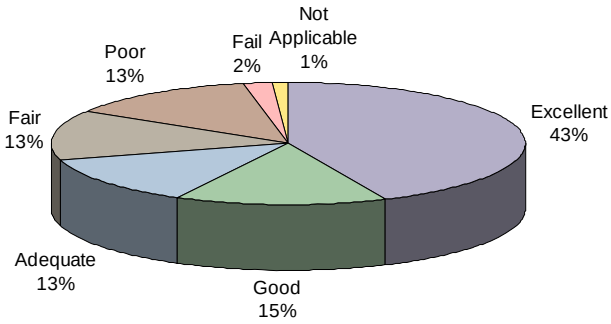


Figure 4-4: Summary of projected future condition by gross square feet

Facility conditions will improve due to the reduction of deferred maintenance, D&D of facilities in poor and failing condition, and the construction of new facilities. As such, the Laboratory will be in a better position to meet mission requirements.

An important element in ensuring that facilities can meet mission requirements is adequate maintenance. NNSA has recognized that many sites throughout the complex, including Los Alamos, have not performed all maintenance activities in a timely manner. This has resulted in a *deferred maintenance*, which directly impacts facility condition and performance. The first step in NNSA's initiative to restore, revitalize, and rebuild the complex is to reduce deferred maintenance, thus ensuring that existing facilities can meet current and future mission requirements. NNSA has established complex-wide corporate goals for deferred maintenance reduction, and the Laboratory has committed to achieving these goals.

In three following sections, 4.1.5—Deferred Maintenance, 4.1.6—Site Plan to Meet NNSA Corporate Goals, and 4.1.7—Maintenance, the Laboratory's efforts to identify the current deferred maintenance, determine the overall condition of facilities, and steps to achieve the corporate goals are described.

4.1.2 Condition Assessment Survey

4.1.2.1 Condition Assessment Process

The Laboratory relies on the DOE Condition Assessment Survey (CAS)/ Condition Assessment Information System (CAIS) to assess the condition of physical facilities, systems and supporting infrastructure. The program is deficiency based, meaning that inspections and associated interviews with facility management staff and cognizant system engineers focus on deficient systems, recapitalization needs (replace in kind), and modernization requirements. The process supports the mission(s) of each facility asset and supporting infrastructure at the site. Before a request for funding is submitted, deficiencies are documented and aggregated into project-level definitions and reported to the FIRP Program Manager and responsible Facility Managers (FMs) for validation. This process provides a suitable basis for asset-management decisions for both mission essential and balance of plant facilities.

CAS Assessment Process and Inspection Frequency

The Laboratory has a limited in-house CAS inspection capability. Qualified inspectors are subcontracted to perform the scope of inspections for the current fiscal year. When scheduled, trained inspectors in the primary technical disciplines (mechanical, electrical, architectural, and civil/structural) conduct field assessments of fixed assets. These non-intrusive assessments capture the visually evident deficiencies.

Inspections are coordinated through the responsible FM and planning staff. CAS inspectors interview the responsible FM, system engineer, and other facility management staff to collect facility and system condition data. These interviews capture the “corporate knowledge” (such as maintenance, recapitalization, and modernization needs) that otherwise would not be evident to the inspector. Results from these interviews are entered into the CAIS2000 database under the structure, system, and component categories.

All mission essential assets were re-inspected in FY04 for new deferred maintenance. The next comprehensive inspection of mission essential facilities is planned for FY07. Balance of plant facilities will be fully inspected again in FY08. In FY05, CAS records for mission essential and balance of plant facilities have been assessed to determine which deficiencies have been corrected. Utility systems have also been re-inspected.

Status of the CAS Process

In December, 2004, a CAS procedure was approved that implements the DOE Order 433.1, *Maintenance Management Program for DOE Nuclear Facilities*, requirements for assessing the physical condition of Laboratory facilities. This process incorporates the requirements of the CAS Program and Zone Inspection Program. These programs ensure the material condition of Laboratory facilities

and assets are maintained in a manner that supports safe and reliable plant operations. The procedure for this process will be implemented for all future inspections of deferred maintenance.

There is currently no linkage between the Laboratory work control system and the CAS process. Accordingly, if equipment is repaired for an item that is captured in CAIS, there is no current means of identifying this work and updating CAIS except by re-inspection or by specific reporting from Project Managers. A project plan for integrating CAIS and the Computerized Maintenance Management System (CMMS) has been developed and will be implemented during FY06.

Summary of FY-05 CAS Results
The FY05 TYCSP DM is based on a snapshot of CAIS and FIMS taken on 8/16/05 and includes RPV models and CAIS cost escalations in FY05 dollars. In FY05, a DM reduction verification effort of all assets identified $40.4M reduction in mission essential asset deferred maintenance and $32.2M reduction in non-mission essential asset deferred maintenance. The effort involved a verification of work completed since the FY03 baseline from multiple funding sources including FIRP.

Data Management

CAS data resides in the DOE CAIS2000 database. Before being entered into the CAIS database, CAS inspection data must undergo review and validation. Inspectors perform a peer review during each inspection. After draft entry into the database, the Laboratory CAS Program Administrator reviews the inspection data. In addition, the responsible Group Leader performs an independent review and is the data approval authority.

4.1.2.2 FY03 Baseline CAS Data Validation

A data-validation process on the FY03 CAS inspections was conducted in March 2004, subsequent to completing the 2003 baseline condition assessment. This corrected data is referred to as the "Certified 2003 Baseline." Table 4-1 summarizes the records that were edited in the CAIS database during the FY03 baseline validation process.

Following the completion of the CAS validation process, the Laboratory's DM decreased by 3%, from $564M to $547M at the end of FY04. Table 4-2 shows the deferred maintenance backlog changes for each Facility Management Unit.

Table 4-1: CAIS database edits.

FMU	Total Record Count *(Any Changes / Additions Since July 2003)*	Added Records Since July FY03 *(Record Count)*	Modified / Completed Records Since July FY03	Deleted Records Since July FY03
FMU-1: Experimental Science East	166	5	161	0
FMU-2: Experimental Science West	96	1	95	0
FMU-3: Distributed Facilities	95	7	88	0
FMU-3S: Support Services Cont. Managed	24	0	24	0
FMU-4: LANSCE	80	1	79	0
FMU-5: ESA & DX	258	10	248	0
FMU-6: Waste Facilities Management (WFM)	68	7	61	0
FMU-6D: Excess	47	3	44	0
FMU-7: TA-55	23	2	21	0
FMU-8: Utilities	30	3	27	0
FMU-9: CMR	6	0	6	0
Unassigned	39	4	35	0
TOTAL	**932**	**43**	**889**	0

Table 4-2: 2003 DM baseline changes by FMU.

FMU	FY03 Baseline	FY04 DM (End of FY04) Production CAIS Database	Change	Percentage Change
FMU-1: Experimental Science East	$40,327,459	$44,160,459	$3,833,000	9.50%
FMU-2: Experimental Science West	$31,997,315	$44,939,672	$12,942,357	40.45%
FMU-3: Distributed Facilities	$73,512,535	$92,088,843	$18,576,308	25.27%
FMU-3S: Support Services Contractor Managed	$13,572,802	$11,585,290	($1,987,512)	-14.64%
FMU-4: LANSCE	$61,501,827	$57,928,410	($3,573,417)	-5.81%
FMU-5: ESA & DX	$61,974,141	$82,741,727	$20,767,586	33.51%
FMU-6: WFM	$38,796,101	$54,979,182	$16,183,081	41.71%
FMU-6D: Excess	$23,138,034	$1,790,803	($21,347,231)	-92.26%
FMU-7: TA-55	$37,115,164	$46,646,094	$9,530,930	25.68%
FMU-8: Utilities	$39,280,830	$59,643,082	$20,362,252	51.84%
FMU-9: CMR	$82,706,239	$50,475,370	($32,230,869)	-38.97%
Unassigned	$60,479,708	$0	($60,479,708)	-100.00%
TOTAL	$564,402,155	$546,978,932	($17,423,223)	-3.09%

NOTES:

1. Growth was primarily due to the assignment of unassigned DM from the baseline and cost adjustments based on CAIS cost-table updates and revised estimates for FMU-1 through FMU -3, and FMU-7.
2. FMU-3S reductions due to completion of DM projects.
3. FMU-4 reduction primarily due to NNSA HQ determining the high-voltage project is modernization (-$18M), CAIS cost table updates, and revised cost estimates.
4. FMU-5 increases primarily due to the re-assignment of asset on the excess list to mission essential (to support mission need).
5. FMU-6 increase due to the addition of contaminated waste line infrastructure to the DM listing.
6. FMU-6D reduction due to the removal of reported DM as per the NNSA HQ guidance for reporting DM for excess facilities.
7. FMU-8 increases due to the inclusion of most records identified as "unassigned" in the FY03 baseline. Decreases occurred because of changes to Los Alamos Canyon Bridge DM.
8. FMU-9 reduction primarily due to adjustments for the CMR roof DM.
9. Unassigned records were assigned to appropriate FMs.

The major change in FMU-6D (the FMU responsible for management of pending decommissioning and demolition (D&D) assets) was that all DM costs *except* for those that address worker, public health, or safety concerns were removed. This effort is allowable per the guidance quoted in the from DOE Headquarters' CAS Program Monitor, which was issued in November 2003:

> "The only deferred maintenance estimates to report are for deficiencies (that if left uncorrected) would result in situations where worker, public health, or safety concerns would result. This guidance was issued in September 2001. If the building is cold and dark and locked up, a visual inspection would indicate $0 for deferred maintenance."

In reporting the D&D DM, the Laboratory originally had followed the requirements from the Facility Transfer Order which required a full condition assessment before an asset was transferred for D&D and all noted deficiencies were recorded. Subsequent guidance from the CAS Program Monitor (quoted above) required that much of the DM captured be removed from the reportable DM. This was accomplished, but all original records in the database affected by this change have been preserved for future reference if necessary.

The second change of note (FMU-9) involved a data-entry error identified during the validation process. The roof square footage for the CMR building was mistakenly entered as the total gross square footage of the asset, thus generating an approximately $32 million (M) baseline error. The data from the structural engineering evaluation was entered and DM re-calculated accordingly.

The most significant FMU-8 change is related to changes in DM cost estimates for the Los Alamos Canyon Bridge. Initial assessments indicated there were deficiencies with the bridge that subsequent structural engineering evaluations discounted as invalid or over-estimated. The correct data were entered and DM re-calculated.

Reduced deferred maintenance in FMU-4 resulted from the NNSA decision to disqualify sub-station and power feeds. Originally defined as deferred maintenance in the FY03 baseline, this project was subsequently determined to be modernization by NNSA Headquarters. This change reduced the reportable deferred maintenance in FMU-4 by $18M.

Some changes were made to "unassigned" assets as a result of corrected cost estimates, unit of measure (square feet, each, etc.) corrections, and completion reports in which deficiencies had been corrected. The remainder of the changes resulted from the re-inspection of the mission essential assets during FY04. Re-inspection showed that deferred maintenance reduction evolutions were carried out, reducing the deferred maintenance baseline. Administrative changes to Attachment F-1 resulting from the certification activities are also described in a note to F-1.

4.1.3 Utilization

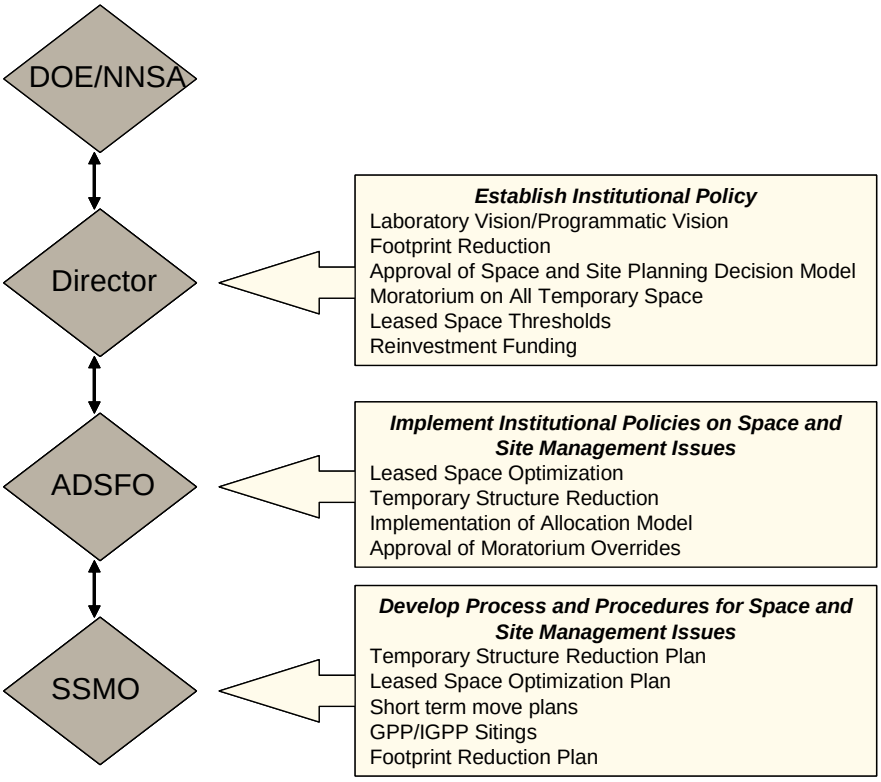
4.1.3.1 Space Management Process

Laboratory space management encompasses all real property owned and/or leased by UC on behalf of DOE/NNSA. The Space and Site Management Office (SSMO) manages the Laboratory's space as an important asset and ensures maximum support for the Laboratory's mission. The Integrated Space Management Program (ISMP) establishes requirements that are implemented for managing space, administering space allocations, managing the occupancy and vacancy of space, managing space changes, excessing space, and reporting space utilization.

The Associate Director for Security and Facility Operations (ADSFO) is the institutional owner of all space. SSMO exercises overall space management responsibility on behalf of ADSFO. Directorates manage the space within their allocation and ensure the overall space management goals and objectives are met at the institutional level.

Additionally, SSMO ensures required refinement and implementation of the ISMP, monitors space management actions across the Laboratory, serves as the Laboratory point of contact for institutional space management issues, and works to integrate institutional space issues across associate directorates.

Figure 4-5: Space management responsibilities.



The ISMP calls for an annual review of space allocation for each directorate. Target allocations are developed based on Laboratory space standards, best practices in space management, budget and programmatic objectives, and other established criteria. The Laboratory utilizes modeling standards for office and office support spaces, including the method for totaling employees housed by each directorate.

Once space is allocated, each associate directorate is responsible for the ongoing management of their space allocation. All space activities, including assignments and/or reassignments, changes in space use, adding new space, excessing space, and siting structures are managed by the directorate and coordinated with SSMO.

Less than 1% of occupiable space is currently vacant and/or underutilized at the Laboratory. Small pockets of available space are found in the TA-3-30 warehouse; however it is serving as institutional “swing space” to meet short term and interim space needs. General office space is a primary space need to replace aging facilities and temporary structures. IGPP and other projects are planned to address this need (Attachment A-5). Other proposed projects in Attachment A are proposed to meet critical needs in laboratory and other specialized space.

4.1.3.2 Recent Activities and Goals in Space Management

Effective stewardship of DOE owned and leased space is at the core of the Laboratory’s space management goals. These include the optimization of space resources through the continued disposition of excess facilities and the application of the Facility Assessment and Ranking System (FAaRS). An active assessment process, together with the continuous forecasting of space demands, will lead to increases in the strategic nature of facility planning, delivery, and use.

Comprehensive Space Management Plan

SMFP has begun to lay the groundwork for FY06 execution of a multi-faceted space management and facility plan. The Comprehensive Space Management Plan will optimize the utilization of space and improve the facility work environment. This plan will effectively link all the forces that are at work in shaping the built environment. New facilities must be balanced with facilities being excessed through the D&D process. Furthermore, the appropriate quantity and quality of leased space must be maintained to provide flexibility in meeting institutional growth and/or attrition.

Footprint Reduction Initiative

Laboratory management is committed to continue the facility footprint reduction initiative begun in FY04. The effort has been concentrated on reducing non-enduring space while ensuring programmatic and mission capability. Additional goals include the following:

- Reducing the deferred maintenance liability,

- Reducing operating and maintenance costs, and
- Improving the overall institutional approach to space management.

The reduction goals are based on space allocation models developed for each directorate targeting office and storage space. The space reduction must be done with an institutional view of all existing space, in conjunction with FAaRs.

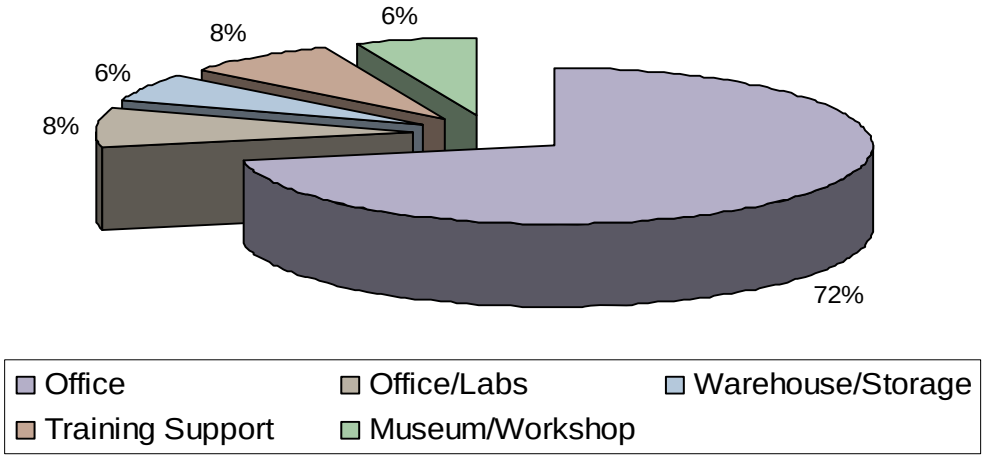
FAaRS

FAaRS is an institution-wide method used to rank and prioritize facilities. The system has evolved into a measurement tool that scores each facility at the Laboratory in several key areas including age, condition, use, and mission support. These criteria are weighted by importance culminating in a disposition rank score. The FAaRS generated recommendation is a key element for facility management decision making, not a determination of final decision. More than half of Laboratory facilities are currently greater than 30 years old, including nuclear and non-nuclear facilities. Over the next 10 years, facilities aged 30 or more years old will increase to 7 million GSF. A dedicated revitalization effort is important for the long-term viability of this Laboratory.

Leased Space

Leased space comprises an essential component of the Laboratory's overall space portfolio. The Laboratory currently houses about 91% of its employees in NNSA space, with the remaining 9% in leased space. The primary function is to serve as a buffer to mitigate temporary shortages of onsite office space. The Laboratory currently leases 49 properties encompassing 450,000 total square feet at an annual cost of $8.5M. Office is the primary use for leased space although there are other specialized uses such as training support and museum/workshop space. Base rental costs are averaging $15 per square foot, and the Laboratory has made a commitment to maintain these costs at reasonable market rates. Data shows that the Laboratory leases 6% of occupiable space, which is similar to

Figure 4-6: Leased space by type.



Sandia National Laboratories (5%) and Oak Ridge National Laboratory (7%), but significantly below the lease rate of Pacific Northwest National Laboratory (32%) and the International Facility Management Association benchmark (23%). Space leased from the Los Alamos County Public Schools comprises 26% of the Laboratory's leased space portfolio.

Each leased space contract is reviewed and analyzed six months prior to the lease expiration. Options for relocation and consolidation are explored and compared to continued occupancy and lease extension. The Albuquerque Service Center approves lease procurements to ensure allowable costs and for other legal issues.

In FY05, the Laboratory initiated a number of processes and programs to better manage leased space. These include formalization of a leased space portfolio, implementation of a tenant brochure, and a leased space study. The latter will result in a greater understanding of the "optimal" size of leased space in relation to the TYCSP and space initiatives.

Data Management and Reporting

Having accurate, timely, and accessible facilities data is critical to the successful management of space resources. While data must be used in conjunction with actual observations and consultations, limitations in the data certainly impact effective management of the resources. Over the past three years the Laboratory has made significant improvements to data accuracy and the tools that create information from the data. The Laboratory maintains facility information for DOE/NNSA in the Facility Information and Management System (FIMS). Twenty-three critical FIMS data fields are tracked on all real property assets at the building/ property level, from acquisition to archival of removed assets.

FIMS data is reconciled quarterly with FIMS and reported to DOE/NNSA. In addition to quarterly reports, monthly samples plans are run to validate all 23 critical FIMS fields. The Laboratory feels that its FIMS data are accurate. Over 805,000 square feet of occupiable facility space has been validated in terms of size, configuration, utilization, and occupancy. Additionally, the Facilities Management system web interface, known as FatMan, has proven to be a valuable tool for space queries.

In addition to the overall data improvements, specific attention has been given to the D&D reporting process. Past discrepancies have existed between facility sizes reported in the FIMS and D&D reports. These discrepancies occurred for various reasons but primarily due to the fact that facility measurements taken by sub-contractors hired for D&D were not consistent with measurement rules outlined by the site following DOE guidance. To avoid further reporting errors, the Laboratory has implemented a new process. Once the list of facilities to be demolished has been developed for the forthcoming fiscal year, a Laboratory employee trained to measure and calculate facility area totals is deployed to validate the FIMS reported areas prior to letting the D&D contract. Contractual language will use the measurements reported in FIMS

unless cause is presented for a re-measurement at the time of the contract negotiations. It is anticipated that discrepancies will be greatly reduced, if not eliminated all together.

4.1.3.3 Summary Results of Space Studies

Table 4-3 summarizes total *occupiable* square footage and personnel assigned by building type. Data were obtained from the Laboratory's space database.

Table 4-3: Summary of existing occupiable space (data as of June 2005).

Building Type	Occupiable Square Feet	% of Total Occupiable Square Feet	Number of Personnel	% of Total Personnel
Permanent	4,495,687	78.8%	12,037	75%
Trailer	110,059	1.9%	684	4.2%
Transportable	256,574	4.5%	1,625	10.1%
Commercial/Leased	347,963	6.1%	1,683	10.5%
Other	495,648	8.7%	16	<1%
TOTAL	**5,705,931**	**100%**	**16,045**	**100%**

4.1.4 Excess Facilities Elimination/Disposition and New Construction

The FY02 Energy and Water Development Appropriation Bill established the requirement that for each site within the DOE complex, the footprint added by construction of new facilities must be offset by the elimination of an equal amount of excess space. Due to existing strategies, the Laboratory has fully supported achieving this requirement. To date, the Laboratory has requested neither an exception nor a waiver to the requirement, and no such request is anticipated. Attachment E documents the accomplished and planned disposition of facilities since FY02 and planned new construction. Although D&D of some facilities cannot begin until replacement facilities are occupied, the "banked" square footage total is not in jeopardy of being less that 100,000 GSF.

The quantity of excess facilities had been increasing at the Laboratory for a number of years. This situation escalated in the 1990s because a significant portion of facilities that were constructed in the 1950s for a Cold War mission driver no longer supported modern mission requirements. With the evolution of building codes, environment, safety, and health (ES&H) requirements, and security standards, the adaptation of many of these facilities was often not economically feasible. Although the Laboratory continues to seek adaptive use options for excess facilities, D&D is often the most cost effective solution.

During the early 1990s, some buildings were transferred from DP to EM for demolition, which was accomplished. However, in spite of a number of submittals of candidate buildings, no further buildings have transferred from DP to EM. In 1998, an extensive quantity of buildings was proposed for removal under a DOE funding initiative that never received funding.

In the absence of any designated D&D funding at the Laboratory, there was an increasing recognition of the risk and cost associated with the growing list of excess facilities. The principal drivers for initiating aggressive D&D include the following:

- Removal of risk (public, environment, and workers) imposed by excessed facilities. This risk is associated with a potential spread of contamination and/or in the degradation of existing non-functional structures.
- Increases of waste disposal costs have been driven by regulatory evolution at a greater rate than inflation, especially considering the metals moratorium. Rising costs associated with postponing D&D will be even more difficult to address in the future when prioritizing against other initiatives.
- Abandoned structures limit options to address future mission requirements. Sites of demolished structures provide siting opportunities for future facilities with minimal environmental issues.
- Eliminate associated surveillance and maintenance costs.

In 1999, DP-10, through RTBF, provided $2M in funding, which was split between

surveillance and maintenance (S&M) of excess facilities and the D&D of 27 small structures. With the same level of funding in FY00, a few more structures were removed, including two contaminated bag houses in the core of TA-3. After the Cerro Grande Fire in May 2000, the Laboratory requested and received approximately $20M to remove debris from damaged and destroyed buildings, in addition to the removal of excess buildings in flood or fire risk areas. The highest profile success was the demolition of the Omega West Reactor. The DP-10 RTBF funding for D&D and S&M budget was $3.8M in FY01 and then $3M in FY02. The FY01 funding accomplished the demolition of the Sherwood complex in the core of TA-3. Beginning in FY03, in accordance with NNSA agreement, RTBF only funded S&M, but FIRP began funding D&D.

As noted above, the Laboratory was successfully removing facilities prior to the FY02 Congressional mandate, including 46,779 GSF demolished in FY01. Through the first three years (FY02-FY04) of the mandate, the Laboratory has "banked" or archived 314,163 GSF of removed footprint. Of that total, approximately 200,000 GSF of D&D was funded by FIRP. FIRP-funded demolition has included such high profile projects as the TA-16-220 Complex and the TA-3 Syllac project. The funding received from FY02 through FY05 (post-mandate) will ultimately achieve approximately 490,000 GSF of footprint elimination. During this same five year period, the Laboratory only brought on-line 42,802 GSF of new space not subject to NNSA's "grandfathered" guidelines.

The progression of D&D activities since 1999 is significant because the Laboratory has established both a level of success and expectations for further removal of excess structures. The Laboratory is working to utilize any possible funding source to remove buildings with no further use. Planned funding sources include the following:

- FIRP – FIRP is the most aggressive short-term sponsor in removal of obsolete facilities (mostly non-contaminated) at the Laboratory through the remainder of this decade.
- Individual Project Funded – Examples include removal of the TA-53 cooling towers in FY02, over 14,000 GSF by the Security Perimeter Project in FY06, and the planned SM-43 (315,000 GSF) demolition in FY07.
- Transfer of Process Contaminated Buildings from DP to EM – The Laboratory has continued to work with NNSA to support strategic planning for EM acceptance of facilities at TA-21. EM has accepted approximately 18,700 GSF of Office of Science facilities at TA-21 for demolition beginning in FY09. Another 164,000 GSF at TA-21

Table 4-4: Summary D&D totals from 2001 to present.

	2001	2002 Archived	2003 Archived	2004 Archived	Ongoing FIRP	2005
GSF Removed	46,779	68,161	136,416	109,586	98,471	78,520
Funding Source	Pre-FIRP	FIRP and other	FIRP and other	FIRP and other	FIRP	FIRP

is proposed for transfer from DP for EM funded disposition.

In the future, buildings will continue to be excessed because of consolidation plans, which require smaller footprints to carry out the current and anticipated mission requirements. Detailed D&D plans (including baseline cost, scope, and schedule) for each project grouping are typically developed in the preceding fiscal year.

In most cases, disposition means are through actual demolition with recycling of materials where appropriate. Some trailers and transportables are sold or excessed with the contractors responsible for removing them from the site. The Laboratory, or DOE, contracts for a majority of D&D work with a number of companies based on a best-value procurement approach. A variety of waste types are anticipated in most structures. Asbestos is considered routine considering the age of each structure. In addition, known contamination and special considerations (such as radiological or historical) are noted in Attachment E-1.

Attachment E-1 provides the total square feet demolished in FY02 and FY03, the list of buildings archived as demolished in FY04, and the list of those structures transferred from owning divisions to the institution, as well as still active facilities planned for future demolition.

Attachment E-2 captures the GSF of proposed construction at the Laboratory, along with the year of beneficial occupancy, for Line Item, GPP, IGPP, and other projects from FY02-FY13. New facilities are noted only for the year they are completed and occupied (year of beneficial occupancy), and construction projects started prior to FY03 are considered “grandfathered” (not counted) against the Congressional requirement for comparing new construction to demolition (one for one requirement).

Attachment E-3 documents the Laboratory’s Grandfathered construction projects (Line Items, GPPs, etc.)

Attachment E-4 addresses the comprehensive “footprint tracking summary” including:

- NNSA footprint summary spreadsheet and an accompanying river chart, and
- Sitewide (multi-program) footprint summary spreadsheet and accompanying river chart. This is not significantly different from the NNSA summaries. The only additional new structure included is the 36,500 GSF Center of Integrated Nanotechnology (CINT) in FY06. The only additional removed structure is the TSTA facility at TA-21 with 18,783 GSF scheduled for EM funded D&D in FY09.

Attachment E-4 shows that the Laboratory will meet the Congressional requirement for no net site growth.

Attachment E-5 is the “LANL Waiver/Transfer Log.” No waivers or transfers have occurred to date involving the Laboratory.

4.1.4.1 Long Term Stewardship

In accordance with DOE Order 430.1B, Long Term Stewardship (LTS) includes the physical controls, institutions, information, and other mechanisms needed to ensure protection of people and the environment where DOE (including NNSA) has completed, or plans to complete, disposition or cleanup (e.g., landfill closures, remedial actions, removal actions, and facility stabilization). This concept includes land-use controls, monitoring, maintenance, and information management. (DOE O 430.lB, Real Property Asset Management).

The NMED Consent Order became effective in March 2005 and includes specific technical requirements and schedules for completing legacy contamination investigations and corrective actions at the Laboratory by December 2015. As such, the Consent Order presents a significant driver for developing the scope, direction and eventual schedule for a Laboratory-specific LTS Program. The role of the Consent Order in shaping the Laboratory's future LTS is currently undefined but is under consideration.

The Environmental Restoration (ER) Project at the Laboratory has planned an out-year budget baseline of $106,102,704 for LTS activities for the period 2016 – 2070 after the DOE EM mission is completed. The funding source has not yet been identified but LTS activities are planned for site cleanups that are projected to leave residual contamination. LTS activities are anticipated to include field surveillance and information management maintenance.

The Laboratory does not have a formally declared LTS Program per DOE O 430.1B. The Laboratory is, however, also implementing an institutional Environmental Management System (EMS) per DOE Order 450.1– *Environmental Protection*. DOE Order 450.1, issued January 15, 2003, requires the laboratory to implement an EMS by December 2005 that:

1. Provides for the systematic planning, integrated execution and evaluation of programs for public health and environmental protection, pollution prevention and compliance with applicable environmental protection requirements;

2. Includes policies, procedures and training to identify activities with significant environmental impacts to manage, control and mitigate the impacts of these activities, and to assess performance and implement corrective actions where needed; and,

3. Includes measurable environmental goals, objectives and targets that are reviewed annually and updated.

The Laboratory has committed to seeking International Organization for Standards (ISO) 14001 certification of the EMS as a commitment to reducing future environmental liabilities. A third-party audit for compliance with ISO 14001 has been initiated and is on schedule to be completed in time to ensure implementation of an EMS by December 2005.

The EMS will be implemented in coordination with other existing programs and procedures. Collectively, the EMS and Consent Order will functionally address the intent of a LTS within the policy framework of DOE O 430.1B.

The majority of funding for managing, decontaminating and decommissioning contaminated facilities is currently provided through NNSA Programs (via FIRP and RTBF Programs). Cleanup and remediation of contaminated sites (e.g., MDAs and potential release sites (PRSs)) is funded through DOE EM Programs (see ES&H section). The following summaries provide a description of Laboratory activities that are most relevant to implementing a LTS Program as described in DOE O 430.1B.

Environmental Restoration

The scope of the ER project is to investigate whether hazardous chemicals and/or radioactive contamination are present as a result of past Laboratory operations and to clean sites to levels protective of human health and the environment. The ER Project consists of 2,124 PRSs, of which 824 remain to be assessed. Project activities are located in eight watersheds and include investigating Material Disposal Areas, canyons and sediments, as well as groundwater characterization and protection activities. The ER Project is scheduled for completion in FY15. The present projected cost of this project is $729M, spread over the years FY06 to FY15. An additional $177M in FY08-FY15 over target funding has been requested from DOE/EM to address anticipated additional remediation costs that were not included in the original baseline or Performance Management Plan.

As described in Section 4.1.4.1, the ER Project has planned an out-year budget baseline for LTS activities for the period 2016 – 2070.

D&D

Many ER corrective actions at TA-21 and TA-54 cannot be completed without the D&D of excess, process-contaminated buildings. At TA-21, there are approximately 100,000 GSF of these excess, process-contaminated facilities in DP West. These facilities are currently in surveillance and maintenance (S&M). Most of these facilities have PRSs beneath them that cannot be investigated, and if necessary remediated, until these facilities have been removed. There are known contaminated lines and historic releases beneath many of the facilities.

Neither EM nor NNSA has any funding programmed for the D&D of these structures. The projected cost for conducting the D&D for the highly contaminated facilities between FY07 and FY10 is $96M. Costs for D&D FY09 through FY15 are currently estimated to be approximately $40M for non-process contaminated structures, and $96M for process-contaminated structures.

Contaminated Structures Left in Place

Many areas with legacy contamination cannot be remediated by 2015 because they are still in use. Examples include the Laboratory’s active firing sites, the

existing system of buried radioactive liquid waste collection lines, as well as many sanitary waste lines that were contaminated during past operation. These will be managed in place so long as they are needed for active operations. When no longer needed, they will be remediated by NNSA. Since these structures are contaminated, there will be additional cost associated with maintenance or new construction.

Industrial Zone Restrictions

Many contaminated sites will be remediated only to industrial use standards (in part because cleaning to residential or unrestricted use standards is prohibitively expensive). Future construction, maintenance and other activities will be more expensive in any case where these “brownfields” require additional environmental controls or monitoring.

4.1.5 Deferred Maintenance

A primary indicator of the overall health of a facility is the amount of maintenance that has been deferred (maintenance that was not performed when it should have been and delayed until a future period). Reducing DM associated with NNSA's facilities and infrastructure is a visible and measurable improvement to the nuclear weapons complex long-term viability. NNSA committed to Congress in testimony that DM will be stabilized by FY05 and reduced to within industry standards for mission essential facilities and infrastructure by FY09. These commitments are NNSA's demonstration of accountability for the significant resources the Office of Management and Budget and Congress are providing to the FIRP Program.

The NNSA established corporate goals for DM reduction at the first Deferred Maintenance Reduction Summit on July 25, 2002. The Deferred Maintenance Reduction Summits established a clear commitment by NNSA Headquarters, the Field Site Offices and the Management and Operating contractors, to the NNSA corporate goals of DM reduction and agreement on the path forward. The NNSA will report specific Deferred Maintenance Reduction targets (expressed as burdened dollars and percentage reductions from the baseline) in the Congressional Budget Request. This information will also be used in making funding decisions.

4.1.6 Site Plan to Meet NNSA Corporate Goals

The Laboratory has developed a plan to achieve NNSA corporate goals for DM reduction. Revision of this plan as a result of lower FYNSP funding profiles is in progress. Figures within this section and Attachments A and F are reflective of the revision as of issuance of this document. As agreed to during the Third Deferred

NNSA Corporate Goals for Deferred Maintenance Reduction

- By the end of FY 2005, NNSA will stabilize its deferred maintenance.
- By the end of FY 2009, NNSA will:
  1. Aggressively reduce deferred maintenance to within industry standards;
  2. Return facility conditions, for mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance/replacement plant value less than 5%);
  3. Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards.

Maintenance Reduction Summit of May 20-21, 2003, the Laboratory's DM baseline consists of the FY03 DM and replacement plant values. Originally presented in the final FY04 TYCSP, these values were modified to consider DM disposition actions completed prior to the beginning of FY05 and facility assets that have been inactivated before that time. Revised FIMS models for calculating RPV have been used to refine estimates of facility and site facility condition index (FCI) for DM prioritization and scheduling process.

4.1.6.1 FY05 Deferred Maintenance Stabilization Goal

In the FY06 TYCSP Guidance, NNSA has defined implementation of the FY05 deferred maintenance stabilization goal as:

> *The FY 2005 stabilization corporate goal will be measured as the continued decline of deferred maintenance from the 2003 baseline through FY 2005.*

Attachment F-3 demonstrates that the Laboratory has fully met this goal with the DM total being reduced from $564M in FY03 to $486M (a total reduction of $78M) at the end of FY05 as shown in Attachment F-2, *NNSA Deferred Maintenance Total*. This reduction was accomplished through the CAIS database certification process discussed in 4.1.2.2 and the buydown of deferred maintenance primarily through the FIRP program and also directs (RTBF) and indirect (institutional) maintenance funding as well as the completion of some line item projects. This reduction was validated in FY05 by a review of the CAIS records.

4.1.6.2 Meeting the FY09 Corporate Goals

The corporate goals for FY09 are twofold: aggressively reducing the deferred maintenance backlog for mission essential facilities to within industry standards of good to excellent; and, implementing facility management practices such that facility conditions are maintained in the good to excellent condition. The Laboratory's plan for deferred maintenance reduction relies primarily on the FIRP with some support from line item construction and RTBF strategic investments. Projects for achieving this are shown in Attachment A.

The second goal will be achieved through a strategy that was outlined in Section 3.2. Key activities in this strategy include Nuclear Facility Consolidation, Strategic Investments and Footprint Reduction, and Improved Facility, Project and Program Management. In order to meet the future funding constraints in RTBF, consolidation and footprint reduction are fundamental in this strategy. As outlined later in Section 4.7, a number of projects are underway that initiate these activities. Improvements in facility, project, and program management are underway as stated below and Section 3.2.

Attachment F Results

In the first quarter of FY05, the Laboratory submitted the FIRP Congressional Tables which provides a listing of the DM projects and other projects required to meet the FY09 corporate goal. The reduction of DM

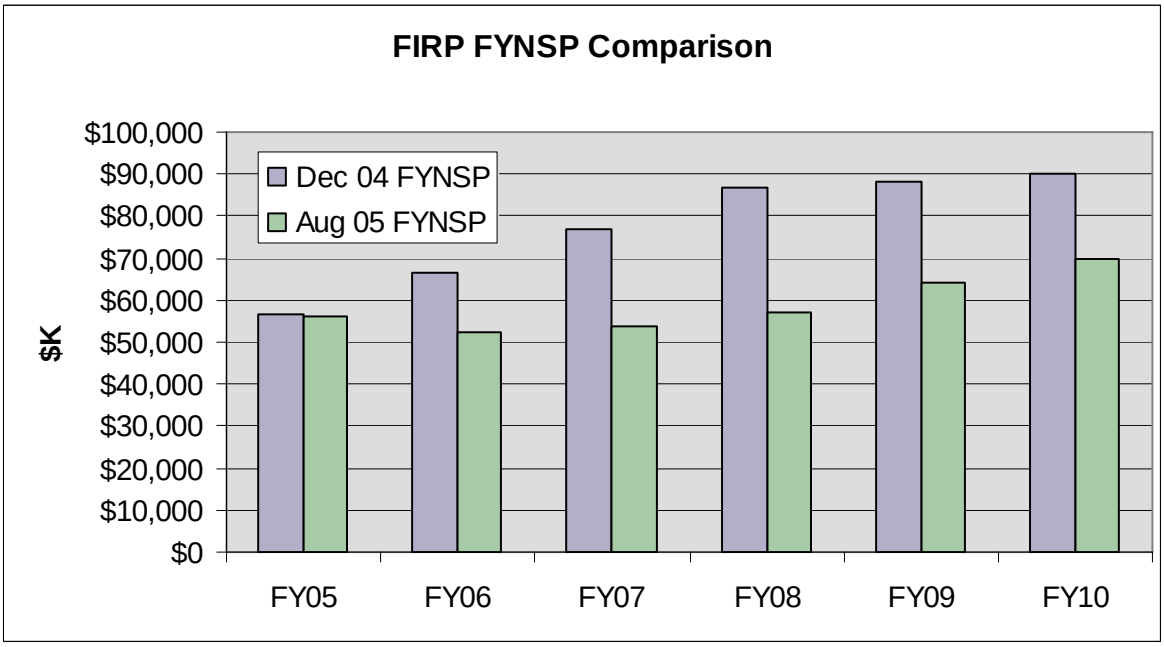
shown in Attachments F-1 and F-2 are consistent with the projects listed in the FIRP Congressional Tables as modified by the schedules in Attachment A. These projects are drawn primarily from the FY03 deferred maintenance baseline but do include some projects with deferred maintenance that is outside the FY03 baseline.

The FIRP funding profile has been reduced as specified in the FY05 FYNSP guidance. As shown in Figure 4-7, there is a large reduction in anticipated funding from FY05 through FY09. The Laboratory is only able to meet the facility condition index goal in FY09 by making strategic investments by RTBF in FY08 and FY09.

Attachment F-3 shows a continuing decline of the Laboratory's DM from FY03 through FY11. The value of DM rises starting in FY12 as the FIRP program ends. The need to apply funds to manage this growth is discussed in subsection 4.1. Attachment F-4 shows the plan for meeting the corporate goal of a 5% FCI for mission essential facilities in FY09 based on executing the projects shown in Attachment A. In FY09, the mission essential facility FCI is projected to be 4.87%.

It should be noted that the data in Attachment F related to mission essential facilities is greatly influenced by the non-enduring CMR facility. Its RPV is roughly 50% of the RPV of the entire mission essential portfolio. Its presence influences both the FCI calculation and the maintenance calculations. While Los Alamos will meet the FCI of 5% or less in FY09 for all mission essential facilities, if CMR is excluded for this calculation, this goal is not met for enduing mission essential assets until FY10 and for all mission essential assets until FY12.

Figure 4-7: FIRP FYNSP comparison



Therefore, continued funding of FIRP beyond FY09 is needed. In the area of maintenance, the Laboratory is purposely not funding maintenance at the required level because CMR is not an enduring facility. As discussed later, the CMR is the primary contributor to the gap between required and planned maintenance. In addition, the CMR Replacement facility has an impact on the tables in Attachment F. In Table F-4, the reduction in FY12 in the FCI is a result of CMR Replacement becoming operational and the rise in FY14 is a result of CMR being taken out of the facility inventory.

Attachment F-5 shows the balance of plant goal of less than 10% FCI will be met in FY06 with an overall FCI of 9.87% for balance of plant assets.

Improvement in Budget Processes

Budgetary processes were updated for the FY05 maintenance budget to improve capture of maintenance costs consistent with the Uniformat II Work Breakdown Structure (WBS). This approach allows capture of costs by major systems and building. These maintenance costs are reported in the quarterly Integrated Facilities and Infrastructure crosscut budget reports. Maintenance WBS items include the following:

- Foundations and Sub-Structures,
- Exterior and Super-Structures,
- Roofing,
- Interior and Interior Partitions,
- Conveying Systems,
- Plumbing Systems,
- Mechanical Systems,
- Fire Protection Systems,
- Electrical Systems,
- Specialty Systems,
- Access Control,
- Physical Barriers, Fences and Equipment, and
- Facilities Management.

Budget costing is accounted monthly for each FMU, trends evaluated, and rapid corrective actions taken to resolve under or over costing. The Laboratory maintenance budget includes security infrastructure as discussed in Section 4.5.1 of the FY06 TYCSP Guidance.

Development of Annual Maintenance Planning

Annual maintenance planning is also being improved so maintenance resources are targeted to ensure the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards. For FY06, nuclear facilities will have annual maintenance plans that address funding requirements for the following activities:

- Recurring major maintenance items such as component overhaul, inspections, and rebuilds,
- Timing of planned maintenance and facility or equipment outages,
- Major projects and modifications requiring maintenance organization involvement,
- Planning for equipment replacement as components reach the end of their service lives,

- Budget changes or projects that may divert large amounts of money from maintenance activities, and
- Needs for DM reduction.

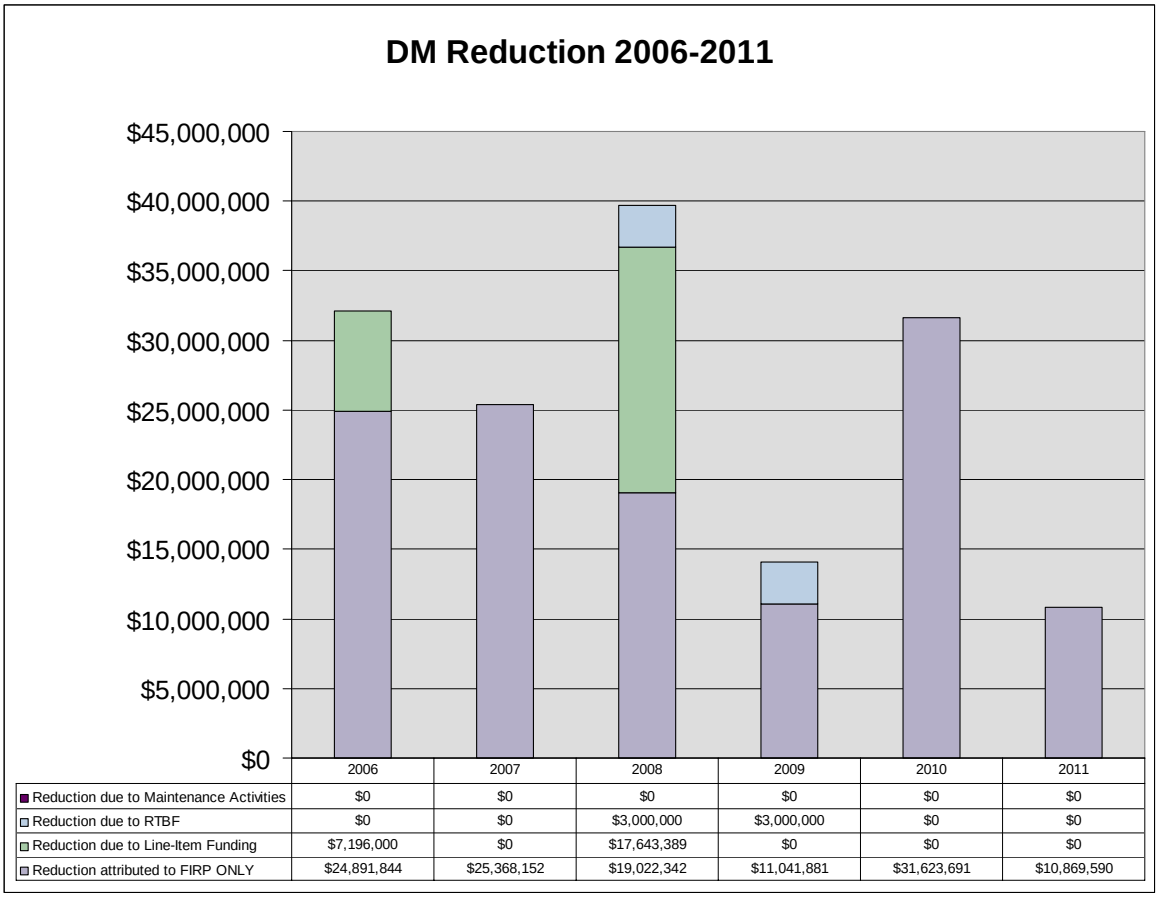
4.1.6.3 Deferred Maintenance Reduction by Funding Source

Attachment A of the FY05 TYCSP includes a column of the DM reduction expected from line item, FIRP and RTBF projects. This information was incomplete in the FY05 TYCSP, but is presented in the FY06 TYCSP with projects that are sufficiently scoped to support determination of DM reduction. As summarized in Figure 4-8, with the exception of project schedules which are taken from Attachment A, FIRP projects listed in Attachment A are aligned with the FIRP Congressional Tables.

The FIRP values in Figure 4-8 are taken from Attachment F-2, 4.1.A plus 4.B.1. Direct and indirect maintenance budgets are expected to make a contribution to DM reduction that has yet to be estimated.

The deferred maintenance items that have been repaired and confirmed complete during the FY05 project verification process show that, coupled with $15.9M of FIRP project completions, the

Figure 4-8: Deferred maintenance reduction contribution by funding source



	2006	2007	2008	2009	2010	2011
Reduction due to Maintenance Activities	$0	$0	$0	$0	$0	$0
Reduction due to RTBF	$0	$0	$3,000,000	$3,000,000	$0	$0
Reduction due to Line-Item Funding	$7,196,000	$0	$17,643,389	$0	$0	$0
Reduction attributed to FIRP ONLY	$24,891,844	$25,368,152	$19,022,342	$11,041,881	$31,623,691	$10,869,590

remaining $56.7M of funding was primarily through line item construction and normal direct and indirect maintenance accounts.

As noted earlier, the deferred maintenance reduction plan is being revised to match the FYNSP funding profile, and the figures herein are reflective of the plan revision as of issuance. Actual FIRP projects planned under new spending profiles are indicated in Attachment A-4.

Inflation

Previously, the Laboratory assumed a 2% inflation rate for the Attachment F models. This inflation rate has been adjusted to be consistent with TYCSP guidance. The inflation rate used averages a little more than 2.6%, which has the effect of slightly increasing the growth of the value of DM.

Deferred Maintenance Growth

Previously, the Laboratory calculated DM growth as 2% of the current baseline. The analysis of DM growth has been changed to be based on 20% of the gap between the required maintenance budget and the actual planned budget. This approach addresses changes in the maintenance budget and changes in RPV to be reflected in the DM growth rate. For example, as the site closes facilities and the RPV drops, the DM growth will be reduced. The percentage of the maintenance gap used to determine DM growth will be reviewed annually and updated as required.

RIK Projects have been redefined in the FY06 TYCSP as major system replacement projects made up of a building subsystem or an external infrastructure segment with formal scoping or analogous estimates of at least $500,000 Total Project Cost (TPC). This is an increase of $250,000 which is based on recommendations from the Energy Facility Contractors Group.

This change in definition has resulted in $5.7M in CAIS records being reclassified from RIK to deferred maintenance. This DM has been added to the FY05 DM total in Attachment F-2.

A revision to Attachment F-2 changed the method of calculating line 4.A and 4.B. Previously the Attachment showed the actual change in deferred maintenance as modeled. To be consistent with NNSA expectations, the Laboratory now only includes reducing effects from its model. This includes DM reduction from FIRP, non-FIRP and D&D activities.

4.1.7 Maintenance

One of the established goals of the RTBF maintenance program is to ensure that sufficient maintenance is performed on mission essential facilities so the current level of DM does not increase. FIRP funding is used to work off existing DM. The Laboratory has re-engineered and institutionalized responsible and accountable facility management processes, including budgetary ones, to maintain the condition of NNSA facilities and infrastructure in accordance with the NNSA corporate goals. The Laboratory has made every effort to reverse past practices that allowed the condition of facilities and infrastructure to deteriorate to unacceptable levels. An important element of the corrective action is the provision of adequate funding for routine expenditures and needed maintenance and repair. It is anticipated that the re-engineered facility management process will control DM growth, as a result of unperformed maintenance, to the level forecasted in Attachment F.

To identify routine (preventive and predictive) maintenance needs of the asset base, personnel use the Master Equipment List (MEL) from the CMMS. Corrective maintenance needs are defined through periodic inspection, interviews, knowledge of plant systems, and analysis of maintenance history. Preventive and predictive maintenance evolutions are specified in the MEL and are published as work-order documents on specified intervals. Using CMMS as the driving tool for routing recurrent maintenance guarantees that each Structure, System, and Component requiring periodic maintenance receives the required level of attention, which in turn ensures control over DM and optimizes availability. Once recorded in the CMMS as corrective work orders, corrective maintenance (identified through inspections, interviews and knowledge of plant systems) is executed according to priority.

4.1.7.1 Attachment F-2, Required Maintenance

NNSA guidance for maintenance budgets is to apply a benchmark level of funding 2% to 4% of the total site RPV. The required maintenance annual values are calculated based on a percentage of RPV based on facility type, i.e., mission essential enduring, mission essential non-enduring, and balance of plant. The CMR facility is classified with its own calculation for required maintenance due to its size and low utilization, large FY05 RPV of $1.7B, and impending decommissioning. Based on these factors, a target of 1.0% of RPV is used to calculate the required maintenance for this facility. In FY12, the facility will be transitioned into a standby status requiring surveillance at an estimated cost of 0.3% of RPV.

In addition, in FY11, the CMR Replacement facility becomes operational. It is assumed that a maintenance budget of 2.5% of RPV will be established to sustain its condition in the excellent range. While we assume that this will be fully funded, one of the challenges for the Laboratory and NNSA is to provide the funds necessary to meet this new demand.

Required maintenance is calculated using the following RPV ratios.

Table 4-5: Summary of RPV factors for required maintenance budget estimates.

	Enduring Assets	Non-Enduring Assets
Mission Essential Facilities	2.5%	3.5%
CMR	N/A	1.0%
CMR Replacement	2.5%	N/A
Balance of Plant Facilities	2.0%	2.0%

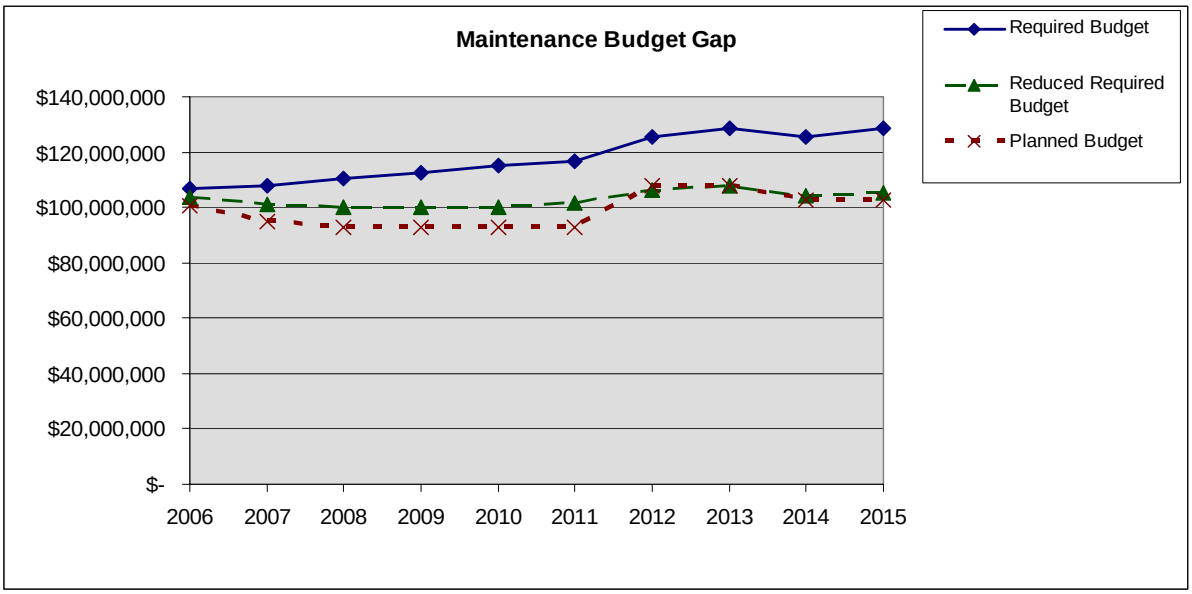
If the FY06 CMR RPV of $1.7B and $7M planned maintenance budget is removed from the budget analysis, the ratio is 2.3%, which meets the DOE guidelines.

Required maintenance ranges from $107M in FY06 increasing to $129M in FY15. These calculated values are not aligned with the anticipated FYNSP funding constraints and represent unachievable budget requirements. Therefore, the Laboratory must reduce maintenance requirements across the site through mission consolidation and footprint reduction. Accordingly, a reduced required maintenance determination has been calculated as shown in Attachment F-2 to create a management target. Subsections 4.3 and 4.4 further explain the Laboratory's approach for reducing maintenance requirements.

4.1.7.2 Planned Maintenance Funding

Previously, the TYCSP showed planned maintenance funding converging to meet required maintenance funding. However, based on the new FYNSP guidance, there is an increasing funding gap between required maintenance and planned maintenance as shown in Figure 4-9.

Figure 4-9: Maintenance budget gap



The top (blue) line shows the required maintenance needs based on analysis of the budget based on percentage of RPV, as described previously. The line below (green) shows a management target based on an incremental reduction in site RPV. The bottom line (red) shows the current site forecast for planned maintenance. Beginning in FY06, FYNSP constraints are expected to result in a reduction in direct maintenance budgets of 3% in FY06 and FY07 and 2% in FY08, after which it is projected to level. The FY06 indirect maintenance budget projects a one-time $3M increase which results in an overall site maintenance budget increase of $1.5M from FY05. Therefore, to commit to reducing the budget gap to the maximum level practicable, the Laboratory must aggressively reduce maintenance needs, which promotes the need to reduce the overall footprint significantly.

In order to better define the extent of this budget gap, the Laboratory is benchmarking its maintenance budgets with DoD facility models for sustainment costs. This benchmarking project is the Risk Informed Sustainment Cost (RISC) model. Using this approach, DoD models are modified based on facility ranking factors to determine full building specific maintenance budgets. The Laboratory expects to use this approach to identify weaknesses in the current percentage of RPV approach and to refine required maintenance numbers in the Attachment F cost models to improve maintenance budgeting effects.

An example of the RISC model output is shown below.

Figure 4-10: RISC model output

http://localhost/RISC/TASC.php - Microsoft Internet Explorer

Asset #	Asset Name	Total Asset Sustainment Cost								Annual Required Maintenance (ARM)	Annual Actual Maintenance (AAM)	Asset Useable Area (sq ft)	TUSC	ARM / TASC (percent)	AAM / TASC (percent)
		Baseline Asset Sustainment Cost (BASC)	FAaRS Score	FAaRS BASC Modification Factor	BASC Fraction	MAV Cost Factor	ACF	CCF	TASC						
35-0001	FORMER GUARD HOUSE	$385	2	0.70	$270	1.0	1.1	1.25	$372	$431	$18,674	180	$2.07	115.93	5022.72
35-0002	LABORATORY & OFFICE BLDG	$228,594	1	1.00	$228,594	1.8	1.1	1.38	$626,796	$336,216	$861,908	83734	$7.49	53.64	137.51
35-0025	MACHINE SHOP	$6,380	1	1.00	$6,380	1.1	1.0	1.25	$8,882	$13,186	$2,982	1729	$5.14	148.46	33.57
35-0027	NUCLEAR SAFEGUARD	$114,848	1	1.00	$114,848	2.8	1.3	1.38	$565,063	$168,919	$541,356	42069	$13.43	29.89	95.80
35-0029	ZEBRA BLDG	$18,002	1	1.00	$18,002	1.2	1.1	1.25	$29,555	$28,704	$78,844	6594	$4.48	97.12	266.77
35-0034	LABORATORY BUILDING	$10,159	1	1.00	$10,159	1.1	1.1	1.25	$15,830	$20,664	$26,590	4747	$3.33	130.53	167.97
35-0046	REACTOR COMPONENT BLDG	$17,696	1	1.00	$17,696	1.2	1.3	1.25	$34,335	$11,723	$107,375	8269	$4.15	34.14	312.73
35-0067	SUPPORT BLDG	$13,751	1	1.00	$13,751	1.2	1.1	1.25	$22,576	$20,225	$11,637	5037	$4.48	89.59	51.55
35-0068	OFFICE BLDG	$15,590	1	1.00	$15,590	1.1	1.3	1.25	$28,710	$14,579	$13,982	6090	$4.71	50.78	48.70
35-0085	MERCURY LASER FACILITY	$71,305	1	1.00	$71,305	1.3	1.1	1.25	$123,338	$113,696	$306,157	26119	$4.72	92.18	248.23
35-0086	LAB/OFFICE	$63,614	1	1.00	$63,614	1.2	1.3	1.25	$123,427	$101,434	$155,906	23302	$5.30	82.18	126.31
35-0087	LAB OFFICE BLDG	$111,026	1	1.00	$111,026	1.3	1.1	1.25	$195,415	$0	$0	40669	$4.81	0.00	0.00
35-0110	TRANSPORTABLE	$3,686	2	0.70	$2,580	1.2	1.1	1.25	$4,236	$4,558	$5,315	1440	$2.94	107.60	125.47
35-0114	TRANSPORTABLE	$4,291	2	0.70	$3,004	1.2	1.1	1.25	$4,931	$4,542	$2,679	1435	$3.44	92.11	54.33
35-0115	SOLVENT STORAGE SHED	$714	0	1.00	$714	1.2	1.0	1.25	$1,066	$215	$0	137	$7.78	20.18	0.00
35-0124	ANTARES TARGET HALL	$76,197	1	1.00	$76,197	1.5	1.1	1.25	$161,464	$121,497	$41,372	27911	$5.78	75.25	25.62
35-0125	LASER BLDG	$161,982	1	1.00	$161,982	1.5	1.1	1.25	$333,435	$258,282	$319,069	59334	$5.62	77.46	95.69
35-0126	MECHANICAL BUILDING	$21,647	1	1.00	$21,647	1.3	1.3	1.25	$44,251	$18,582	$66,703	6916	$6.40	41.99	150.74
35-0127	OFFICE BLDG	$21,998	1	1.00	$21,998	1.1	1.3	1.25	$40,511	$20,579	$29,623	8593	$4.71	50.80	73.12
35-0128	PHYSICS/LASER LAB	$42,744	1	1.00	$42,744	1.3	1.1	1.25	$75,233	$68,155	$23,984	15657	$4.81	90.59	31.88
35-0186	MODULAR OFFICE BLDG	$7,432	2	0.70	$5,202	1.2	1.0	1.25	$7,765	$9,188	$5,275	2903	$2.67	118.33	67.94
35-0188	HIGH VOLTAGE DEV LAB	$4,496	1	1.00	$4,496	1.2	1.3	1.25	$8,723	$7,169	$7,813	1647	$5.30	82.18	89.56
35-0189	LAB OPTICS EVALUATION	$34,843	1	1.00	$34,843	1.4	1.1	1.25	$65,747	$69,447	$137,676	12763	$5.15	105.63	209.40
35-0207	EXPERIMENTAL SUPPORT LAB	$13,374	1	1.00	$13,374	1.2	1.3	1.25	$25,949	$21,325	$87,086	4899	$5.30	82.18	335.61
35-0213	TARGET FABRICATION BLDG	$231,553	1	1.00	$231,553	5.5	1.3	1.38	$2,285,034	$461,518	$654,307	84818	$26.94	20.20	28.63
35-0218	GUARD HOUSE	$778	0	1.00	$778	1.2	1.1	1.25	$1,277	$1,294	$169	255	$5.01	101.31	13.23
35-0224	TRAILER	$1,331	2	0.70	$932	1.1	1.1	1.25	$1,452	$1,646	$358	520	$2.79	113.37	24.66
35-0226	TRAILER	$1,331	3	0.45	$599	1.1	1.1	1.25	$933	$1,646	$627	520	$1.79	176.36	67.18
35-0227	TRAILER	$1,331	0	1.00	$1,331	1.1	1.1	1.25	$2,074	$1,646	$1,412	520	$3.99	79.36	68.08

4.1.7.3 Planning for FIRP Sunset

As previously discussed, the maintenance budget gap will result in new deferred maintenance growth beyond the expected life of the FIRP. It is estimated that this growth is about $1M to $2M per year beyond FY11. If a new NNSA program is not established to replace the FIRP, the Laboratory will need to continue its Strategic Investment and Footprint Reduction in the years beyond FIRP to address this need. The maintenance budget gap is expected to add new DM over the next 10 years. The sum of these funding gaps is $46M and is summarized in Figure 4-11 below.

On an annual basis, the CMR budget gap, which dominates from FY06 to FY11, is shown in Figure 4-12 below. Accordingly, little new DM is expected outside of CMR.

Figure 4-11: Cumulative maintenance funding gap

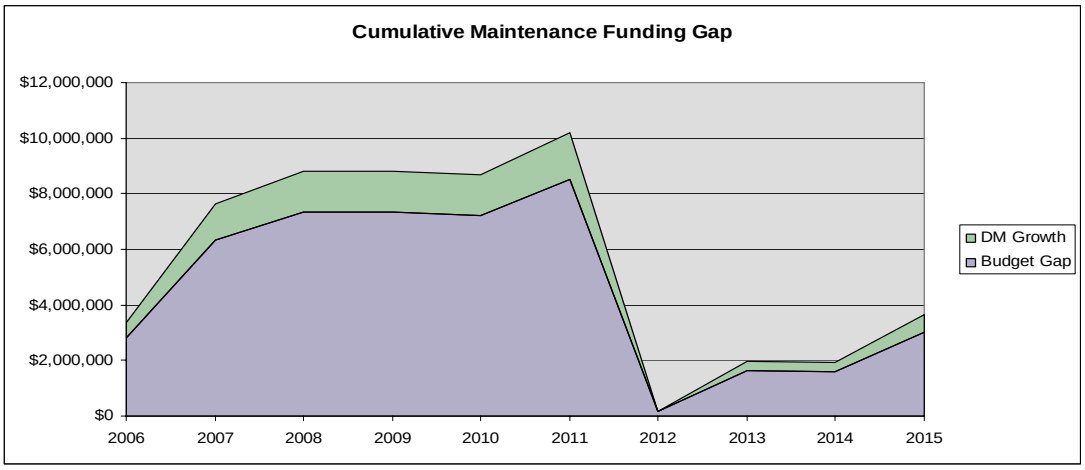
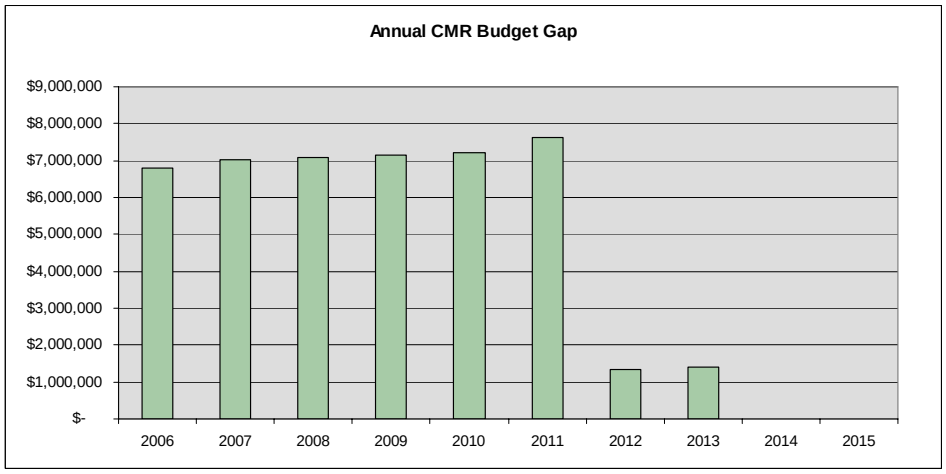


Figure 4-12: Annual funding gap



4.1.7.4 Resolving the Maintenance Funding Gap - Closing Facilities and Consolidating Mission Activities

Based on an analysis of projected maintenance funding requirements, Laboratory management is evaluating closure and deactivation of facilities to balance mission capability with maintenance and operations costs. The possibility of consolidating mission activities within existing facilities, where facility capability may support multiple mission efforts, is leading to planning analysis for increased facility closures. The primary goal of this effort is to reduce maintenance and operational costs. Nuclear Facility Consolidation is underway as well as other consolidation initiatives that will result in a smaller footprint and more efficient operations. Other considerations are under development and progress in this area will be updated in future TYCSP submittals.

Personnel will perform a careful analysis of asset capability, re-usability, asset condition, and maintenance costs for each facility to ensure that decisions for mission support are based on life cycle costs and mission support capability.

4.1.7.5 Resolving the Maintenance Funding Gap – Reducing Costs and Improving Productivity

Closing facilities and consolidating mission activities is a partial solution for resolving the maintenance funding gap. The gap can be further closed through process improvements, and reduced overhead will result in improved productivity and accomplishing more work for less cost. Process improvements and reduced overhead are expected to improve productivity and accomplish more work for less cost.

These activities are moving the Laboratory towards a risk-based maintenance program where maintenance activities are aligned with minimizing facility risks of impacting mission activities. The tenets of a risk-based maintenance program are as follows:

- The value of facilities to support missions are established and ranked in order of priority,
- Asset investment is based on effectiveness of reducing mission risk versus cost,
- The maintenance budget is optimized by funding the greatest risk reduction activities at the highest value facilities,
- Asset investments are modified as mission requirements evolve, and
- Health and safety needs prioritized based on potential for impacting mission requirements.

As these activities are developed and implemented, productivity will be measured and goals established for improvement.

4.1.8 Replacement in Kind Requirements

NNSA is committed to facilitating improved facilities and infrastructure management. FIRP is restoring, rebuilding, and revitalizing the physical infrastructure of the nuclear weapons complex and is specifically targeting the reduction of its large amount of deferred maintenance. Currently, NNSA's total deferred maintenance is approximately $2.4 billion (FY03). Based upon the latest approved FYNSP, FIRP is positioned to buy-down $1.2 billion of this deferred maintenance between FY04 and FY09. Such a buy-down should improve NNSA's facility condition to *good* for mission essential facilities and infrastructure by the end of FY09.

Congress has directed that FIRP, as currently structured, end by FY11. NNSA is beginning to plan for the "sunset" of FIRP by identifying facility management processes that must be institutionalized to ensure that the nuclear weapons complex does not suffer the inattention and under-funding that brought it to such disarray in the 1990s. Strong direction by the Administrator and the Deputy Administrator for Defense Programs will ensure that maintenance and repair are adequately funded such that the deferred maintenance does not grow following the successful completion of FIRP. With the continuing Integrated Construction Program Planning process, which addresses the NNSA's capital acquisition requirements, there will remain a post-FIRP legacy requirement for funding major building subsystem replacements beyond the sites' typical maintenance and repair programs.

This sound facility management component has various names in industry and federal government, but is often termed RIK. RIK encompasses the replacement of building subsystems that are such large financial outlays (typically greater than $500K) such that traditional operations and maintenance budgets are adversely impacted when forced to incorporate such expenses. RIK typically includes building subsystems such as roofs, electrical distribution equipment, HVAC equipment, building control systems, and fire protection apparatus. NNSA would like to determine its corporate budget to address the RIK needs of the facilities and infrastructure for the nuclear weapons complex. Attachment F-6 contains the Laboratory's RIK requirements.

A reasoned approach to establishing requirements at each site for RIK would encompass a forecast of the replacement dates for all facility and infrastructure subsystems based on their expected physical lives (i.e., the optimum year for replacement at the end of expected life). To establish requirements at each site for RIK, personnel would have to forecast the replacement dates for all facility and infrastructure subsystems based on their expected physical lives (i.e., the as modified by data from ongoing periodic condition assessments and their current actual maintenance and repair costs.

4.1.9 Utilities

The Laboratory's extensive utility network is essentially its life support system. Providing utility service is the single largest component of the Laboratory's site development costs. Therefore, planning to ensure effective and efficient utility system capacity and sustainability is vital to enable various programs to evolve and progress in support of national missions.

The ownership and distribution of utility services are split between DOE and Los Alamos County. The Facility Management Division's Utilities and Infrastructure group (FM-UI) has primary oversight and management responsibility for the various utility systems. Utility systems at the Laboratory include electrical service, natural gas, steam, water, sanitary wastewater, and roads and grounds (roads, guardrails, parking lots, curbs and gutters, sidewalks and grounds).

Electrical service includes a Public Service Company of New Mexico 115 kilovolt (kV) line from Albuquerque, a DOE-owned 115 kV line from the Norton substation, and a steam/power plant at TA-3 used on an as needed basis. Distribution power consists of 13.2 kV distribution lines connecting to the input side of low-voltage transformers at Laboratory facilities. The natural gas system includes a DOE-owned high-pressure main and distribution system throughout Los Alamos County and pressure-reducing stations at Laboratory buildings. Steam systems include generation and distribution at TA-3 and TA-21. The water system includes supply wells, water chlorination, pumping stations, transmission storage tanks (owned and operated by Los Alamos County), and distribution storage tanks and piping owned by the DOE. Sanitary wastewater systems include septic tanks and a centralized sanitary wastewater collection system and treatment plant.

Table 4-6: Utility system lengths.

Utility System		Approximate Length (miles)
Electrical System	Primary	16.3
	Secondary	113.5
	Total	**129.8**
Sanitary Wastewater System	Effluent	3.5
	Force Mains	11.0
	Gravity	126.5
	Total Sanitary	**141.0**
Water System	Distribution	90.3
	Service	16.7
	Total Water	**107.0**
Natural Gas System	Distribution	58.2
	Service	31.8
	Total Natural	**90.0**
Steam System	Steam	6.3
	Condensate	5.6
	Total Steam	**11.9**

General Utility Issues

Utility issues at the Laboratory are both site-wide and utility-specific and discussed below.

A major issue is the age of the Laboratory's primary underground utility systems. The majority of primary underground utilities were installed in the 1950s and 1960s and deterioration of these systems could cause service disruptions,

create safety hazards, and impede the Laboratory's ability to develop new and enhanced programs and missions. Modernization of the Laboratory's utility infrastructure is important. Table 4-7 shows when underground piping was installed at the Laboratory and illustrates the aging utility infrastructure.

Another primary issue is due to past practices of not installing utility systems within designated utility corridors. As the Laboratory's facilities and mission have changed and expanded over the years, utility systems have commonly been installed via the shortest route possible and on an as-needed basis. The incremental nature of development, along with programmatic changes, has resulted in the piecemeal retrofitting of utilities to accommodate expansion. This has been expensive, energy inefficient, and has resulted in utility downtime. The resulting maze of utility lines leads to high development costs for new facility construction. By locating utilities in corridors that can accommodate future expansion and by planning developments accordingly, the Laboratory will be able to grow efficiently and better achieve its mission.

To address the primary utility issues, the Laboratory is continuing on a path forward to enhance and optimize the sustainability of its utility systems. A fundamental component of this is assessing the existing conditions and the future requirements of the utility systems. The assessment will identify activities and projects necessary for utility sustainability and ensure that sustainability planning is properly documented and integrated as a fundamental component of the Laboratory's mission, program, and facility planning.

Electrical Power

There are approximately 130 miles of transmission and primary electrical distribution lines at the Laboratory. The Laboratory is supplied with electrical power through a partnership arrangement with Los Alamos County, known as the Los Alamos Power Pool, which was established in 1985. The capacity rating of the pool resources, less losses, is 105 megawatts (MW) and 83 MW (summer and winter seasons, respectively). The transmission import capacity is contractually limited to 105 MW and 83 MW (summer and winter seasons, respectively). Power delivered to the pool is limited by the two existing regional 115 kV transmission lines. Onsite electric

Table 4-7: Percentage of underground utility piping installation by decade.

Utility	1940s	1950s	1960s	1970s	1980s	1990s
Sanitary Sewer	N/A	22%	11%	6%	17%	44%
Natural Gas	N/A	46%	36%	10%	7%	1%
Steam	N/A	86%	0%	4%	10%	0%
Water	38%	26%	12%	5%	16%	3%

generating capacity for the pool is limited to the existing TA-3 steam/power plant, which has an operating capacity of 12 MW in the summer and 15 MW in the winter. Although the Laboratory's electrical power system is in generally good condition, there are specific concerns that require attention. Initiatives to help ensure the capability and sustainability of the electrical system include a new 115kV transmission line, substation replacements, and new transformers and switchgear.

The first nine miles of the new 115kV line and its accompanying substation are under construction and expected to be completed in FY06. The remaining 10 miles of line are scheduled to start design in FY06. Upgrades to the Eastern Technical Area substation will be completed by the end of FY06.

The installation of a new gas turbine at the TA-3 steam/power plant plus the refurbishment of the existing units will boost the Laboratory's generating capacity by an additional 20MW.

Sanitary Waste Disposal System

Sanitary liquid wastes are delivered by dedicated pipelines to the sanitary wastewater systems consolidation (SWSC) plant at TA-46. The plant has a design capacity of 600,000 gallons per day. Some septic tank pumpings are delivered periodically to the plant for treatment via tanker truck. After treatment, the liquid is currently recycled to the TA-3 power plant for use in cooling towers or is discharged to Sandia Canyon under an NPDES permit and groundwater discharge plan. The solids are dried in beds at the SWSC plant and shipped as regulated waste to an approved landfill.

The sanitary wastewater collection system is in poor to satisfactory operating condition, with many miles of aged and obsolete underground piping that needs to be replaced or upgraded. There are areas of the Laboratory served by pumping stations instead of gravity sewers. Replacing these stations with the lower maintenance and operating cost gravity sewers will increase capacity and upgrade the system. The treatment plant is in excellent operating condition and will adequately accommodate future demand. Initiatives to help ensure the capability and sustainability of the sanitary wastewater system include installing new gravity lines and upgrading wastewater lines.

Radioactive Liquid Waste (RLW)

There are three treatment facilities for handling the Laboratory's RLW—at TA-21, TA-53 and TA-50, and a collection system that consists of 22,000 feet of piping. The largest treatment facility at TA-50 is over 35 years old and in poor condition. This facility currently handles waste generated by approximately 1,800 points. Several treatment upgrades have been installed over the past several years; however, the facility is functioning past its expected life. The collection piping system is in good condition. A Radioactive Liquid Waste Treatment Plant Upgrade project is planned to provide major upgrades to extend the life of the existing facility.

Steam/Condensate System

The majority of heating at the Laboratory (and TA-3 heating) is provided by steam and distribution and condensate return systems. There are two primary sources of steam, the power plant in TA-3 and the TA-21 distributed steam plant, with capabilities of 360,000 pounds per hour and 36,000 pounds per hour, respectively. The TA-3 power plant has the capacity to deliver three times the current demand and will accommodate current and future development in the TA-3 area. However, the steam and condensate return systems are primarily underground and in over 20 miles of aging steel piping. Approximately 86% of all the steam underground piping was installed in the 1950s. There are several sections of steam piping that have a high leak rate and high repair requirements that need to be replaced. The condensate return system currently achieves a return rate of 50% and needs to be upgraded to improve central plant performance. Initiatives to help ensure the capability and sustainability of the steam system include improvements to the steam plant, distribution lines, and condensate return lines.

Water System

Before September 8, 1998, DOE supplied all potable water for the Laboratory, Bandelier National Monument, and Los Alamos County. This water was obtained from DOE's groundwater right to withdraw 5,541.3 acre-feet/year or about 1,806 million gallons of water per year from the main aquifer and 1,200 acre-feet/year from the San Juan/Chama Transmountain Diversion Project. On September 5, 2001, DOE conveyed 70% of the entire groundwater right and 100% of the right to San Juan/Chama water to the County. The County is currently performing an engineering feasibility study of utilization of San Juan/Chama waters.

The Laboratory has a target water consumption of 1,662 acre-feet/year. Water demand based on projected growth may require water beyond recent usage levels. In accordance with the LANL Site-Wide Water Conservation Plan key recommendation, an Interim Water Conservation Committee has been established and an Acting Water Conservation Officer appointed.
In order to address the concerns over future water availability, the Laboratory has completed a project to increase the TA-3 and TA-53 cooling towers' cycles of concentration from two to six and is investigating the following water saving opportunities:

- Greater use of recycled water within the Laboratory,
- Use of Los Alamos County wastewater for current and future Laboratory needs,
- "Sustainable design" of new facilities to include water-saving fixtures, reuse of gray water, low water use vegetation in landscaping, use of "natural" space, cooling versus water cooling, and
- Complete reuse/recycle for potential use in irrigation, cooling, recreation, fire suppression, and recharge.

Potable water is obtained from deep wells located in three well fields. This water is pumped into production lines, and booster pump stations lift this water to reservoir

storage tanks for distribution. The well fields can easily provide forecasted water demands for the next 10 years.

In addition, the water distribution system has been enhanced by the installation of equipment to control the pressure. A preventative maintenance program is in place for this system and the Laboratory is working on a project to connect it to the Supervisory Control and Data Acquisition (monitoring and alarm) system. Although the Laboratory's water system is in generally good condition, there are specific concerns that require attention. Initiatives to help ensure the capability and sustainability of the water system include water line replacements and a water leak survey.

Natural Gas

Approximately 80% of the natural gas consumed by the Laboratory is used for heating (both steam and hot air), and the remainder is used for electrical production. The electrical generation fills the difference between peak loads, electric transmission curtailments, plant testing, and the electric contractual import rights. In general, the natural gas system is old with approximately 80% having been installed in the 1950s and 1960s. An aggressive cathodic protection installation and maintenance system was deployed in the late 1980s, and this improved the integrity and condition of the system. However, there are still areas of concern with the natural gas system. Initiatives to help ensure the capability and sustainability of the natural gas system include upgrades to and replacements of gas lines at various TAs.

Table 4-8 summarizes the general status of the utility systems in terms of condition, deficiencies, recommended actions, and proposed projects. Attachment F-6 contains outyear utility recapitalization projects that are RIKs.

Table 4-8: Utility system condition assessment and proposed projects.

System	Condition Assessment						Deficiencies (■ Major, △ Minor)											Recommended Action					Related Projects
	Excellent	Good	Adequate	Fair	Poor	Fail	Capacity	Future Capacity	Age	Physical Condition	Efficiency	Reliability	Operations	Maintenance	Environmental	Safety	Documentation	No Action	Repair	Upgrade	Replace	Further Study	
115kV Electrical System																							
Lines		✓						△		△									•	•			Replace 115kV Oil Circuit Breakers; Replace White Rock 115kv Ring Bus Components; Power Grid Infrastructure Upgrade (PGIU) - 3rd Line; 115kV Transmission System Protection; Additional Express Feeders from WTA to TA-3; Uncross NL & RL 115kV Lines; Reconductor Norton Line.
Substations		✓					△	△	△	△	△	△									•		Replace TA-03-2261 115/13.2 kV Substation; TA-70 115/13.8 kV Substation; Replace TA-53-0937 115/13.2 kV Substation; TA-70 345/115 kV Substation; TA-53 Substation 115kV Ring Bus Upgrade; Replace TA-06-0129 115/13.2 kV Substation; Upgrade 90 MVAR SVC Capacitor.
13.8kV Electrical System																							
Lines		✓						△		△									•	•			Replace 13.8 kv Cables;Safety Upgrades to 13.2KV Circuits; Reconductor 13.2kV Circuits.
Transformers		✓					△	△	△		△		△	△						•	•		Add 3rd 115kV Transformer TA-53; Add 3rd 115kV Transformer TA-3; Replace TA-53 (2) 115kV Transformers.
Switchgear			✓				△													•	•		Replace TA-53-0070 13.2 KV Switchgear; Replace TA-35 13.2 KV Switchgear; Replace Old 13.8kV Switchgears.
Manholes				✓			△	△			■			△		△				•	•		Repair/Replace TA-03 Underground Ducts and Manholes.
Natural Gas																							
Supply and Distribution			✓					△	△	△									•	•			Replace Elevated 4" Gas Line, TA-53. Replace Polyethylene Gas Lines that Cross Steam Lines.
Steam																							
Steam Generation Plant			✓				△	△	■	△		△		△							•		Refurbish Power Plant Turbine #2; TA-03 Power Plant Backpressure Turbine; TA-43-01 Distributed Boiler Plant.
Steam Distribution					✓			■	■	■		△		■							•		Replace Power Plant Feed Water Piping; Replace TA-03-0058 Cooling Tower; PP - Cooling Tower Piping Replacement.
Condensate Return					✓			■	■	■		△		■							•		
Water Distribution																							
Distribution			✓					△	■	△				△					•	•			Water Leak Survey, Condition Assessment Upgrade.
Wastewater																							
Treatment Plants	✓																						
Piping		✓						△											•		•		TA-3 CMR Sewer Relief Project.
Lift Stations		✓						■	△	■				△					•		•		TA-3/58 Gravity Line.

Utility Planning

The Laboratory has undertaken a Utilities Condition Assessment Plan to assess the existing and future condition of the Laboratory's water, gas, wastewater, electric, and steam outside distribution, collection, and transmission systems.

This plan will include the consolidation, analysis, and trending of preventative and corrective maintenance observations provided by system engineers and supervisors. Information will be used to plan short and long-range projects to improve all utility systems. Factors to be considered are the future utility system capabilities, potential threats to existing services such as the end-of-operating life issues, maintenance history, and alternative solutions to ensure adequate utility delivery systems.

The plan is approximately 80% complete and will be finished by the end of FY06. Assessment of water, natural gas, and sanitary sewer systems is nearing completion and work is currently focused on the electrical systems.

Planning for Each Utility

- Describe system components and analyze the following:
  - Drawings and maps,
  - Preventative and corrective maintenance history,
  - Reliability and outage history,
  - Available system capacity and demand information,
  - System and component operating data,
  - Regulatory, environmental, and industry standards compliance, and
  - Workforce knowledge.
- Develop methodology for Utility Component Risk Assessment
  - Identify critical system components,
  - Identify potential risks to service provided including reliability expectations, capacity requirements, environmental and regulatory requirements, and outside forces (fire, extreme weather, etc.),
  - Assign a risk rating based on probability and consequences of failure plus availability of alternative service, and
  - Identify mitigation options for risk rating considered unacceptable.
- Create a Utilities Sustainment Plan based on the above information:
  - Calculate future utilities demands based on population, employment, and building projections,
  - Use modeling to develop expansion or modification options based on historical demand and long term projections,
  - Incorporate supply source projections from county and state utilities,
  - Determine and prioritize needed utility systems improvements, and
  - Implement a utility systems continuous improvement plan.

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4.2 PRODUCTION READINESS / PLANT CAPACITY

The *FY 2002 Production Readiness Assessment Site Manager's Report (U)* addresses facility and infrastructure readiness/plant capacity issues and the activities that are underway or planned to alleviate deficiencies. These issues are summarized below, with facilities grouped separately as "nuclear" and "non-nuclear" facilities.

4.2.1 Directed Stockpile Work Management

Los Alamos DSW production is funded by NA-12 and is integrated with design agencies at Lawrence Livermore National Laboratory and Sandia National Laboratory (SNL). Production projects also interface with other weapons complex sites by supplying products or receiving components for use in manufacturing weapons parts and systems. Facilities, equipment, personnel, and infrastructure resources are integral in producing the parts used to certify the safety and reliability of the stockpile. Activities that compete with production for these resources include nuclear and non-nuclear parts for aboveground tests and sub-critical experiments, surveillance of parts returned from the stockpile, fabrication of mock pits, and process and product development. the allocation of facility, equipment, and personnel resources to support the various program projects. The Principal Associate Director for Nuclear Weapons Programs (PADNWP) directorate has programmatic responsibilities for the entire nuclear weapons program (NWP) at Los Alamos. The directorate creates, integrates, and maintains a sustainable program. Among the chief responsibilities of this directorate are setting priorities for the nuclear weapons program, providing cost-benefit analysis and risk management, tracking and ensuring execution of weapons activity plans with consistency across the institution, and assuring long-term support of Division capabilities that are the foundation of the NWP. In addition, PADNWP balances the stockpile and predictive science programs, allocate required resources, and ensure technical quality of program and deliverables. This directorate is the customer interface (DOE, NNSA, DoD) and maintains a "one voice" corporate posture at all times.

4.2.2 DSW Facilities

Many facilities are required for production and surveillance activities that support the DSW mission. Table 4-9 lists the key facilities that support pit production and surveillance, detonator component production and surveillance, neutron tube target loading, mock pit fabrication, detonator packaging, and other surveillance/manufacturing infrastructure activities. This table also contains facilities that support operation of production facilities.

Table 4-9: Key facilities supporting DSW mission needs.

DSW Project	Key Facilities
Production	
Pit Production	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Sigma Complex • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Buildings
Detonator Production	• TA-22 Detonator Production and Test Facilities
Neutron Tube Target Loading (transitioning to Sandia National Laboratories)	• TA-21-209 Tritium Science Technology Building • TA-16-450 Weapons Engineering Tritium Facility
Mock Pit Production	• TA-3 Sigma Complex
Beryllium Manufacturing	• TA-3-141 Beryllium Technology Facility • TA-3 Main Shops
Detonator Packaging and Transportation	• TA-22 Packaging Buildings
Manufacturing Infrastructure	• TA-16-200 Secure Computing • TA-16 Office Buildings
Pit Surveillance	• TA-55 Plutonium Facility • TA-3 CMR Building • TA-3 Main Shops • TA-64-1 Central Guard Facility • TA-50 Liquid Waste Treatment Facility • TA-54 Solid Waste Management Facility • TA-8 Radiography Facility • NTS
Actuator Surveillance	• TA-22 Detonator Production and Test Facilities • TA-16
Valve Surveillance	• TA-16-209 Inspection Facility • TA-16
Detonator Surveillance	• TA-22 Detonator Production and Test Facilities
Other Surveillance	• TA-55 Plutonium Facility

Descriptions of mission assignment and facility improvements needed are summarized in the following sections. The information is grouped into separated sections for nuclear facilities, non-nuclear facilities, and manufacturing infrastructure. This grouping parallels the Laboratory's facility management organization, where non-reactor nuclear facilities are managed separately from other facilities. None of these facilities are exclusively dedicated to DSW work; therefore their management and facility priorities reflect multiple demands on staff, equipment, and physical plant. A description of the institutional planning process and long-range plans for these and related Laboratory facilities are available in the Laboratory's *Comprehensive Site Plan 2001*, LA-UR-01-1838.

4.2.2.1 Nuclear Facilities

This section presents the Laboratory's nuclear facilities that primarily support pit production, pit surveillance, and neutron tube target loading activities (Table 4-10).

The overall production mission for neutron tubes and neutron generators is a SNL mission. Los Alamos has the portion of the production mission involving tritium loading of the targets used in every neutron tube produced at Sandia. Current

Table 4-10: Nuclear Facility status for DSW missions.

Facility Status	Function(s)	Issues	Related Projects
TA-55 Plutonium Facility			
Facility currently meeting DSW needs. Modifications are required to meet future capacity demands for production and storage.	• Pit manufacturing foundry, machining, joining, welding, assembly, inspection, and testing • In-process pit NDT • Pit process and product development • Pit surveillance disassembly, inspection and evaluation • Fabrication of pit certification program parts and components • Recovery of stored legacy plutonium material • Vault storage of pit and RTG items, shelf-life units, materials awaiting processing, 'in-process' materials/items, scrap materials and finished product • Process control analytical chemistry	• Facility >20 years old and in need of plant support system upgrades • Constrained production capacity due to: 1. Limited process and inspection equipment 2. Limited floor space for production 3. Inadequate vault storage capacity for stockpile and surplus 4. Equipment shared with other functions	TA-55 Infrastructure Reinvestment Project

requirements on the secondary schedule for neutron tube targets are being met using one loader. Future production will be accommodated at Sandia National Laboratories.

4.2.2.2 Non-nuclear Facilities

In 1993, the Non-nuclear Reconfiguration Program (NNR) began transferring activities from Rocky Flats, Mound and Pinellas to other sites in the weapons complex. As a result of the NNR changes, Los Alamos became responsible for fabricating weapons detonators and

Table 4-10 Continued

Facility Status	Function(s)	Issues	Related Projects
TA-3 CMR Building			
Facility is marginal in ability to reliably support future missions	Analytical chemistry and material characterization support for TA-55	Facility 50 years old; in need of replacement	CMR Replacement Project. Selected site is at TA-55.
TA-21-209 Tritium Science and Technology Building TA-16-450 Weapons Engineering Tritium Facility (WETF)			
Facility addition and equipment will come on line to support future DSW mission needs after 2001	Neutron tube target loading currently at TA-21-209 must relocate	Relocation of NTTL mission to Sandia National Laboratories	N/A
TA-50 Radioactive Liquid Waste Treatment Facility			
Facility is currently supporting DSW missions	Final treatment of liquid radioactive and industrial wastes from TA-55, CMR, TA-21, TA-16, Sigma, and Main Shops	40 year old facility in need of plant and treatment process improvements	Radioactive Liquid Waste Treatment Facility Upgrade
TA-54 Solid Waste Management Facility			
Facility is currently able to support DSW missions	Management of solid radioactive waste generated at TA-55, CMR, TA-21-209, and TA-16 nuclear facilities and TA-3 Sigma and Main Shops.	Transfer of TRU waste stored at TA-54 to the Waste Isolation Pilot Project (WIPP) proceeding	N/A

beryllium parts, making mock pits for joint test assemblies, surveillance of detonators removed from stockpile systems, and loading tube targets needed for neutron generators fabricated at SNL.

The non-nuclear facilities presented in Table 4-11 support pit and mock pit production, beryllium parts production, detonator production and surveillance, actuator surveillance, and valve surveillance.

Beryllium operations have been conducted at Los Alamos for over 40 years. Consequently, NNSA directed Los Alamos to capture the beryllium technologies that existed at the Rocky Flats plant after it closed. To enable Los Alamos to produce beryllium components for the nuclear weapons stockpile in a single facility, a building (TA-3-141) was refurbished and designated as the Beryllium Technology Facility (BTF). Los Alamos completed the Readiness Assessment for the BTF in FY01 and completed fabrication of the first parts in April 2001.

Currently, beryllium items are the only components on the directive schedule. In addition, the BTF will need to produce beryllide components that will require extensive R&D, new equipment, and additional space. Other programs that require the BTF are fabrication of mock pits and components for hydrodynamic tests and subcritical experiments.

Responsibility for detonator manufacturing was transferred to the Laboratory from Mound between 1993 and 1998. The production mission was constrained to existing facilities that were designed for R&D activities. Since the mission assignment to Los Alamos, both the required production quantities for each detonator system and the number of detonator types being fabricated simultaneously have increased significantly; the surveillance program competes for resources in the inspection and test firing stations.

Table 4-11: Non-nuclear facility status for DSW missions.

Facility Status	Function	Issues	Related Projects
TA-3-66 Sigma Building			
Facility is marginal in ability to support future DSW missions	• Mock pit fabrication • Welding/ joining development	• >45 year old facility needs plant upgrades for continued operations • Additional process equipment needed	No projects funded to upgrade facility
TA-3-141 Beryllium Technology Facility (BTF)			
New facility is on-line and machining beryllium parts	• Supports pit and mock pit production • Beryllium part fabrication • Beryllium material supply • Coating of beryllium parts	Facility does not currently house the entire suite of capabilities necessary for the entire Be life cycle	BTF Upgrades to FMS and VAV systems
TA-8 Radiography Buildings			
Facility is currently meeting DSW support needs	• Nondestructive testing of pit parts, pit assemblies, and other DSW products • Certification support for non-DSW components	• Capacity issue for remote site • Requires transport and significant security • Working on capability at TA-55	Radiography Facility planned for TA-55
TA-22 Detonator Production and Test Facilities			
Current production rate utilizes full production capability and floor space of primary building	• Detonator production • Detonator inspection and testing • Actuator and detonator surveillance and testing	Expanded facilities for production and inspection near completion. Detonator storage capability greater than 50 years old. Additional production and test equipment needed for increasing DSW requirements in addition to buying detonators	N/A

Table 4-11 Continued

Facility Status	Function	Issues	Related Projects
TA-3-39/102 Main Shops			
Facility is marginal in long term ability to support DSW missions	• Supports pit and mock pit production • Depleted uranium machining and inspection	• >45 year old facility needs plant upgrades • Additional equipment needed to meet production schedules	N/A
TA-22 Packaging Buildings			
Facilities can support DSW missions	Detonator and related item transportation container storage, inspection and management	N/A	N/A
TA-16-207 Inspection Facility			
Facility can support DSW missions	Valve surveillance	Needs to be moved to TA-16-202 in FY08 or sooner	N/A
TA-64-1 Central Guard Facility			
Facility is able to support DSW missions	• Central alarm station for security systems • Houses security operations staff and systems	Alarm system in need of upgrade	N/A

4.2.2.3 Manufacturing Infrastructure

The Laboratory's facilities needed for the manufacturing infrastructure activities supporting DSW are listed below.

One important aspect of the Laboratory's infrastructure development is covered under the Non-nuclear Readiness campaign for streamlining business practices. This task creates a supply chain assurance for engineering materials by developing business conventions and quality assurance standards for acquisition of commercial off-the-shelf components. The critical areas addressed include: leveraging best industry practices and solutions; reliability assessment and component qualification for WR use; component modeling to aid selection; and assessment of component performance under process conditions.

Table 4-12: Manufacturing infrastructure facility status for DSW missions.

Facility Status	Function(s)	Issues
TA-41-1 Storage		
Facility has been phased out of DSW support missions	Provides bonded storage and receiving of classified parts and materials	• Facility is aging and remote from supported DSW operations • Risk of flash floods following the Cerro Grande fire caused permanent personnel relocation to TA-16; functions are being transferred to TA-16 although some material is still stored here
TA-16 Office Buildings and Secure Computing		
Facility can support DSW missions	Houses ERP/IFS system personnel and work stations	• Facility is aging.

4.3 ES&H REGULATORY ISSUES

The Laboratory's ES&H and nuclear safety management processes are designed to achieve operational excellence goals, business efficiencies, and Appendix F of the UC/DOE Prime Contract performance expectations. At the Laboratory, UC and its subcontractors are responsible for a wide range of work activities including basic and applied research; product development; design, construction, operation, modification, decommissioning, and environmental remediation of DOE facilities; and the management and oversight functions relating to these activities. This work must be accomplished safely while minimizing potential hazards to the public, site or facility workers, and the environment. Conversely, management of these programs is intended to protect mission activities from disruption resulting from failure to account for ES&H requirements.

The criteria of 10 CFR 830.120, Quality Assurance Requirements, and DOE Order 414.1A, Quality Assurance (formerly DOE Order 5700.6C, Quality Assurance), are used to provide a quality management system for accomplishing and assessing the Laboratory's work in accordance with all requirements. The system is compliant with Integrated Safety Management System (ISMS) required by DOE P 450.4, Safety Management System Policy. The quality management system provides processes and tools for ensuring that the ISMS achieves its objectives.

Most importantly, the Laboratory's ES&H and nuclear safety management processes are designed to ensure the Laboratory achieves "daily excellence in the protection of the worker, the public, and the environment." This portion of the TYCSP contains three subsections: Health/Safety/Radiation Protection, Nuclear Safety, and Environment.

4.3.1 Health, Safety, and Radiation Protection

The Laboratory's health, safety and radiation protection operations are managed within the framework of the institutional ISMS. Part of the Laboratory's mission is to provide health, safety and radiation protection operational support to enable scientific and programmatic excellence, achieve ISMS goals, and conduct operations in a manner that protects the worker, public, and environment. The core capabilities within the Laboratory's health, safety and radiation protection programs include the following:

- Health physics,
- Occupational medicine,
- Health physics measurements,
- Industrial hygiene,
- Nuclear criticality safety,
- Information management,
- Operations and facility support, and
- Radiation protection.

On July 16, 2004, the Director and the senior management suspended routine Laboratory operations pending completion of a formal review process to ensure that the Laboratory can operate safely, securely, and in a compliant manner while

meeting national security obligations. There were three major parts to the resumption process (1) demonstrate operational competence and commitment; (2) verify the integrity of processes for using and handling accountable classified removable electronic media (CREM); and (3) verify functional and organizational readiness.

A two-phase approach was developed for the resumption of work activities. In Phase I, conducted on July 17, 2004, Laboratory managers categorized all work activities in one of three risk levels based on the hazards of work activities and confidence that workers conducting the activities could do so in a safe, secure, and compliant manner. The three risk level categories included the following:

- Level 1: Little or acceptable risk,
- Level 2: Mid-range risk (e.g., activities that require integrated work documents, such as light laboratory work, routine industrial activities), and
- Level 3: Higher risk (e.g., all activities involving the handling of Classified Removable Electronic Media (CREM), higher-hazard non-nuclear, and nuclear activities).

Phase II of the resumption process required an assessment of Laboratory work activities to verify they could be conducted in a safe, secure, and compliant manner. Phase II was completed before any activities other than those approved by the Director as essential resumed. The level of rigor for these assessments was graded to the risk level determined in Phase I of the resumption process. The Laboratory Director approved resumption of all activities, except for activities involving accountable CREM.

This phase of the resumption process required a management self-assessment (MSA) of all risk level 2 and 3 work activities. An MSA is a review of a facility or activity conducted by the responsible line manager to assess preparedness for startup/restart of an activity. The MSAs for the resumption process addressed 15 core requirements matrixed against eight areas of emphasis, including management competency, people and behaviors, integrated safety management, training and qualifications, safeguards and security, environmental protection, adequacy of the tools necessary to perform the work, and authorization basis. In addition, risk level 3 work activities underwent independent Laboratory Readiness Reviews (LRRs). The LRR process required that corrective action plans (CAPs) be developed to address issues identified at the organizational and institutional levels. The NNSA/Los Alamos Site Office participated in the MSA and LRR processes and its signature constituted the required NNSA involvement for resumption of risk level 2 and 3 activities. Thus, an NNSA representative signed all "recommendations for resumption" to the Laboratory Director.

Risk level 1 activities were approved across the Laboratory on August 18, 2004, and construction projects were fully approved by August 23, 2004. Risk level 2 and risk level 3 activities were approved on February 1, 2005 and May 27, 2005 respectively.

As the Laboratory neared completion of all re-start requirements, the focus shifted from a corrective-action approach to a preventative approach. Historically, individual divisions have been responsible for the planning and implementation of efforts to achieve compliance. However, due to limited resource and budget availability within a division's control, programmatic priorities have often prevailed over the operational infrastructure needs.

The Operational Efficiency (OE) Project was organized on July 23, 2004, to elevate the implementation of a select few operational requirements to an institutional level to specifically improve the Lab's reliability when it comes to operations. The OE Project is currently tied to the local and the institutional CAPs that resulted from the resumption process, its MSAs, and LRRs. OE provides a formal system to integrate institution-wide schedules and resources. In fact, the OE Project scope was based on the issues identified through resumption, and the initial eight topic areas represented some of the highest priority and most difficult issues that needed to be addressed at the Laboratory. The OE Project should be viewed as an extension of the Laboratory Contractor Assurance System and issues management processes. OE provides an integrated system to improve communication, resource and budget management, issues management, and decision management. OE is the mechanism through which long-term improvements are managed in selected areas critical to the Laboratory operations.

The scope of the OE Project covers safety, quality assurance, software quality assurance, conduct of engineering, safety basis, operations, environmental risk management, and training. Each of these topics areas covers business and management practices that have been proven to successfully improve reliability of operations and lower overall costs throughout industry. Individually they represent either improvements to existing programs or the installation of new programs.

On July 21, 2005, the Defense Nuclear Facilities Safety Board (DNSFB) issued a letter acknowledging the Laboratory's progress in the resumption of operations following the July 16, 2004 work suspension. The DNSFB identified the Laboratory's willingness to identify issues forthrightly, develop corrective action plans, and improve its operations. The DNSFB cited the Laboratory's OE Project and related plans as appearing to be well conceived and being implemented aggressively.

4.3.2 Nuclear Safety

The Laboratory's safety basis (SB) requirements for nuclear facilities are provided in the *Nuclear Facilities Safety Basis* Laboratory Implementation Requirement (LIR 300-00-06.5). The SB comprises those documents on which NNSA relies to ensure that a nuclear facility is operated safely. The SB includes documents such as the documented safety analysis, technical safety requirements (TSRs), and the NNSA safety evaluation report. SB documents are one element of the integrated safety management (ISM)

process. The LIR supports and complements the requirements contained in the following additional Laboratory documents:

- Laboratory Performance Requirements (LPRs):
  - LPR 210-01-00, *Comprehensive Site and Facility Planning*,
  - LPR 210-02-00, *Define Work Within Facility*,
  - LPR 210-03-00, *Define the Facility*,
  - LPR 210-04-00, *Define Expectations*,
  - LPR 210-05-00, *Perform Vulnerability Analysis*,
  - LPR 240-01-00, *Define Facility and Tenant Operations Limits and Configuration (Facility Safety Plans)*,
  - LPR 240-02-00, *Managing Facility and Tenant Operations Limits and Configuration*, and,
  - LPR 270-02-00, *Perform Assessment of Operating Limits and Start-up Tests*.
- IMP 300.2, *Integrated Work Management for Work Activities*,
- LIR 300-00-05, *Facility Hazard Categorization*,
- LIR 300-00-07, *Non-nuclear Facility Safety Basis*, and
- LIR 220-01-01, *Construction Project Management*.

The Operational Support Tool (OST) 300-00-06, *Safety Basis Handbook*, and OST 300-00-06B, *LANL Unreviewed Safety Question Procedure*, establishes the requirements that must be implemented and guidance that must be considered to complement the requirements contained in LIRs 300-00-05, 300-00-06, and 300-00-07.

The Laboratory's site-wide strategy for nuclear safety management has become increasingly focused on compliance with 10 CFR 830, *Nuclear Safety Management Quality Assurance*. As indicated in Section 4.7.7, the Laboratory continues to make progress in efforts to consolidate nuclear facilities and bring both nuclear facilities and nuclear environmental sites into compliance with 10 CFR 830.

4.3.3 Environment

The Laboratory's environmental management, protection, compliance, pollution prevention, remediation and surveillance operations are addressed through a broad network of institutional programs and projects.

4.3.3.1 Regulatory Permitting and Compliance

New Mexico Environment Department Consent Order

On March 1, 2005, NMED, DOE and UC signed the NMED Compliance Order on Consent (Consent Order). The Consent Order replaces the corrective action requirements of the Hazardous and Solid Waste Amendments Module of the Laboratory's Resource Conservation Recovery Act (RCRA) Hazardous Waste Facility Permit. The Consent Order contains legally enforceable requirements for addressing the Laboratory's solid

waste management units (SWMUs) and areas of concern (AOCs), and is the framework for investigation and remediation of contamination resulting from historical releases of hazardous waste and hazardous constituents at the Laboratory. It includes specific technical requirements and schedules for conducting and completing investigations, corrective measures, and required documentation. All Consent Order requirements (i.e., investigations, evaluations and corrective measures) must be completed by December 2015. In addition, the Consent Order contains stipulated penalties on certain deliverables if they do not meet the prescribed schedule.

The Consent Order was negotiated in response to a November 26, 2002 NMED Compliance Order, which issued a "*Determination of an Imminent and Substantial Endangerment to Health and the Environment*" and a "*Draft Corrective Action Order*" under the New Mexico Hazardous Waste Act, NMSA §§74-4-10.1 and 74-4-13. In response, DOE and UC sued NMED, and the parties entered into several months of confidential settlement negotiations. The settlement negotiations resulted in a Draft Order on Consent, which was released for a 30-day public comment period on September 1, 2004. After the Draft Order on Consent was issued, DOE, UC and NMED agreed that NMED would withdraw the "*Determination of an Imminent and Substantial Endangerment*" and the "*Final Corrective Action Order*," if DOE and UC agreed to the requirements and schedule of the current Consent Order. Other conditions of the settlement included a requirement that DOE and the Environmental Protection Agency would sign a Clean Water Act (CWA) Federal Facilities Compliance Agreement (FFCA) to address the surface water provision of the Corrective Action Order. Furthermore, the settlement included a provision that precluded the Consent Order from being used to regulate the management of sites contaminated with only radionuclides.

The Consent Order is the principal regulatory driver for the Environmental Remediation and Surveillance mission of the Laboratory. Failure to meet the enforceable deadlines can result in daily penalties for each deliverable deadline missed. In addition to establishing remediation scope and schedule requirements, it establishes cleanup levels for groundwater, soil, and surface water. Finally, the Consent Order contains a document approval process whereby NMED may modify a document submitted by the Laboratory (e.g., by increasing the number of samples or analyses required) and approve the document with modifications. The NMED modifications then become enforceable conditions of the Consent Order.

The funding required to successfully implement the Consent Order is being carefully evaluated at the Laboratory and within DOE EM and NNSA. Budgets for current or near-term activities have been identified via a combination of DOE EM, NNSA (RTBF and FIRP) and operational sources. Integrated funding strategies for out-year activities, however, are still being developed in consideration of other Laboratory mission requirements and projected budget commitments/constraints within DOE EM and NNSA. Funding for

the entire Compliance Order implementation effort will likely be provided via a combination DOE EM, NNSA, line item, general plant project and Laboratory operational allocations.
For the purposes of this TYCSP, the Consent Order is presented in terms of implementation phases and the implications on 1) site management, and 2) facility and infrastructure. Implementation will affect both operational infrastructure (e.g., waste management facilities at TA-54), and site environmental monitoring and surveillance (e.g., the Groundwater Protection Program).

Consent Order Phases

In general, the phases of Consent Order implementation include investigation, corrective measures evaluation, and final corrective measure implementation. Each site (i.e., material disposal area [MDA], SWMU and AOC) has a specific schedule for each phase of implementation.

The initial phase of activities covered by the Consent Order is investigation. The major investigation activities include:

- Investigation of canyons within six major watersheds at and around the Laboratory.
- Investigation of mesa-top material disposal areas (MDAs) at TAs-21, 49, 50, and 54.
- Completion of ongoing investigations and cleanups begun under the Module VIII section of the Laboratory's RCRA permit.
- Investigation of 28 watershed aggregate areas, including all the SWMUs and AOCs contained within them, and
- Implementation of a comprehensive site-wide groundwater monitoring program.

Based on the results of investigations, NMED may require corrective measures to be implemented at a site. Some of the required corrective measures studies were initiated under the Hazardous and Solid Waste Amendments (HSWA) Module VIII of the Laboratory's RCRA permit (e.g., TA-54 MDAs G and L). The NMED will determine which other sites require corrective measure evaluations (CMEs) based on site-specific investigation results.

The CME phase includes identification and evaluation of alternate corrective measures and recommendation of a preferred alternate. This is accomplished through a compliance-driven technical analysis and reporting process with the NMED. Based on the results of CMEs, NMED will propose a corrective measure for a site and, after consideration of public comments, will select the final corrective measure. The selected corrective measure and associated schedule will then become an enforceable part of the Consent Order. Once a corrective measure has been selected, the Laboratory will be responsible for implementing the measure as part of a corrective measure implementation (CMI) process.

Implications on Site Management

Although the Consent Order could potentially influence the D&D schedules for some excessed facilities (current and future), the primary site management impact is on the Laboratory's Environmental Remediation and Surveillance Programs. The Consent Order is the principal regulatory driver for the Environmental Remediation and Surveillance mission of the Laboratory, and establishes legally binding requirements and schedules for managing these activities. However, the lesson is clear that careful new facility planning is essential now to avoid future costly remediation projects.

The scope of these site management activities will be directly influenced by the results of each phase of the Consent Order for individual MDA, SWMU and AOC sites. The extent and cost of these activities will depend largely on NMED's evaluation and response to the Laboratory's investigations, proposed corrective actions, and monitoring results. The Laboratory's surface water monitoring and protection activities are now regulated by a CWA FFCA between the Environmental Protection Agency (EPA) and DOE as a settlement condition for the Consent Order. Furthermore, a significant impact is expected on the scope and funding for the Laboratory's groundwater protection and surveillance activities.

The Laboratory's Groundwater Protection Program provides comprehensive regulatory compliance and stewardship for groundwater at the Laboratory. The Consent Order specifically requires the installation and use of an extensive network of groundwater monitoring wells as part of the investigation and corrective action phases of implementation. The regulatory requirements for this program are identified in both the Consent Order and DOE O 450.1, *Environmental Protection Program*, and are as follows:

- Preparation of an Interim Site-Wide Groundwater Monitoring Plan,
- Monitoring and sampling of all Laboratory canyons,
- Installation of additional groundwater monitoring wells,
- Plugging and abandonment of wells no longer needed,
- Procedural methods for sampling and analysis, and
- Specific compliance deliverable schedules.

The Consent Order requires a new site-wide groundwater monitoring program and anticipated groundwater remediation projects where none existed before. The NMED has notified the Laboratory and DOE NNSA that additional regional groundwater wells may be required in the future. The cost and source of funding for these activities are under investigation but have not yet been identified.

The Laboratory recognizes that RTBF funding will not be available in FY07 and beyond. Additional EM or institutional funds will have to be identified to continue the required groundwater model development and maintenance after FY06. The cost and source of funding for these activities are under investigation but have not yet been identified.

Based on the best available information, the currently projected funding profile (in thousands) for the overall Groundwater Protection Program is provided in Table 4-13. The DOE EM costs for this program are also included in the Environmental Restoration discussion in section 4.3.3.2.

Implications on Facilities and Infrastructure

The requirements of the Consent Order have specific implications on the continued operations of the Laboratory's solid mixed, hazardous, and radioactive waste management facilities at TA-54. It specifically requires completion of the corrective measures studies (begun under HSWA Module VIII of the Laboratory's RCRA permit) and also requires the CMEs phase to be undertaken at TA-54 (MDAs G and L). The Consent Order essentially requires "closure" of MDAs L and G at TA-54 by December 31, 2010 and December 29, 2015 respectively. As a result, the operations, facilities and infrastructure currently providing waste management capabilities at TA-54 Area G must be replaced and sited at a different location. Current plans assume Area L operations will be consolidated into a smaller foot print and located in the portion of Area L that will not be affected by MDA L closure.

The Laboratory has identified several project-level solutions for replacing these capabilities.

- A proposed RTBF line item project, the *TRU Waste Consolidation Facility*, would relocate and consolidate all TRU waste management activities at TA-54 Area G necessary for the enduring NNSA mission (see Attachment A).
- A proposed EM line item project, the *Remote Handled TRU Waste Processing Facility*, would retrieve a select portion of the remotes handled (RH) TRU Waste buried at TA-54 in order to complete necessary shipments to WIPP under the EM 2010 Waste Disposition project (see Attachment A).
- Several FIRP-funded D&D projects are proposed to remove existing structures (above and below ground) before closing MDAs G and L.
- Three separate GPP projects have been proposed to relocate low-level waste (LLW) operations to support disposal operations in Zone 4 of TA-54 Area G.
- A new LLW disposal pit would be established at TA-54 Zone 4 using institutional funding.

Table 4-13: Projected funding for Groundwater Protection Program ($K).

Funding Source	FY04	FY05	FY06	FY07	FY08-15
RTBF/Operations of Facilities	10,000	12,800	3,200	N/A	N/A
Institutional (G&A)	1,400	1,400	2,100	2,100	16,800
DOE EM	3,607	20,776	26,961	39,959	74,213
Groundwater Remediation (EM)	N/A	N/A	N/A	N/A	47,449
TOTAL	**15,007**	**34,976**	**32,261**	**42,059**	**138,462**

Resource Conservation and Recovery Act

The Laboratory produces a variety of hazardous wastes, mostly in small quantities relative to industrial facilities of comparable size. RCRA, as amended by the HSWA in 1984, establishes a comprehensive program to regulate hazardous wastes from generation to ultimate disposal. The Laboratory's goal is to conduct waste operations in a manner that minimizes hazardous and non-hazardous waste generation as much as is technically and economically feasible and maintains excellence in matters related to safety, compliance, environment, health, and waste management operations.

Certain operations may require a RCRA hazardous waste facility permit. The Laboratory expects to receive a draft renewal permit in FY06. In FY05, the Laboratory's General Part A RCRA Permit Application was revised to reflect consolidations in hazardous waste management units in accordance with the annual unit audit. The Laboratory also submitted a version of the Laboratory's Hazardous Waste Facility Permit containing all previously submitted permit modifications in an attempt to bring the permit up to date on current operations. Twenty Class 1 modifications were submitted to further update this version. Two additional Class 3 permit modifications will be submitted.

Closure activities for RCRA-regulated units at TA-54 as well as cleanup activities for SWMUs at TA-54 are estimated to begin in FY11. These activities will ensure that wastes and/or waste residues that remain in place at TA-54 are stabilized. However, some TRU retrieval projects may impact the cost and schedule of these activities.

Corrective Action

The Consent Order covers most activities related to investigation, monitoring, and cleanup of legacy contaminated sites but specifically excludes investigations, cleanups, and closures of active sites. Most of this work is conducted under the RCRA corrective action process and was subject to requirements in Module VIII of the Laboratory's current Hazardous Waste Facility Permit. A permit modification vacating all or portions of Module VIII, dealing with legacy sites, and deferring to the Consent Order is underway. It is unclear how the Consent Order will be accommodated when NMED issues the draft permit in 2006; however, NMED cannot issue a permit without addressing corrective action and the HSWA provisions.

Mixed TRU Issues

Through a process know as "bundling," and consistent with national practice, NNSA has been shipping mixed transuranic (MTRU) wastes to the WIPP. NNSA has recently discussed discontinuing this process at the Laboratory. If bundling is discontinued, substantial quantities of waste currently being managed as MTRU may be re-characterized as mixed low-level waste (MLLW). If that occurs, a significant number of the waste containers, perhaps several thousand, may no longer have a disposal path and will need to be added to,

and managed under, the Laboratory's Site Treatment Plan (STP). This may, in turn, require significant additional characterization; a national search for off-site treatment and disposal capacity; and negotiations with NMED on STP terms, conditions, and schedules. It may also trigger additional permitting requirements.

Implications on Facilities and Infrastructure

RCRA is a regulatory driver behind efforts to clean out mercury from Laboratory drains. Approximately 5% of the Laboratory's 7,000 sanitary waste drains and an even greater percentage of RLW drains have traps that are contaminated with mercury, according to a pilot study that assessed approximately 200 drains. A project had been proposed in OE for 2004-2005, but not funded, to characterize all drains and clean out those found to be contaminated; that proposal has been withdrawn. This issue is now being addressed as part of routine and non-routine maintenance of drain systems.

The NNSA and the Laboratory are currently planning a significant upgrade project for the RLWTF at TA-50. The project will functionally replace existing infrastructure and includes plans for zero discharge. The existing RLWTF is regulated under the CWA, and operates within the requirements of a wastewater exclusion under RCRA. The current plan is to upgrade the RLWTF while maintaining the wastewater exclusion and ensuring compliance with the CWA. Regulatory discussion will continue with the NMED as necessary.

As the Laboratory continues to D&D older facilities and construct replacements, waste management and permitting and their associated costs will continue to be an issue. Most recently, the CMRR project has decided to obtain a permit for mixed waste storage, and perhaps treatment, with these efforts starting in the FY06-FY07 timeframe. Additionally, construction activities of all types generate large quantities of excavated materials and debris, including contaminated environmental media, which must be managed. The Laboratory needs to complete implementation of an integrated system to ensure adequate characterization and management of these materials. Such a system would to prevent transfer or mobilization of contaminants in the environment, to ensure that chemical or radiological contaminated materials are not released to the public without an adequate evaluation of the potential risks. The system would also identify opportunities for reuse of these materials on site whenever possible. The Laboratory may also need to develop a site upon which to manage these stockpiled materials.

Toxic Substances Control Act

The use, storage, and disposal of equipment containing polychlorinated biphenyls (PCBs) are regulated by the Toxic Substances Control Act. While allowing limited continued use of PCB equipment, the intent of the act is to remove all PCB-contaminated equipment from use.

The Laboratory has adopted a goal of being PCB free and continues its efforts to

inventory and reduce PCB-containing equipment. The presence of PCB equipment presents an operational liability because of the potential for releases within facilities or to the environment as well as associated regulatory tracking requirements. Additional funding is needed to replace old PCB equipment and continued effort is needed to test and dispose of 25 legacy PCB items in use or stored at the CMR Building.

Aside from these 25 PCB items, the only anticipated PCB waste will be from the ongoing replacement of older PCB-containing fluorescent light ballasts and the possible discovery of previously unaccounted for PCB equipment, such as from D&D of older Laboratory structures.

Clean Air Act Title V Operating Permit

Title V of the Federal Clean Air Act Amendments of 1990 required that all states have an operating permit program meeting the criteria established by the EPA. In New Mexico, the operating permit program was implemented as a second permit program to the existing construction permit program. Under this dual permit program, a new air source or a modification to an existing air source is required to first obtain an air quality construction permit, followed by a modification to include the source in the Laboratory's operating permit.

The Laboratory submitted an operating permit application to the NMED and was issued permit P100 on April 30, 2004. In July 2005, the Laboratory submitted its first modification to the permit to include sources recently receiving construction permits. To lower potential air emissions, the Laboratory's application included voluntary fuel limits, production limits and other operational restrictions. These proposed restrictions are now federally enforceable. To demonstrate compliance, the Laboratory submits semi-annual monitoring reports, semi-annual emission reports, and an annual compliance certification report to NMED and EPA.

Federal rules, New Mexico state laws, and DOE orders require that the Laboratory mitigate the potential for adverse environmental impacts. Before work is authorized, proposals for new or revised work activities are assessed for potential environmental impacts and required controls.

Clean Water Act

As a settlement condition for the Consent Order, the DOE entered into a FFCA and Administrative Order (AO) with the EPA under the CWA. The FFCA/AO addresses regulatory compliance requirements for Storm Water Discharges from SWMUs and other AOCs. The FFCA/AO acts as a "Bridge Document" while transitioning from a Multi-Sector General Permit (MSGP) to an Individual NPDES Permit for storm water discharges from SWMUs and other AOCs.

The FFCA/AO objectives for storm water relate to the three following activities:

- Individual Permit application submittal and permit development,
- Implementation of the FFCA (Docket No. 06-2005-1701) and AO (Docket No. CWA-06-2005-1734), and
- Best Management Practices Installation, Inspection, and Maintenance.

Costs for this program for FY06 are $3.1M (EM funding) and $1.5M (G&A funding). The FY07–FY15 lifecycle costs are estimated to be $25.4M (EM funding) and $13.5M (G&A funding). The EM costs for this program are also included in the Environmental Restoration section of this plan.

Once the Individual NPDES Permit is issued, it will supersede the FFCA/AO and will have its own specific reporting and monitoring requirements for storm water discharges from SWMUs and AOCs.

Implementation of the FFCA/AO

Implementation of FFCA/AO requirements includes planning and fieldwork to implement the monitoring requirements for 294 individual SWMUs and AOCs that have moderate to high erosion potential over the next 3 years.

Significant actions are also underway to implement requirements of the FFCA for storm water discharges. In April 2004, the Laboratory provided a draft Storm Water Monitoring Plan to EPA and NMED, implemented watershed monitoring to meet anticipated requirements, and initiated field surveys for placement of sampling locations for Site-specific monitoring. Beginning in June 2004, site-specific samplers were installed to initiate the FFCA process prior to final issuance of the FFCA/AO.

The FFCA was issued and signed in February 2005. Final versions of Work Plans were developed, submitted, and approved by regulators in June 2005. Field efforts will continue as described until the final Individual Permit is issued.

Anticipated Laboratory NPDES Permit

The NMED recently amended the New Mexico water quality standards, which became effective May 23, 2005. These standards apply to operational discharges to Laboratory canyons. EPA will use these new standards to develop stricter NPDES discharge limits for Laboratory outfalls. Total impact or effluent system upgrades cannot be estimated until the new permit is received. It is anticipated that the new NPDES permit will be issued in late Summer 2005. The Laboratory's RLWTF is expected to be significantly impacted by these new limits. The RLWTF Upgrade project has been proposed to improve facility reliability and process capability in anticipation of these more stringent regulatory requirements (see Chapter 5.0).

Additional Regulatory Compliance Considerations

The Laboratory has on-going programs in place to review and facilitate daily operations and proposed projects for compliance with other federal regulatory requirements including, but not limited to:

- Threatened and Endangered Species Act,
- Floodplains and Wetlands protection provisions,
- Migratory Bird Treaty Act,
- National Historic Preservation Act,
- Archeological Resources Protection Act, and
- Native American Graves Protection and Repatriation Act.

Maintaining compliance with these regulations requires careful integration of daily operations/projects with ever-changing regulatory requirements and environmental conditions. Effective and efficient compliance requires appropriate protection and monitoring of natural and cultural resources. In some cases (e.g., Threatened and Endangered Species Act) the Laboratory implements site-wide resource management strategies/plans for maintaining compliance. Efforts are currently underway to develop performance metrics that address current issues and identify better approaches to resolving this area of concern. Improvement of cultural, biological, and natural resource management programs through the implementation of proposals and plans are underway.

The scope and status of the Laboratory's National Environmental Policy Act compliance initiatives is discussed in section 1.4.

4.3.3.2 Environmental Remediation

Environmental Restoration Project

The Laboratory's Remediation Services project was established in 1989 as part of a DOE nation-wide program. The mission of the project is to remedy environmental problems caused by 50 years of Laboratory operations to: 1) protect and monitor the regional aquifer; 2) clean up contaminated sites on Laboratory and surrounding private and government-owned lands to levels appropriate for the intended land use; and 3) conduct long-term surveillance and monitoring as needed to provide necessary safeguards and protection of workers, the public, and the environment. This mission increases the operational efficiency and effectiveness of the Laboratory and reduces the risk to the public. Contamination at these legacy sites, known as potential release sites (PRSs), originated from septic tanks and lines, chemical storage areas, wastewater outfalls (the area below a pipe that drains wastewater), material disposal areas (landfills), incinerators, firing ranges and their impact areas, surface spills, and electric transformers. SWMUs and other AOCs are found on mesa tops, in material disposal areas, in canyons, and in a few areas in the Los Alamos town site.

The project's goals include the following:

- Protect human health and the environment from exposure to hazardous, radioactive, and mixed wastes from past treatment, storage, and disposal practices and
- Meet the environmental cleanup requirements of the Consent Order pursuant to RCRA and the New Mexico Hazardous Waste Act.

Since its inception, the project has reduced the number of PRSs requiring further action from the original total of 2,214 sites by over 60%. The general process for evaluating and remediating PRSs is called the corrective action process. Corrective actions are complete at a PRS when the project has demonstrated and documented to the regulatory authority's satisfaction that the site poses no unacceptable risk to humans and ecological resources, such as plants and animals.

The schedule and scope of the project is subject to the requirements and conditions of the Consent Order and is currently scheduled for completion in FY15. The present projected cost of this project is $729M from FY06 through FY15. As part of the projected costs, additional funds ($177M) were requested for FY08 through FY15 as over target funding from DOE EM. These funds were requested to address additional costs associated with requirements of the Consent Order, and the aspects of the EPA FFCA which are not included in the original baseline or Performance Management Plan.

Decontamination and Decommissioning (D&D)

Many corrective actions at TA-21 and TA-54 cannot be completed without the D&D of excess, process-contaminated buildings. At TA-21, there are approximately 100,000 GSF of excess, process-contaminated facilities in DP West (the former plutonium processing facilities) and 40,000 GSF of process-contaminated facilities in DP East (the current and former tritium facilities). Most of these facilities have PRSs beneath them that cannot be investigated and/or corrective measures conducted until these facilities are removed. There are known contaminated lines and historic releases beneath many of these facilities. Only the former Tritium System Test Assembly facility in DP East has any funding programmed for the D&D of the structures. The projected cost for executing D&D projects for these process-contaminated facilities is $96M in FY07 through FY10. At TA-54, there are approximately 250,000 square feet of non- to slightly-contaminated facilities that currently support waste management operations that must be decontaminated and decommissioned to allow corrective measures at MDA G and MDA L. The projected cost for executing D&D projects for these non process-contaminated facilities is $40M in FY09 through FY15.

Contaminated Structures Left in Place

Many areas with legacy contamination cannot be remediated by 2015 because they are still in use. Examples include the Laboratory’s active firing sites, the existing system of buried radioactive

liquid waste collection lines, as well as many sanitary waste lines that were contaminated by past operations. These facilities and systems will be managed in place as long as they are required to support active operations. When no longer needed, they will be remediated by NNSA. Because these facilities and systems are contaminated, there are additional costs associated with their maintenance or any required conversion activities.

Industrial Use Zone Restrictions

Many contaminated sites will be remediated only to industrial use standards, in part because cleaning up to residential or unrestricted use standards is prohibitively expensive. Future construction, maintenance and other activities will be more expensive in cases where these "brownfields" will require additional environmental controls or on-going monitoring activities.

4.3.3.3 Legacy Transuranic (TRU) Waste

Under the Laboratory's Legacy Waste Disposition Program all legacy waste will be properly characterized, treated, and disposed of by 2012. The program is designed to facilitate significant cost savings and with current schedules, calls for the disposition of all legacy waste 20 years earlier than originally projected. Wastes that resulted from programmatic activities carried out at the Laboratory before a generation-to-disposal management path existed are known as "legacy" wastes.

These wastes have been kept in interim storage at the Laboratory awaiting final disposal. The scope of the Waste Disposition Program includes the treatment, storage, and disposal of all Laboratory TRU waste and MLLW generated before October 1, 1998. Nine thousand cubic meters of TRU waste is to be characterized, packaged, and shipped to WIPP by the end of FY12. Of this total, 3,387 cubic meters must be retrieved from below grade. Approximately 1,400 shipments of TRU waste to WIPP are planned. Four hundred cubic meters of the waste that is stored above ground contains high-activity waste. This waste represents the greatest nuclear risk on the site and will be disposed on a priority basis by FY06. The Laboratory's Waste Disposition Program also includes the disposition of 32 cubic meters of legacy MLLW. As currently planned, this disposition will be accomplished by the end of FY05. All legacy TRU waste must be disposed by 2012 so that buildings at Area G (located at TA-54) can be demolished and MDA G at Area G can be remediated by 2015.

4.3.3.4 Environmental Surveillance and Monitoring

Under DOE O 231.1, Environmental, Safety and Health Reporting, the Laboratory prepares an annual Environmental Surveillance Report (ESR) summarizing the results of environmental monitoring of air, surface water, groundwater, sediments, soils, biota, and foodstuffs. The ESR summarizes results of the on-site, site perimeter and regional sampling efforts of the Laboratory's Environmental Surveillance and

Monitoring program and reports on the previous year's sampling results as well as multi-year trends. Results are discussed in the context of statistical significance and compliance with applicable media-specific environmental protection regulatory requirements.

The Laboratory's Environmental Surveillance and Monitoring program has recently become more narrowly focused on activities that are specifically intended to ensure compliance with new regulatory drivers like the Consent Order and the FFCA/AO. The Consent Order is the principle regulatory driver for groundwater surveillance and monitoring under the implementation of the Laboratory's Groundwater Protection Program. Surveillance and monitoring of surface water (particularly storm water) is now dictated by the regulatory requirements of the FFCA/AO. As a result, the scope and costs associated with these aspects of the Laboratory's surveillance and monitoring activities will be directly influenced by the direction and future requirements of these compliance drivers.

4.3.3.5 Pollution Prevention

Beginning in FY06, DOE/NNSA pollution prevention goals are directly tied to DOE Order 450.1 and are based on EMS performance rather than simple numerical targets for volume reduction. The intent is to use tools such as pollution prevention opportunity assessments (PPOA) through the EMS to identify risk reduction opportunities. The Laboratory will continue to track progress on specific waste volume categories: hazardous waste, low-level waste, mixed low-level waste, solid TRU waste, EPA Toxic Release Inventory waste, sanitary waste, sanitary material recycling, cleanup/stabilization waste reduction, and affirmative procurement.

The Laboratory anticipates new policy requirements under DOE P 450.X, *Draft DOE Pollution Prevention and Environmental Stewardship Strategic Goals*, that will require increased attention on protecting the environment and enhancing mission accomplishment through incorporation of environmental stewardship in program planning and operational design. The following areas of increased institutional focus have been developed in response to the anticipated DOE policy:

- Integrated new project review,
- Green building design,
- Green chemistry (upstream process change using PPOA and Generator Set Aside Fund projects), and
- Waste volume forecasting.

Integrated New Project Review

Integrated new project review (INPR) comprises the institutional support required for environmental reviews of proposed projects in support of Laboratory mission. By identifying requirements clearly, the INPR process can assist customers in meeting the requirements of pertinent environmental laws, rules, policies, and regulations. The primary objectives of INPR are to provide environmental reviews for proposed projects in support of operating groups, facility management personnel, and other

DOE and Laboratory organizations and determine applicable regulatory requirements. ENV Division provides the environmental subject matter expertise for the Laboratory's Permits and Requirements Identification System (PR-ID).

Green Building Design

As the Laboratory replaces an aging infrastructure, it is critical to design and construct buildings that are resource efficient, cost-effective for the entire life-cycle of operations, and promote the productivity of their occupants. Laboratory engineering standards have been implemented to facilitate these goals. The specifications require use of certain preferable products like low volatile organic compound (VOC) paint. The standards drive sustainable design practice through various design criteria and use of the Leadership in Energy and Environmental Design (LEED) green building rating system (e.g., Certified, Silver, and Gold).

Generator Set-Aside Fund

The Generator Set-Aside Fund (GSAF) is an applied pollution prevention program that targets priority waste streams for reduction or elimination. A small recharge is levied on both solid and liquid waste volumes, creating a funding source. Proposals are solicited annually from generating divisions and projects are selected through a peer-review process. Typically, 10-15 projects can be funded in a given year. Over the last five years this program has shown a 224% return on investment.

Proactive waste volume and cost forecasting tools provide long-range planners information needed to reduce environmental risk and costs to mission operations. Problematic wastes streams (TRU, Low-Level Radioactive Waste [LLW] and Solid Mixed Low-level Waste [MLLW]) will continue to be priorities for the Pollution Prevention program. Table 4-14 summarizes pollution prevention projects and initiatives designed to minimize Laboratory waste streams.

Finally, an effort is underway to coordinate chemicals management at the Laboratory in a manner that works to encompass the entire life-cycle of the chemical from procurement through use and recycle to final disposal. The coordinated system will enhance regulatory compliance and minimize the risk of pollution from chemicals released to the environment.

Table 4-14: Current waste elimination and minimization projects and initiatives.

Waste Type	Pollution Prevention Project/Initiative
Transuranic (TRU)	• Small-Scale Granulator and Compactor for PF-4 TRU Waste • Glovebox Decontamination • Glovebox Failure Analysis • Bromine Replacement Project • Solidification of Liquid Residues • TRU Waste Reduction for Pu by X-ray Fluorescence • Waste Stream Minimization in Metallography by Utilization of Ion Polishing
Low Level Radioactive (LLW)	• DX Volume Reduction Projects • Craft Source Elimination PPOA at CMR & TA-55 • RLW Clarifier Performance Enhancer • Shot Containment Improvements • Containerized Shots • Dry Machining of Uranium • Compaction of LLW
Mixed Low Level Radioactive (MLLW)	• Oil and Water-free Vacuum Pumps • Plasite Paint Replacement at TA-55 • Characterization of Spent Resin Beds at LANSCE • Lead Recycling from TA-48 and CMR
Radioactive Liquid (RLW)	• Beryllium Technology Facility Laundry Facility • TA-48 Perchlorate Hood Consolidation • Waste Generator Training • TA-3-102 ESA Machine Shop Evaporator • TA-3-66 Electroplating Bath Steam Condensate • TA-35-213 Liquid Ring Vacuum Pump Water • TA-3-102 ESA Shop Showers

4.3.3.6 Other Environmental Initiatives and Issues

DOE Order 450.1, Environmental Protection Program

DOE Order 450.1, *Environmental Protection Program*, was issued January 15, 2003 and requires the Laboratory to implement an Environmental Management System (EMS) by December 2005 that will:

1. Provide systematic planning, integrated execution and evaluation of programs for public health and environmental protection, pollution prevention and compliance with applicable environmental protection requirements;

2. Include policies, procedures and training to mitigate and control identified activities so they do not have negative environmental impacts; and,

3. Include measurable environmental goals, objectives and targets that are reviewed annually and updated.

The Laboratory is actively implementing a performance-based EMS using the International Standardization Organization (ISO) 14001 framework. The EMS is being implemented in FY05 and will be updated annually beginning in FY06. Implementation requires identification of significant environmental aspects, prioritizing those aspects with the greatest risk to mission operations, and developing an action plan to continuously improve environmental performance. The action plan requires specific objectives, targets and metrics that will form the basis of environmental performance measures beginning in FY06.

Resources Conservation

The Laboratory continues to actively pursue resource conservation initiatives aimed at reducing the consumption of water, electricity and vehicle fuel. The Laboratory has established a goal to continue reducing its consumption of water to no more than 30% of the total Los Alamos County groundwater rights. Efforts to reduce consumption of electricity have been focused on improving cooling tower chiller unit efficiency, facilitating the use of Energy Star–compliant computers, and modifying the Laboratory's engineering standards to encourage power conserving building design. Approximately 20% of the Laboratory's vehicle fleet is capable of using alternative fuels such as E-85 (85% ethanol and 15% unleaded gasoline) and B-20 (20% diesel derived from non-petroleum sources and 80% regular diesel).

Excess Equipment

Programmatic work and facility operations, plus associated maintenance actions, generate significant quantities of excess equipment. All excess equipment must be characterized and properly dispositioned for resale or as salvage, scrap metal, or waste. Facilities that are accumulating excess equipment must be funded to characterize and manage the equipment in accordance with regulatory requirements. Funding limitations prevent the Laboratory from characterizing and disposing of much of the existing excess equipment.

Scrap Metal Recycling Moratorium

In FY00, DOE issued a moratorium on recycling scrap metal that originates from a radiological controlled area. The Laboratory must now either store these wastes indefinitely in anticipation of the moratorium being lifted, identify them as suspected LLW and dispose of them onsite, or find off-site disposal capacity. The first option poses compliance vulnerabilities, the second option consumes limited LLW landfill space, and the third has proven expensive and time consuming.

Wildland Fire/Forest Management Planning

Following the 2000 Cerro Grande wildland fire, the Laboratory was provided special Congressional funding for forest thinning, forest fuels mitigation,

defensible space maintenance around Laboratory facilities and utility corridors, and fire road development and maintenance. The first phase of this initiative was completed at the end of FY03. DOE's issuance of DOE Order 450.1 and the February 24, 2003, DOE Secretarial Memorandum "Department of Energy Wildland Fire Management Policy" requires the Laboratory to develop and implement a "Wildland Fire Management Plan" to address long-term wildland fuels management/mitigation, site protection and forest management objectives. Institutional funding is available to develop this plan; however, funding required for long-term mitigation and fuels management to implement this Plan has not been allocated at this point.

Table 4-15 provides a summary of the major (i.e., estimated costs greater than $10M) ES&H requirements and projects. The table is based on best-available information and summarizes the requirement/project, authority, implementation status, funding, timeframe, and impacts to facilities and new construction.

Table 4-15: Summary of major ES&H requirements and projects.

Requirement / Project	Authority	Implementation Status	Project Funding $K	Project Timeframe	Funding Status	Impact to Current Facilities	Impact to New Construction
Regulatory Permitting and Compliance							
New Mexico Environment Department (NMED) Consent Order							
Environmental Restoration (including additional ground water monitoring requirements)	Legally enforceable order	Underway	$729,000 plus $177,000 EM over target request	FY05-FY15	Overtarget requested from EM. (NNSA-RTBF and LANL (programmatic) also provide funding for ground-water monitoring).	None	N/A
TRU Waste Consolidation Facility	Necessary to implement legally enforceable order	Approval to begin conceptual design 2nd Quarter FY06	$46,500	FY06-FY11	Identified as proposed Line Item (RTBF) project in FY06 TYCSP	Project requires D&D of existing TA-54 Area G facilities and infrastructure	Project scope includes new construction at location other than MDA G at TA-54 Area G
Remote Handled TRU Waste Processing Facility	Necessary to implement legally enforceable order	TBD	$29,700	FY06-FY11	Identified as proposed Line Item (EM) project in FY06 TYCSP	None	Project scope includes construction of a new temporary Category 2 nuclear facility
D&D at TA-54 Area G (non-process-contaminated)	Necessary to implement legally enforceable order	Pending	$40,000	FY09-FY15	Proposed	Selected facilities at TA-54 would be removed	TBD
D&D at TA-21 (process-contaminated)	Necessary to implement legally enforceable order	Pending	$96,000	FY07-FY10	Proposed	Facilities at TA-21 would be removed	TBD
Clean Water Act							
Implementation of the FFCA/AO (for surface water monitoring)	Legally enforceable agreement under Clean Water Act	Underway	$43,500	FY05-FY15	Over-target requested from EM ($28.5) and G&A ($15M)	Increased storm-water monitoring costs	TBD

Table 4-15: Summary of major ES&H requirements and projects (continued).

Requirement / Project	Authority	Implementation Status	Project Funding $K	Project Timeframe	Funding Status	Impact to Current Facilities	Impact to New Construction
Clean Water Act (continued)							
RLWTF Upgrade		Proposed as a line item construction project	$67,000	FY06-FY12	Identified as line item construction project in Attachment A	All chemical processing of radioactive liquids depends on RLWTF for effluent processing	Project scope includes significant upgrade and refurbishment of existing facilities and infrastructure
Capability Replacement							
Area G Corrective Action and Expansion	Operational requirement	In planning	TBD	TBD	TBD	None	Scope of project includes excavation of new LLW disposal pit at TA-54
Los Alamos County Landfill Closure	Operational requirement tied to current landfill capacity	Current Special Use Permit will be modified to extend existing lease footprint and conditions to include new Waste Transfer Station. Waste will be transported to existing off-site facility	Land fill closure TBD Waste Transfer Station ~$4,000	Landfill closure TBD Waste Transfer Station FY06	Waste Transfer Station will be funded by Los Alamos County	Land fill will require permitted closure when capacity is reached	New Waste Transfer Station will be required
Public Law 105-119, Land Transfer Act							
Land Transfer Project	Legal requirement under Public Law 105-119	Underway	$8,200	FY06-FY07	RTBF funded; also requires EM remediation funding to clean-up transfer parcels	None	

4.4 WORKFORCE PROFILE

As of May 2005, the Laboratory workforce was comprised of employees from UC (9,450), KSL (1,453), and PTLA (568) in addition to supplemental contract labor (669), student assignments (1,314), and guests/affiliates (1,233). These statistics do not include a temporary influx of summer students and guests that join the Laboratory for short-term assignments or special programs and crafts workers that support seasonal site and construction activities. It is estimated that the temporary summer staff represents some 350 additional people not included in Figure 4-13. The career workforce (excludes guest/affiliates, PTLA, and KSL) comprises approximately 11,433 of the 14,687-member workforce.

Figures 4-14 and 4-15 further characterize the career workforce as of May 2005 in terms of ethnicity and levels of education.

Optimizing performance of human resources is fundamental to mission success. The Laboratory fosters excellence in a workforce that is richly diverse in people and capabilities by taking a planned approach to attracting, acquiring, aligning, developing, and retaining talented people. By encouraging a positive, supportive, and creative atmosphere, and by providing facilities that enhance information exchange and include modern capabilities, NNSA, DOE, and other missions are enabled.

At the Laboratory, workforce planning anticipates strategic and tactical workforce needs and requirements to meet current and future Laboratory programmatic efforts. Workforce planning is needed to address projected budget changes, an aging workforce, and the need to meet increased competition for critical skills. The Laboratory's Workforce Planning model is summarized in the following series of steps:

1. Identify future Laboratory strategic and tactical programmatic initiatives,
2. Characterize the current workforce,
3. Identify future Laboratory strategic and tactical programmatic needs,
4. Perform gap analysis,
5. Determine action plans and sources for filling gaps, and
6. Monitor progress and modify.

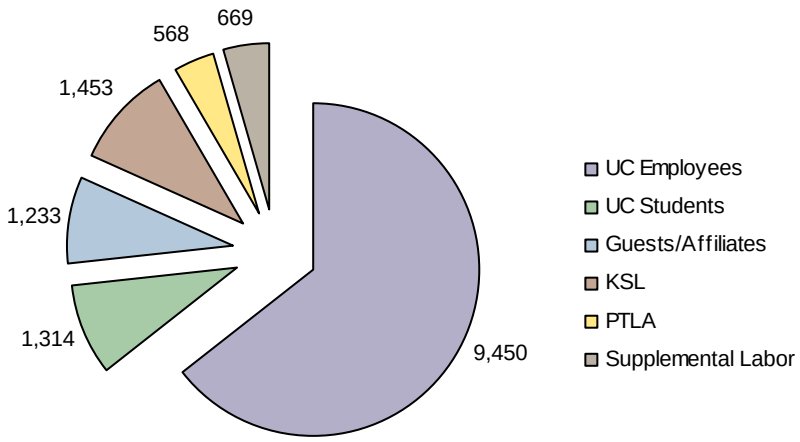


Figure 4-13: Total Los Alamos employees, May 2005.

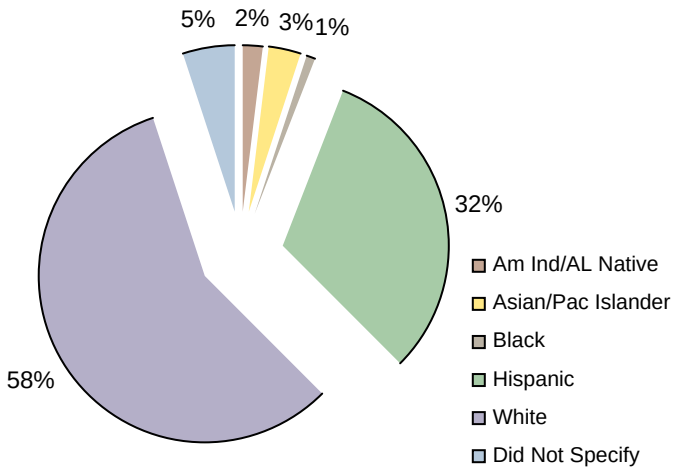


Figure 4-14: Career workforce ethnicity.

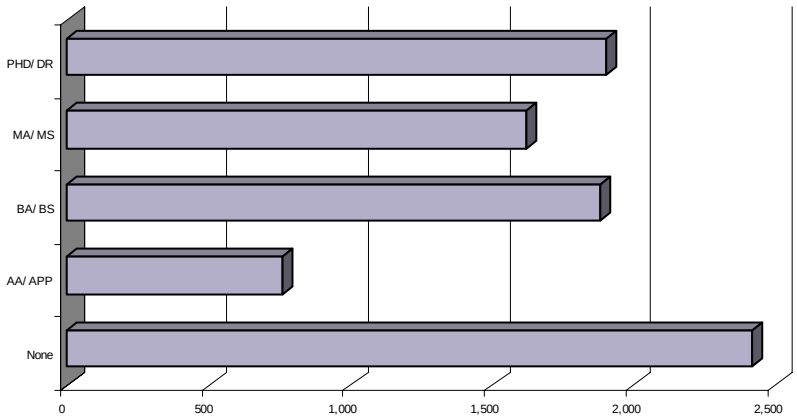


Figure 4-15: Regular UC employees by highest degree.

As part of workforce planning, the Laboratory conducts annual workforce reviews. FY05 is the fourth year that workforce reviews will be conducted on a formal basis. The purpose of the workforce review is to ensure a ready and continuous supply of highly skilled, competent workers. Specific workforce planning outcomes include the following:

- Allows more effective utilization of employees through accurate, efficient alignment of the workforce with strategic objectives,
- Helps ensure that replacements are available to fill important vacancies, especially critical as we face increased turnover due to anticipated Laboratory retirements and terminations due to contract competition and other factors, coupled with labor market shortages and limited compensation options,
- Provides realistic staffing projections for budget purposes,
- Ensures that recruitment resources are more efficiently and effectively used,
- Provides better focused investment in training and retraining, career development, retention, and productivity enhancement, and
- Helps maintain or improve diversity profile.

Data and other qualitative findings from the workforce review will be used in support of the Laboratory's Enabling Goal H (Develop the agile workforce for the future), Appendix F Objective 7 (Utilize UC strengths to recruit, retain, and develop the workforce basis), and to understand the impact on the workforce from other areas such as conditions of workspace and facilities.

In this time of uncertainty about the future management contractor of the Laboratory, a "superhigh" institutional objective on recruitment and retention has been established. The near term focus is on retention, with actions such as: rehiring retirees with critical skills, reducing obstacles to doing science, and conducting workshops to train managers on knowledge capture. In the area of recruitment, the Laboratory is improving the services it provides (e.g., assisting in hiring Q cleared people from other sites, assisting with spousal hiring, and organizing recruiting events). The institution is also in the process of forecasting future hiring needs by capability area. Foreign nationals are an important part of the Laboratory workforce, so issues specific to foreign nationals are being worked to assist with retention and recruitment of that portion of the workforce.

Contingent Worker Project

The Contingent Worker Project was established in December 2003 to examine whether the Laboratory's use of subcontract labor was consistent with sound business practices and whether some assignments currently filled by contingent workers might more appropriately be designated as UC positions. The Contingent Worker Project determined whether work at the Laboratory should be performed by UC employees or contingent workers, and resulted in reduced costs associated with contingent worker contracts. At the time, more than 3,000 contingent workers were part of the Laboratory workforce (excluding KSL, PTLA, and Aramark).

These workers were employees of a labor subcontractor, or contract staffing "staff augmentation" subcontractors. This project was not a reduction-in-force.

A Contingent Worker Project Team was established to work with Laboratory management and review all assignments filled by contingent workers and determine whether use of the various categories of workers at the Laboratory was appropriate. Once the assignments were analyzed, an accelerated process began posting job advertisements for newly created UC positions. The newly created UC positions were open to all external and internal applicants. As of August 2005, 800 positions had been filled as part of the Contingent Worker Project.

Workforce Trends

Table 4-16 provides current workforce numbers by Directorate. The projected decreases for FY05 are based on end of year targets. An estimate of potential workforce changes is provided for the out years (FY06-FY09). Critical skills are a subset of the total workforce and defined as positions assigned 25% or more to the stockpile stewardship mission. A critical skill position is required to maintain the nuclear deterrent capability indefinitely or is required to support a specific tangible aspect of stockpile stewardship. In addition, a critical skill position must meet at least one of the following additional attributes.

- **Extended Time to Acquire**—skill and related proficiency can only be acquired after some extended period of explicit on-the-job training/experience (2 to 3 years or more).
- **Complexity of Skill**—skill is related to a scientific, technical or engineering discipline required by the mission, or to the management of a technical aspect of the mission.
- **Uniqueness of Skill**—skill is unique to the mission of the nuclear weapons complex.
- **Difficult to recruit and retain** — candidates for the critical skill position are difficult to recruit or employees with the critical skill are difficult to retain.

As of May 2005, there has been a net decline of 19 in the Laboratory workforce since the start of FY05. It is anticipated that there will be a net decline of 253 by the end of FY05.

Table 4-16: Current and projected workforce levels and critical skills by directorate.

	FY03	FY04	May 2005	FY05	FY06	FY07	FY08	FY09
Administration, Technical Services, and Security and Facility Operations Directorates								
Workforce	3,953	3,727	3,497	3,296	3,230	3,165	3,102	3,040
Critical Skills	247	222	159	130	131	131	130	305
Nuclear Weapons Program (PADNWP)								
Workforce	N/A	33	79	79	77	76	74	73
Critical Skills	N/A	4	49	49	49	49	49	49
Strategic Research Directorate								
Workforce	1,839	1,810	1,765	1,768	1,733	1,698	1,664	1,631
Critical Skills	240	259	330	193	197	198	198	197
Threat Reduction Directorate								
Workforce	1,435	1,526	1,564	1,535	1,504	1,474	1,445	1,416
Critical Skills	123	118	88	82	85	90	90	90
Weapons Engineering & Manufacturing Directorate								
Workforce	1,877	1,891	2,020	2,103	2,061	2,020	1,979	1,940
Critical Skills	654	671	808	974	933	915	822	822
Weapons Physics Directorate								
Workforce	2,514	2,466	2,508	2,419	2,371	2,323	2,277	2,231
Critical Skills	726	737	920	855	866	878	886	889
Total								
Workforce	11,618	11,453	11,433	11,200	10,976	10,756	10,541	10,331
Critical Skills	1,990	2,011	2,354	2,283	2,261	2,261	2,175	2,352
Net Increase (from prior year)								
Workforce		-165	-19	-253	-224	-220	-215	-211
Critical Skills		21	343	272	-22	0	-86	177

May 2005 data was used in this table as Critical Skills information was recently updated.
FY05 Projections are based on end-of-year targets.
Projections assume small decreases in the workforce (2%/year) for FY06-FY09.
FY03 and Fy04 and end-of-year actuals.
Totals exclude KSL, PTLA, and guests/affiliates.

From the beginning of FY06 through FY09, the Laboratory will experience small (approximately 2% per year) decreases in the number of personnel. The estimated decreases come from lessons learned and feedback from the programs, DOE Chief Financial Officer, NNSA's Planning, Programming, Budgeting, and Evaluation office, representatives from the Energy Facilities Contractor Operators Group, and results from the Office of Management and Budget Program Assessment Rating Tool.

In addition to the impact and need for hiring critical skills positions, the

Laboratory is facing an aging population and will see increases in retirements over the next five to 10 years. Figure 4-16 illustrates the age distribution of the UC Regular work force and the years of service within each age category. The data indicate approximately 20% of the workforce is now eligible for retirement using the sum of age and years of service as a benchmark. Historical data show that retirements increase significantly when the sum reaches 75 or more. Among employees with 20 or more years of service, approximately 27% of that workforce is considering retirement.

Recruitment of entry-level employees (five or less years from highest degree) is a key Laboratory goal. Since the beginning of FY01, efforts in hiring early career technical staff members (TSMs) have increased the number of UC Regular TSMs under the age of 35 by 99. Presently there are 31% more UC Regular TSMs under the age of 35 than there was at the end of FY00.

The space reduction initiative (see Section 4.1.3.2) will have a major impact on the site's footprint over the next few years. However, this effort is not being driven by workforce planning; rather, the initiative will impact workforce planning by requiring the Laboratory to evaluate the mission need for every individual being provided space.

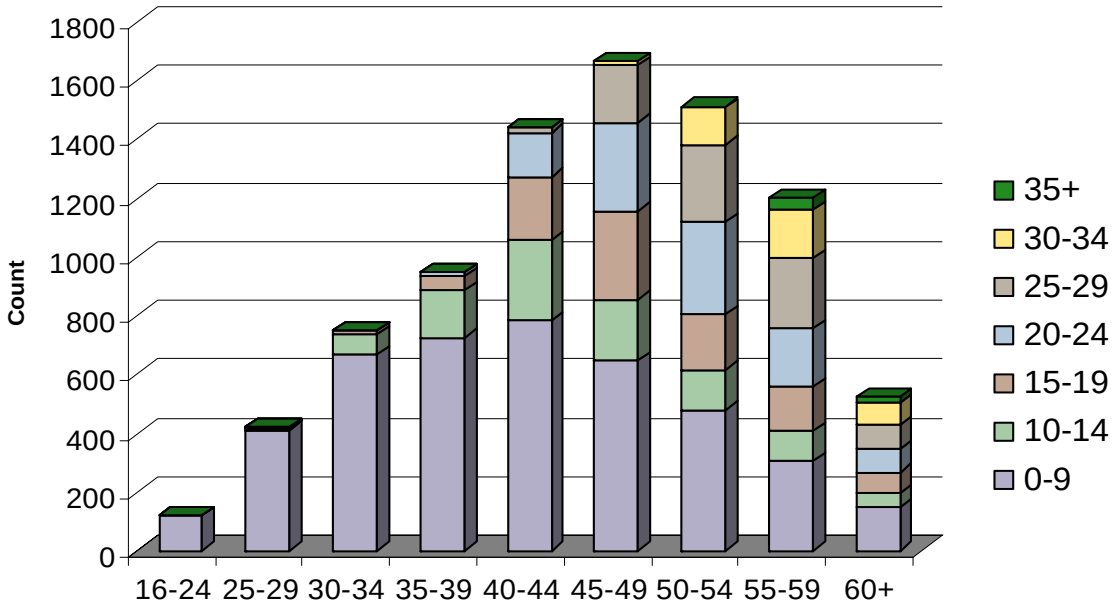


Figure 4-16: Age distribution and years of service for UC regular population.

4.5 SECURITY

4.5.1 Assets

The Laboratory's security is complicated by the size of the site, multiple scopes of work, and diversity of its holdings. With over 12,000 cleared, and 16,000 badged personnel, 150 security areas, Category I / II nuclear facilities, 6.5 million classified records, 2,000 classified computers, and many metric tons of nuclear material distributed over 40 square miles of rugged terrain, the safeguards and security program at the Laboratory is one of the most complex, geographically diverse, and operationally challenging programs in the world. This operational environment demands a security program capable of dealing with ever-changing and ever-escalating threats. The Laboratory continually maintains a responsive and multi-layered security program that supports the roles of safety, security, and science as integral components of the Laboratory's mission.

4.5.2 Protection Activities

The Laboratory has continued an aggressive program to increase the quality of its protection strategies and processes for the Laboratory's assets. Major protection activities include the following:

- Vehicle screening posts were maintained to address post 9/11 security challenges,
- An explosives detection program using dogs to screen incoming vehicles has been implemented,
- The line item construction project to replace the aging alarm system (NMSSUP Phase I), and a portion of existing alarm ports was completed in FY05,
- The line item construction project continues in development to upgrade the physical security system at TA-55 (NMSSUP Phase II), and
- A number of security posts were automated to reduce dependence on Security Police Officers (SPO) thus increasing the reliability of the access control process but also making more SPOs available to support construction projects and programmatic work.

A zoning concept for the site has been developed to ensure similar security functions are placed in proximity of each other. This action will reduce the cost for future security upgrades. A three-tiered security zoning plan has been developed. . The new Security Perimeter Road Project enables and is required to implement a layered security posture for the Laboratory.

The first tier zone has been developed for Security Category I and II SNM. TA-55 and the area immediately adjacent have been designated as space for very high operations levels that require higher levels of protection. Access to the Pajarito Road Corridor and thus the TA-55 area is limited to badge holders or approved visitors with an escort. See Section 4.7.1 for more detail on Nuclear Facilities Consolidation.

The second tier zone has been developed for Security Category III and IV SNM, BSL-3 Biological Select Agent work, and classified information. Much of the Laboratory site falls into this tier, with

consolidation of the highest levels of classified matter into TAs-3, -8, -15, -16, and -33. As the zoning concept matures, the Laboratory will be able to further consolidate security resources and provide a more open classified campus with perimeter access control within the core of TA-3.

The third tier has been zoned for unclassified research operations and space for unclassified support functions. Areas throughout the Laboratory are set aside for unclassified operations which enables close scientific collaboration with the external science community while protecting national security assets.

2003 DBT Preparation

In the post 9/11 era, physical security at the Laboratory remains strong and includes preparations to meet the threats and response requirements identified in the May 2003 DBT Policy. Most significant among those preparations are the following:

- The position of Laboratory Chief Security Officer was established to manage and integrate the many and diverse safeguards and security plans and activities across the site.
- Development and use of a DBT Implementation Plan (DBTIP) to guide efforts to achieve DOE mandated Low Risk /High System Effectiveness by the end of FY06.
- Expedited vulnerability assessments, utilizing the May 2003 DBT, to support not only the DBTIP and Site Safeguards and Security Plan (SSSP) but also new projects initiated for mission changes or construction.
- Closure of the Pajarito Corridor with permanent access control points.
- Development of the Security Perimeter Road Project to better control access to the entire site.
- Relocation of the Laboratory's warehouse operation near the truck inspection station on East Jemez Road.
- Development of the safeguards and security requirements integration process where mission change and construction projects are provided guidance early to assure all requirements are met in the most cost effective manner possible.
- Support for the Laboratory's effort to realistically input to the TA-18 Closure Plan mandated by the NNSA Administrator.

Denial Strategy Implementation Plan Project Closed Out

The purpose of this project was to ensure that the Laboratory developed and implemented a strategy for protecting assets at TA-55 in response to the DOE direction given on October 3, 2001. The majority of necessary work was completed in 2003. Per agreement with NNSA/LASO, uncompleted actions were transitioned to the DOE mandated 2003 DBTIP.

2004 Design Basis Threat Implementation Plan

Additional security protection activities are documented in the Laboratory's 2004 DBTIP. Major initiatives included in this

plan are enhancements or procurements including the following:

- Vehicle access post(s) and associated operating equipment,
- Security systems at secondary roads,
- Protective force training facilities and equipment, and
- Protective force response equipment.

Attachment A-6 provides information on security infrastructure projects related to the 2003 and 2004 DBTs.

4.5.3 Special Projects to Address Increased Security Requirements

As noted earlier, the Laboratory continues to initiate safeguards and security projects to further enhance security and meet new threats. The following is a brief description of some of these projects, and the map on the following page shows their locations.

Engineering Standards Manual

DOE directives, contractual agreements, and federal laws require the Laboratory to protect government-owned and Laboratory-managed property from theft, industrial and radiological sabotage, arson, and other malicious acts. The Laboratory is currently developing safeguards and security design and construction standards for design and construction of new facilities. These standards will be incorporated as a new chapter in the Laboratory's Engineering Manual. This guidance will be the baseline for developing, selecting, and implementing security measures that are less costly to implement when factored into the project-planning phase.

Security Technology Initiative

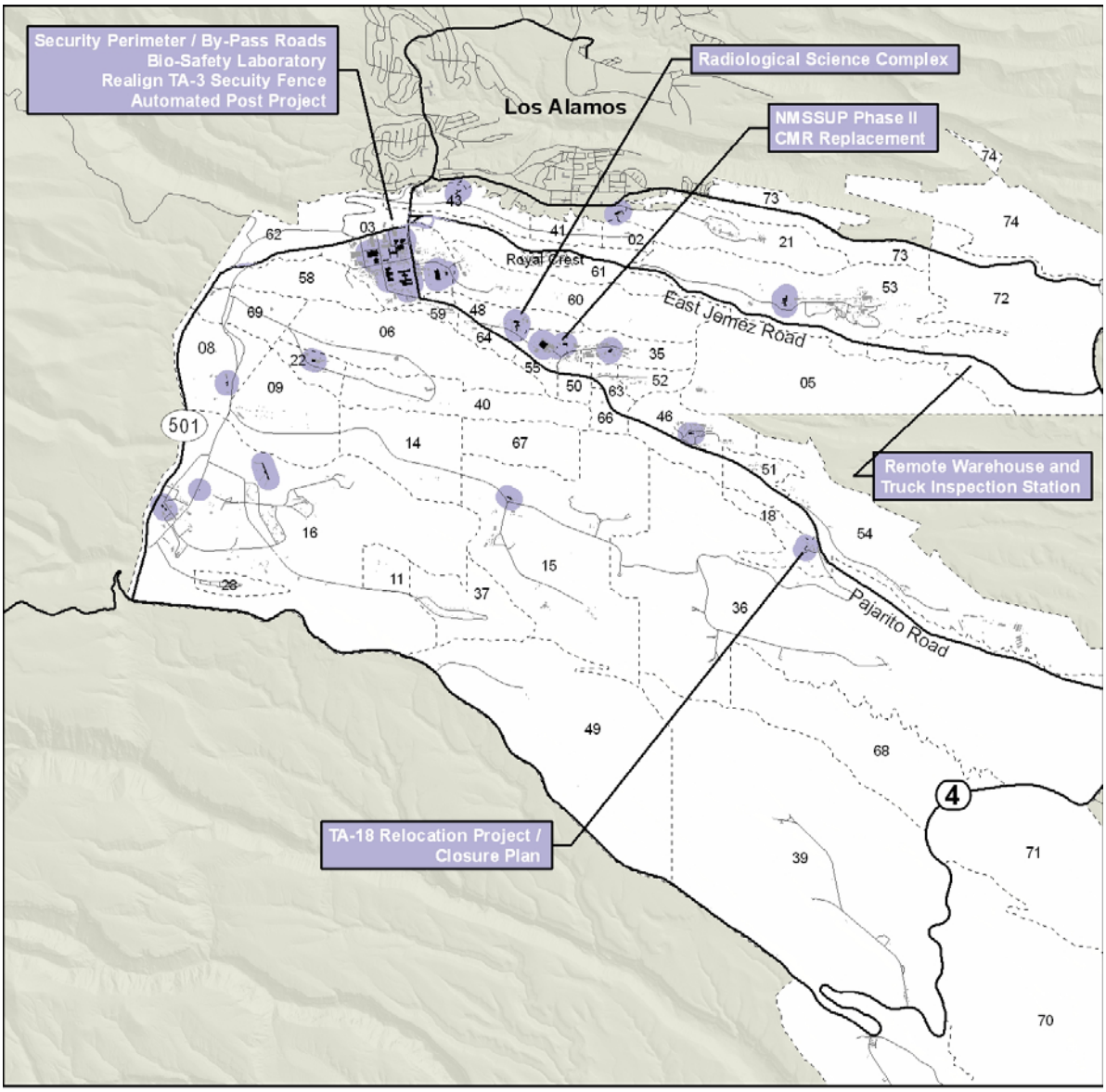
The Security Technology Initiative (STI) will identify and assess security technologies that would dramatically change the cost of security by making defensive measures insensitive to changes in the five to 20 year timeframe. The goal is to implement a corporate safeguards and security (S&S) technology strategy that leverages the Laboratory's core mission and scientific capabilities to more effectively and efficiently protect assets.

Classified Removable Electronic Media (CREM) Libraries

The Laboratory has tens of thousands of pieces of classified removable electronic media (CREM) that must be handled and protected. To track and protect CREM, the Laboratory created a centralized library system in 2005.

A classified media library (CML) is a holding of accountable CREM (ACREM) stored within a vault or vault-type room (or a locked room, if a special exception has been granted). The Laboratory currently needs 18 classified media libraries.

Establishment of CMLs has achieved operational efficiency; it has integrated security professionals into the line and program organizations to manage and operate the classified libraries. The classified library requirements and operating procedures have established an accountability system for ACREM



Special Projects to Address Increased Security Requirements

Technical Area Boundary

Classified Removable Electronic Media Location (CREM Libraries)

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(creation to destruction), provided a graded approach for implementation, and reduced the quantity of ACREM.

The Laboratory is on a fast-track to develop a Laboratory Accountability System (LAS) to replace all the individual accounting systems. In conjunction with the LAS, the Laboratory is working to create a secure "red" network which will drastically reduce the number of classified libraries as well as eliminate the volume of ACREM. Both of these security integration projects hold out the promise of more efficient and secure management of accountable matter in 2006.

Red Network Infrastructure Expansion Project

The Red Network Infrastructure Expansion Project will create a CREM-less (Classified Removable Electronic Media) workplace environment for classified computing and information processing with emphasis on support of the Nuclear Weapons Program. The project will provide (to the protected outlet box) all necessary infrastructures to help reduce the Laboratory's inventory of CREM and the need to create more CREM in the work environment.

Security Perimeter/By-Pass Roads

This project is designed to support institutional security objectives by adding access controls to West Jemez Road. New access control stations will enhance security around the TA-3 core as well as the Pajarito Corridor. Access through these stations by Laboratory badge holders will be continued during most Security Conditions (SECON). Access by the general public will continue unless higher SECON becomes necessary. Access control will also involve screening vehicles entering the Laboratory, based on SECON status.

Remote Warehouse and Truck Inspection Station

This project is designed to prevent unsearched commercial vehicle loads from entering the Laboratory. The new warehouse operation has been sited on the southwest side of East Jemez Road approximately 4,000 feet from N.M. Route 4. This places the site at the edge of the Laboratory's property, far from the core of Laboratory facilities. The operational concept calls for all Laboratory-bound materials to be off-loaded and searched at the warehouse and then transshipped to the ultimate user.

Bio-Safety Laboratory

The Laboratory has constructed a stand-alone state-of-the-art bio-safety laboratory. This one-story, approximately 3,200 GSF facility will, when opened, accommodate research to enhance public health capabilities and reduce the threat from terrorism using biological weapons.

TA-18 Relocation Project/Closure Plan

The Los Alamos Critical Experiments Facility Project will provide for the movement of Category I/II nuclear materials, operations, appropriate personnel, and infrastructure from TA-18 to the Nevada Test Site by October 2005. For Category III/IV, materials will move

to another location in Los Alamos or NTS by 2009 at which time the site will be turned over for D&D.

NMSSUP Phase II

This project will address the security system at TA-55, the Laboratory's key nuclear facility which houses and processes Category I quantities of SNM. Phase II includes the upgrade or replacement of the existing PIDAS and installation of interior intrusion detection, assessment, delay, access control, and security communications equipment for TA-55. Also included in the project are access control facilities for the Protected and Material Access Areas, which will be replaced or upgraded. These systems will be integrated with the Argus security control system that is being installed under NMSSUP Phase I. The NMSSUP Phase II project is currently approaching CD-1.

Realign TA-3 Security Fence

This project will enhance and realign the existing limited area security fence within TA-3. This realignment will allow the laboratory to encompass facilities requiring enhanced physical security protection measures. This will establish the footprint of what will be designated as the TA-3 Limited Area Security Boundary. With the reinvestment and development of the TA-3 core in which several new construction projects have recently been completed, the Laboratory needs to expand its limited area protection boundary as required by DOE Order 473.1, Physical Protection Program. This will allow the laboratory to minimize the number of manned security posts throughout the current TA-3 limited area boundary by focusing on the addition of the automated posts to be incorporated into the design of the new limited area security fence.

Automated Post Project

The Automated Post Project will automate six security posts in the TA-3 area. This satisfies the requirements of NNSA Program Execution Guidance for FY 2005, Safeguards and Security Annual Operations Plan Development, dated July 20, 2004. This guidance directs the Laboratory to undertake access control system automation projects with short payback periods (less than two years) that result in a reduction in Protective Force manpower and/or the transition of Protective Force labor assets to the protection of high value assets.

CMRR

The Chemistry and Metallurgy Research Replacement (CMRR) Project will relocate and consolidate mission critical analytical chemistry, material characterization and actinide research and development capabilities to a new facility as part of the Laboratory's efforts to maintain and certify the nation's nuclear weapons stockpile.

The CMRR is a major element of overall nuclear facility consolidation at TA-55. Relocation of CMR capabilities to TA-55 will significantly improve security posture by consolidating the nuclear footprint, reducing the need for transfer of SNM over public roads, and reducing operational security costs.

A full-time security coordinator has been assigned to the CMRR project to ensure the incorporation of safeguards and security requirements as established by DOE and the Laboratory into the CMRR facility designs. The CMRR Project interfaces with the Nuclear Materials Safeguards and Security Upgrade Project, Phase II to ensure project schedules do not adversely impact the construction of the Perimeter Intrusion Detection, Assessment, and Delay System at TA-55. Additionally, CMRR S&S will be incorporated into the overall TA-55 protection strategies as identified in the Design Basis Threat Implementation Plan.

Radiological Science Complex

The Radiological Science Complex Project will construct a state-of-the-art modern radiological science complex needed to meet current and future Laboratory missions as well as current federal and state requirements. This complex will replace several aging radiological facilities throughout the Laboratory and provide facilities necessary to continue to perform the basic and applied research in nuclear science and technology.

4.5.4 Security Infrastructure Portfolio

The Laboratory has identified its Security Infrastructure Portfolio (SIP), or facilities that are critical to the safeguards and security mission, in Attachment H. The SIP consists of only real property (i.e., bricks and mortar) and excludes related real property (e.g., alarm systems) and programmatic real property (e.g., PIDAS). The SIP consists of both mission essential and balance of plant structures. Identifying the SIP ensures that no facilities and infrastructure related to NNSA's security mission have been overlooked within the programs, processes, and portfolios comprising NNSA's facilities management. Maintenance planning and budgeting for the SIP is included in the Laboratory's maintenance program as described in Section 4.1.7. In addition, funded and unfunded security projects that will add real property to the SIP are shown in Attachment A-6. The map on the following page shows the location of the Laboratory's SIP.

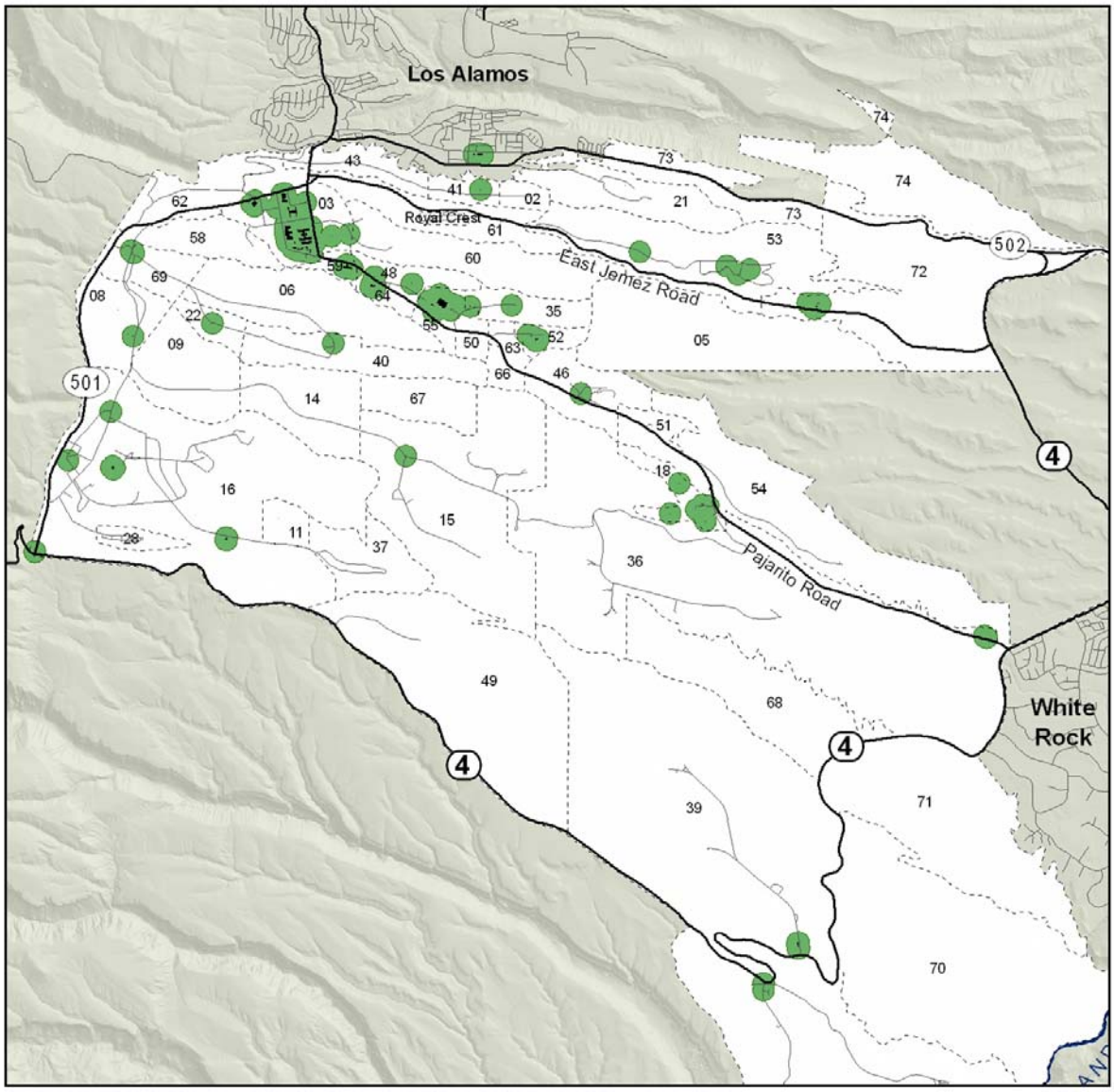
4.5.5 Integrating Security Planning

Security Integration Board

The mission of the Security Integration Board is to provide an integrated approach to security throughout the Laboratory by developing formal processes for emerging security-related institutional S&S policy, resolving S&S issues, determining budget and resource allocation, and coordinating responses to external reviews, investigations, audits, and findings.

Protection Program Planning Team (PPMT)

Due to the need for continuity in S&S practices, many SIB members are also members of the PPMT to which the SIB reports. The Laboratory and LASO have continued a management-level working group that provides program direction and



Security Infrastructure Portfolio

LEGEND

Technical Area Boundary

Security Infrastructure Portfolio Assets

(Facility footprints are exaggerated, or buffered, for readability at a sitewide perspective)

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implements Laboratory S&S policy. This team ensures that appropriate levels of protection are in place to protect against the approved DOE DBT and that a graded approach is applied to security planning and resource identification.

The PPMT provides a forum for S&S requirement integration, mission prioritization, stakeholder cooperation, and risk management. Relative to S&S FS-20 funding, guidance is passed to the Security and Safeguards (S) Division and options evaluated by the PPMT such that budgetary planning and prioritization take place with appropriate levels of senior leadership input. The PPMT also ensures that the Laboratory's vulnerability assessment process and SSSP provide the protective measures and strategies necessary to ensure acceptable levels of protection for DOE assets. PPMT membership includes the LASO Site Manager and S&S Director, the S Division Leader, S Division groups, and various other Laboratory groups involved in programmatic security activities.

Requirements Integration Team

S Division has established the Requirements Integration Team (S&S RIT) which serves as the Laboratory advocate to promote Integrated Safeguards and Security Management (ISSM). This ensures that S&S planning is systematically integrated into all Laboratory construction, facility modifications or upgrades, mission change, and operational projects at the earliest possible stages of development. This integration provides an avenue for the S&S community to join the process of modernizing Laboratory infrastructure and supporting new missions early on in their respective project life cycles.

This initiative is in sharp contrast to prior approaches, where security issues were introduced into many projects in later, less feasible, stages. S&S integration into Laboratory site planning helps to create efficiencies on an institutional level. Defining security requirements in the preliminary project planning phase is critical.

This proactive involvement helps to standardize S&S applications throughout the institution and provides opportunities to view S&S interdependencies among and between projects and functions across the Laboratory. Early integration into projects also helps avoid retrofit and costly rework in later stages.

The formality of operations being championed by the S&S RIT identifies, captures, and addresses the level of "security interests" for S&S that need to be included in project pre-planning, decision analysis, and execution. This integration also ensures that the appropriate subject matter expert(s) from the S&S disciplines engage Laboratory project managers and owning organization and responsible project authorities to plan, design, develop, and implement S&S systems that are compliant with the Laboratory's policies and procedures and other relevant and applicable federal agency requirements.

The S&S RIT also ensures integration of requirements and guidance on design and installation of telecommunications,

information, and cyber security systems. The S&S RIT is also an active participant in institutional site planning efforts to ensure that S&S planning is systematically integrated in the planning process.

4.5.5 End State of Security Efforts

Considerable effort has been put into safeguards and security at the Laboratory over the past few years. That effort has been successful, but there is still much more work ahead. As a part of the DBTIP, the Laboratory will continue the effort to improve its safeguards and security program.

The DBTIP and SSSP, the security authorization basis, actually describe what the “End State” of all of the planned security enhancements must be, and further provide a definitive and positive direction in which to direct Laboratory safeguards and security efforts. They will continue to be of critical importance as scarce security resources are appropriated to meet the ever-changing increases in the threats to the Laboratory.

4.6 TRANSPORTATION AND PARKING

The Laboratory's remote location, topography, and development pattern create unique transportation problems. Its location on a series of mesa tops separated by deep canyons and the dispersed arrangement of facilities combine to make access between Laboratory facilities difficult and circuitous. Development of roads and parking has been incremental, often guided by short-term needs.

There are only four major entrance points to the Laboratory, and many TAs and facilities have only one avenue of access. There are approximately 43 miles of paved roads onsite, and the Laboratory is responsible for the maintenance, repair, replacement, and operation of all existing paved roadways and parking lots, sidewalks, traffic control/signals, traffic signs, guardrails, and bridges. Maintenance of the transportation infrastructure has generally been inadequate to keep up with needs. The Laboratory has been identifying and prioritizing needed roads projects based on accident rates, compliance with traffic standards, and comprehensive planning. Focus is being given to resolving inadequate parking capacity, Americans with Disabilities Act (ADA) compliance, and safe pedestrian access, in particular to TA-3 facilities. Initiatives to ensure the capability and sustainability of the roads and parking system are shown on the following page. Additional information on these initiatives is provided in Attachment A-5.

4.6.1 Parking

Construction activities in the northwest sector of TA-3 prior to FY03 eliminated over 800 parking spaces. New surface lots replaced some of the lost spaces, but many were constructed in other areas of TA-3, away from where population increases were occurring.

Table 4-17: Existing road lengths and parking.

		Approximate Length
Roads	Primary (Paved)	19.7 miles
	Secondary	23.1 miles
	Unpaved	112.2 miles
	Total Roads	**155.0 miles**
Parking	Paved Parking	4,068,098 sf

To address this situation, the Laboratory completed its first parking structure in April, 2004. This structure, funded as an IGPP and located just to the west of building TA-3-31, resulted in 200 net parking spaces. Another structure, completed in April, 2005, was funded as part of the new National Security Sciences Building. This structure added over 300 net parking spaces to the northwest sector of TA-3. The parking situation in TA-3 continues to be studied as future construction projects are planned, and additional new surface parking lots are possible.

Table 4-18: Transportation system condition assessment and related projects.

System	Condition Assessment						Deficiencies (■ Major, △ Minor)										Recommended Action					Related Projects
	Excellent	Good	Adequate	Fair	Poor	Fail	Capacity	Future Capacity	Age	Phyiscal Condition	Efficiency	Reliability	Operations	Maintenance	Environmental	Safety	No Action	Repair	Upgrade	Replace	Further Study	
Roads																						
Roads			✓					■	△	△				■		■		•	•			Security Perimeter Project; Multiple Intersection Upgrades; Mill and Overlay Pajarito Road; East Jemez Road Widening; Repair R Site Road; Repair Anchor Ranch Road South; W. Jemez from Casa Grande to West Road; Pajarito Rd. TA-59 to TA-64 Access; Repair Eniwetok to Sigma Mesa; W. Jemez Road Shoulders; Mill and Overlay Secondary Roads; W. Jemez Overpass at TA-3. Manual on Uniform Traffic Control Device (MUTCD) Compliance. Omega Bridge Ice Reduction Overlay.
Parking Lots					✓		■	■	■							■		•	•			ADA Compliance; Mill and Overlay Parking Lots; Pajarito Rd. TA-59 to TA-64 Parking;
Sidewalks					✓					■						■		•	•			Sidewalk/Curb Trip Mitigation; ADA Compliance; Repair TA-53 Sidewalks
Traffic Control Devices				✓															•			Replace Traffic Signals; Roadside Safety-Obstacles/Guardrails; Sign Upgrades.

4.6.2 Regional Transit

In May 2003, the New Mexico State Transportation Department established a regional park and ride system to provide commuter bus service between the cities of Santa Fe, Española, and Los Alamos. Most of the estimated 3,400 riders are destined for TA-3. The Support Services Subcontractor is providing on-site transportation from the bus center location at Diamond Drive and East Jemez Road to other Laboratory locations as required. The commuter bus service was initially funded for only 18 months during construction work along Highway 84/285. However, local governments are working to establish a permanent regional transit authority to maintain and perhaps expand the service in north-central New Mexico.

4.6.3 Security Perimeter Project

This project is the only major transportation project currently funded for the Laboratory. The Security Perimeter project will provide the Laboratory the ability to isolate TA-3 from unscreened vehicle access in order to protect vital national security assets, government property, and human life from possible terrorist activity. The Laboratory will be able to enact a graded closure of the core area depending on the NNSA SECON levels in effect at the time.

4.6.4 Transportation Planning

The Site-Wide Future Transportation Plan was last developed in 1990, but the Laboratory is currently developing an updated transportation plan. The transportation planning is responding to updated NNSA security requirements and guidance with strategic changes to align transportation with that guidance. The following is a discussion of possible corresponding transportation changes in the West Pajarito Road Corridor within the 2011 time period. As in all cases, actual implementation would be modified and refined as appropriate to respond to the core mission requirements for the Laboratory's work.

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4.7 CURRENT PLANNING INITIATIVES

4.7.1 Nuclear Facilities Consolidation

The cost and risk of maintaining large numbers of nuclear facilities has driven the Laboratory and NNSA to institute a concerted effort to consolidate the nuclear operations into as few facilities and security areas as possible. Historically, the Laboratory has maintained approximately 20 nuclear facilities. An April 2000 snapshot of the nuclear facilities in existence shows that there was 1.8M GSF of nuclear space. At the completion of the Nuclear Facility Consolidation (NFC) effort, the Laboratory's nuclear facility GSF will be reduced by more than half of FY00 footprint. As such, NFC is a core component of the plan to transform to a responsive laboratory infrastructure.

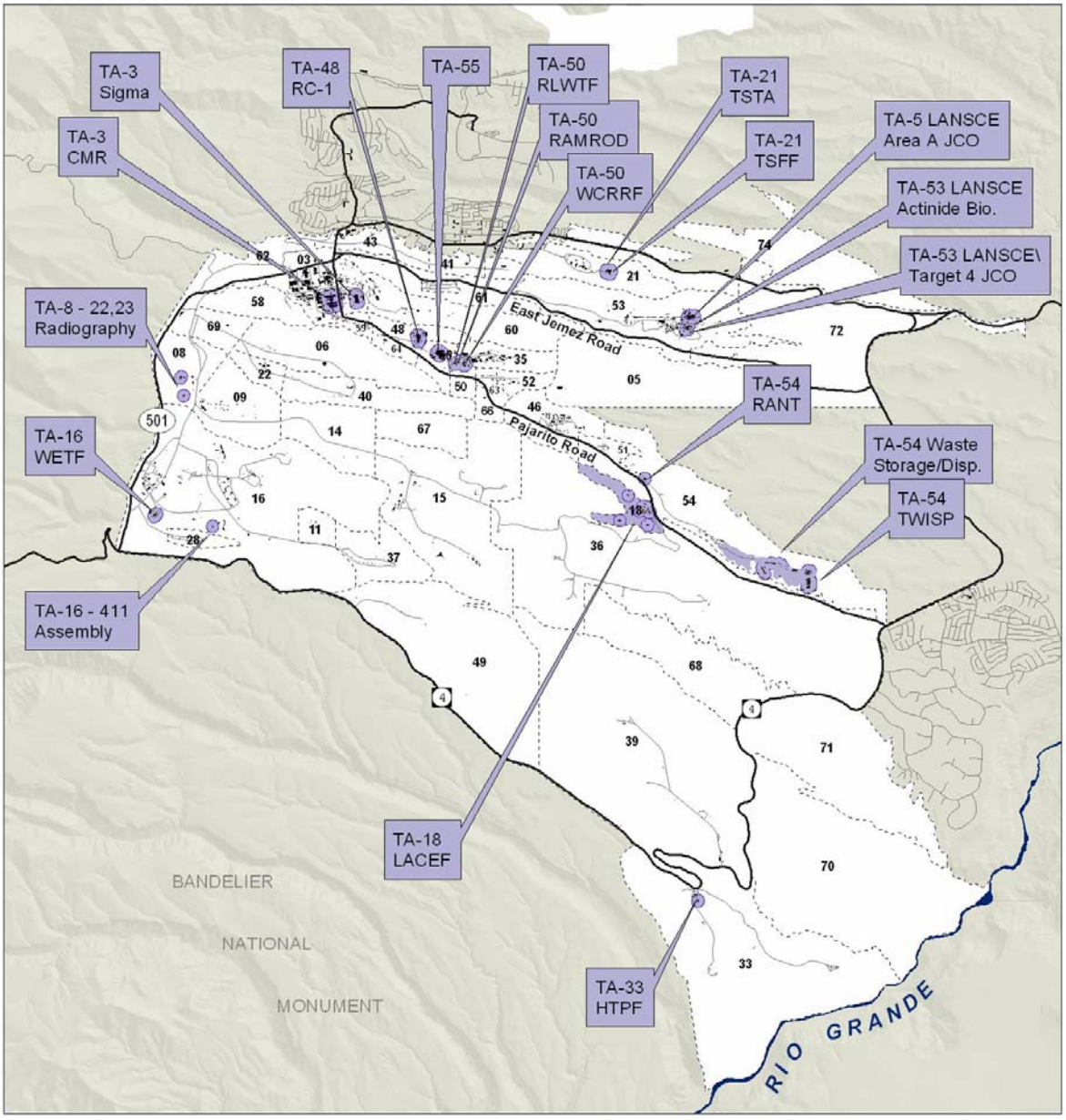
Table 4-19: Estimated reduction in nuclear space.

Timeframe	Nuclear Space (M GSF)	Percent Reduction (from 2000)
January 2000	1.8	--
April 2005	1.3	28%
January 2015	0.7	61%

In FY00, the Laboratory recognized the following with regard to nuclear facilities:

- A significant cost premium is associated with operating a nuclear facility due to such activities as AB development, implementation and compliance, quality assurance, Price-Anderson Amendment Act liabilities, and security;
- Many of the Laboratory's nuclear facilities are large, aging, and do not meet current design codes; thus, consolidation will likely improve safety aspects of Los Alamos nuclear operations,
- Some nuclear facilities have overlapping missions while others are undergoing mission changes,
- Improvements are needed in the organizational structure and operating processes and procedures across all nuclear facilities to achieve higher operating efficiencies and cost reductions, and
- The Nuclear Safety Management Rule (10 CFR 830 - promulgated in January 2001) requires development of detailed AB documentation, implementing TSRs for all nuclear facilities.

The following map is a snapshot of the nuclear facilities that were in existence as of April 2000. The purple color denotes the facilities that did not comply with 10 CFR 830 safety basis requirements as those requirements were still in draft stage. With few exceptions, each nuclear facility had a safety basis; however, many were prepared under older DOE orders while a few were more recent and declared 10 CFR 830 compliant.



10 CFR 830 Compliance Status - April 2000

Facility Does Not Meet 10 CFR 830

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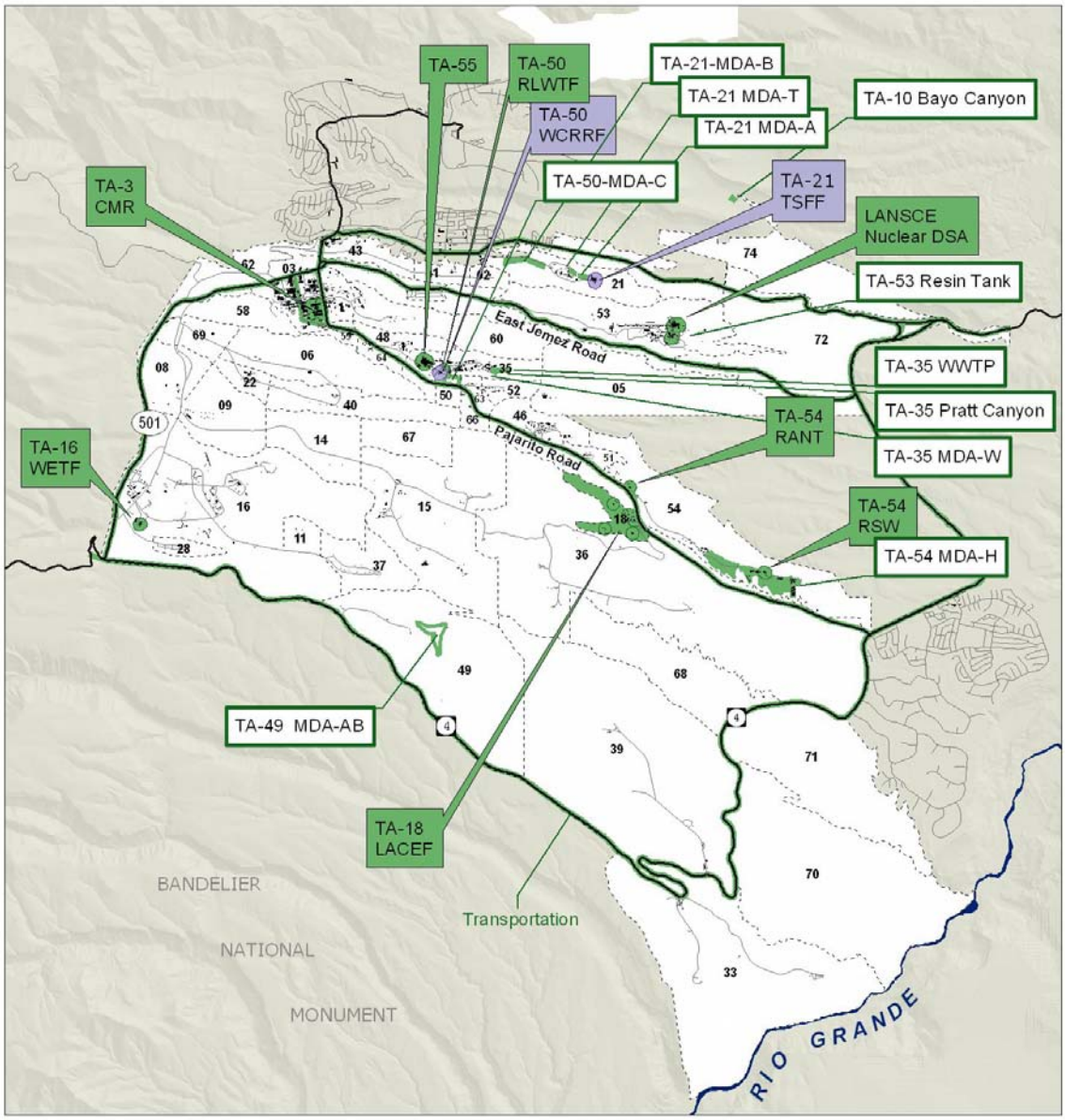
In 2002, the Laboratory began initiatives to significantly streamline the nuclear facility footprint, improve efficiency, and reduce costs. Cost reductions are the result of both consolidating security support (thereby improving our security posture as well) and minimizing the number of facilities for which detailed documentation must be maintained. Several areas that facilitate the consolidation efforts include the following:

- The INP process is helping coordinate the design and construction of new nuclear space to replace several aging facilities,
- A number of facilities that reached end of mission life accelerated de-inventory of radiological materials, and
- Several divisions recognized the limited nature of nuclear work in some facilities and consolidated activities and removed facilities from the nuclear listing.

The next map is a snapshot of the current nuclear facility status. The following developments have occurred:

- Nuclear facilities that represent operating areas with structures (i.e., nuclear square footage) are noted with a rectangular symbol and were addressed in prior TYCSPs.
- Transportation was added as a “nuclear facility” in 2002 since the Nuclear Safety Management Rule explicitly called out transportation activities within the definition of a facility.
- A new category of environmental remediation sites, “Facilities,” represented by white rectangles, was identified in 2003. There are 11 ER sites being considered for remediation that exceed nuclear categorization thresholds, however none of these are actual operating sites with occupied facilities.

In FY03, AB submittals required by 10 CFR 830 were met prior to the deadline. The TA-48, Tritium Systems Test Assembly (TSTA), and Radioactive Materials Research Operations and Demonstration (RAMROD) facilities were all removed from the nuclear facilities listing. Another project, the Transuranic Waste Inspection Project, was completed early and removed from the nuclear list. Work continues towards consolidating the LANSCE documentation and the de-inventory of the TSFF for future demolition. Work also continues towards the CMRR Project as well as on the Criticality Experiments Facility (CEF). De-inventory of TA-18 is underway and currently forecast for September 30, 2005. Most recently, the TA-8 radiography facilities were removed from the nuclear facilities list as this function is being moved to TA-55.



10 CFR 830 Compliance Status - April 2005

- Facility Does Not Meet 10 CFR 830
- Facility Meets 10 CFR 830
- Nuclear Environmental Site Meets 10 CFR 830
- Transportation Not Controlled in Nuclear Space

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As of April 2005, the number of operating nuclear facilities has been reduced to 11 (this includes transportation). This reduction is the result of the initiatives identified above. These facilities represent approximately 1.3 million square feet of nuclear space, about a 30% reduction from April 2000.

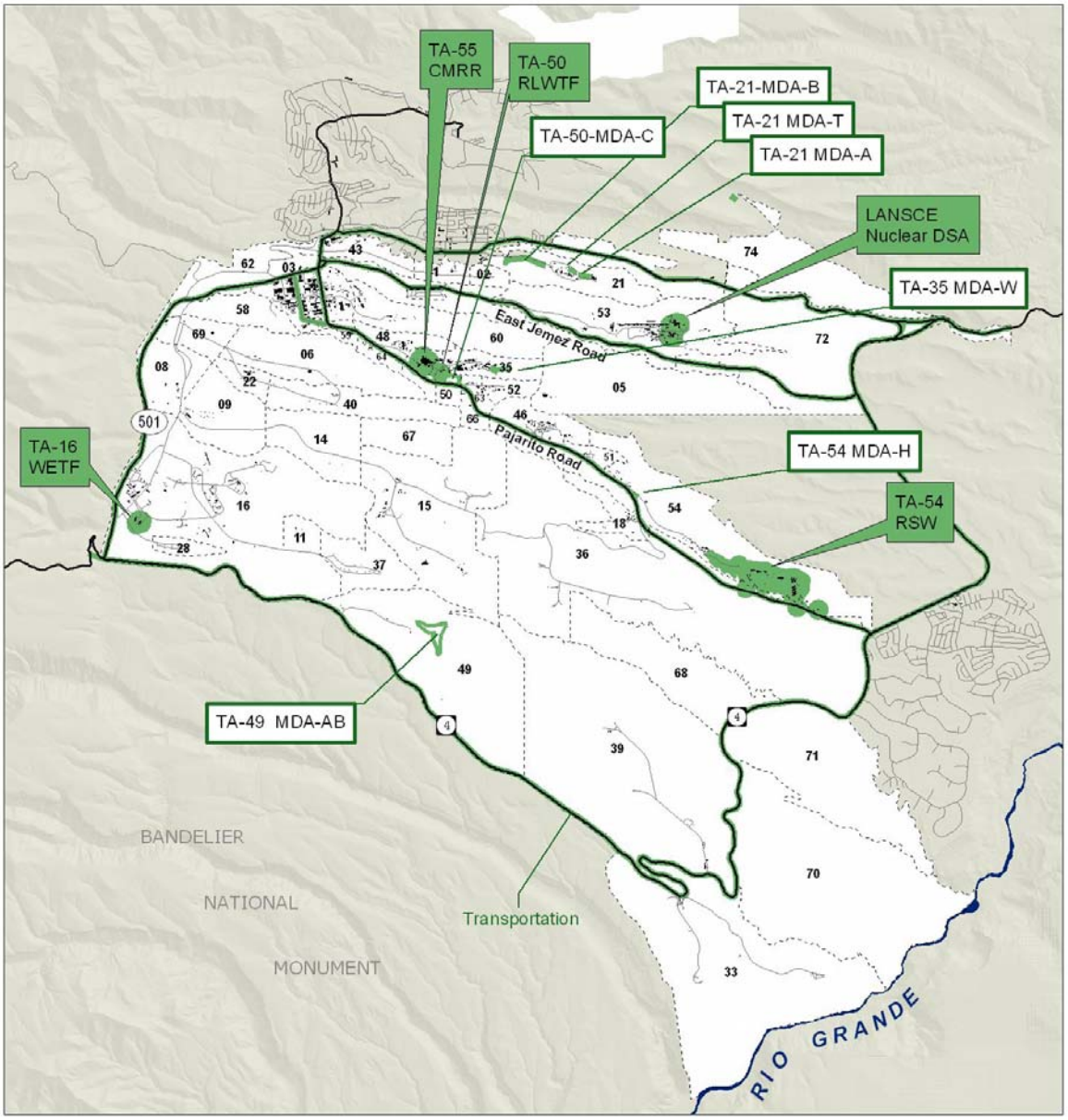
Future major changes in the Laboratory's nuclear facilities will result from execution of major line item projects. As mentioned previously, the CMRR Project is the next critical element of the consolidation plan. Completion of the project will result in a significant reduction in nuclear facility square footage as the proposed footprint for the new nuclear facility is roughly half of the existing. Also, movement of many of the current CMR functions from TA-3 to TA-55 will result in greatly reduced security, transportation, and operational risks.

Activities currently underway to de-inventory and ultimately close TA-18 also play a major part in Laboratory NFC plans. The early move project is working towards an NNSA approved baseline plan which supports SNM de-inventory by September 30, 2005. Additionally, the CEF project will provide for the transfer of many TA-18 capabilities to the Device Assembly Facility in Nevada. Longer term strategies for Cat III/IV operations are in the development stage as are strategies for the ultimate closure and disposition activities for the TA-18 site. These actions are consistent with the NNSA TA-18 closure plan.

The map on the following page shows nuclear facilities that may remain in 2015, including several ER sites for which remediation may not have been completed. The 2015 footprint represents a final transition that places nuclear functions at locations or sites that have specific capabilities. For example, tritium activities would be accomplished at TA-16, actinide work (R&D and manufacturing) would be accomplished within the TA-55 corridor, and accelerator nuclear work at TA-53. The 2015 footprint is forecast to be as low as 700,000 square feet, approximately a 60% decrease from the 2000 footprint. Any new nuclear facility proposed in the future should fit within the functional capabilities depicted in the final map.

Based on further discussions with DOE/NNSA, there could also be further consolidation of the Laboratory's nuclear sites which will require integration into the plan. As an example, the LANSCE facility could be reclassified from a nuclear facility to an accelerator facility. The solid waste site, TA-54, has a similar number of separate AB documents, each representing processes within the radioactive waste treatment area. It is expected that consolidation here may also be prudent and will achieve some cost and safety improvements.

These numbers could change as strategic planning by DOE and the Laboratory continue to evolve. Due to the synergism of the initiatives briefly outlined above, the Laboratory should continue to affect an improved nuclear end state within the horizon of this TYSCP. In addition, successful nuclear facility consolidation is a core component to the development of a responsive laboratory infrastructure and complex.



10 CFR 830 Compliance Status - 2015

Facility Meets 10 CFR 830

Nuclear Environmental Site Meets 10 CFR 830

Transportation Not Controlled in Nuclear Space

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4.7.2 Integrated Nuclear Planning (INP)

NNSA and the Laboratory established the Integrated Nuclear Planning (INP) effort for planning nuclear facilities and capabilities and to champion nuclear facility consolidation. INP is chartered to provide an integrated, coordinated plan for the consolidated construction, refurbishment/upgrade, and retirement of nuclear facilities over the next 20 years. As such, INP seeks to manage the suite of nuclear projects and nuclear facilities consolidation activities as a portfolio. A critical aspect of INP is NNSA and LASO membership and participation. Consistent with NNSA programmatic guidance and in support of integrated planning activities, the TA-55 affected project teams are key members and participants of the INP process.

In the past, major elements of the INP methodology have included a workshop process, project integration sessions, and strategic planning. Renewed focus on INP by both NNSA and the Laboratory has driven strengthening of the INP methodology and resources. The core model utilized in recent successful INP and PADNWP-WI follows a four step methodology: strategy, process, plan, and execution. A critical element of this methodology is the Nuclear Facilities Consolidation Board. The Nuclear Facilities Consolidation Board was established in February 2005 to oversee consolidation efforts and ensure timely decisions affecting the current suite of major projects and activities related to consolidation. Board membership is the three primary stakeholders for nuclear facilities, the Principal Associate Director for Nuclear Weapons Programs, the Associate Director for Weapons Engineering and Manufacturing, and the Associate Director for Security and Facilities Operations. The charter of the board is to provide critical management involvement, decisions, and recommendations in matters relating to nuclear facility consolidation and support continued progress on the suite of major line item construction projects.
An additional element of the renewed methodology, recent strengthening of INP resources and support, will continue as the activities associated with consolidation require a higher level of integration and management.

As discussed in the previous section, a variety of consolidation and revitalization/refurbishment activities intended to maintain and upgrade the Laboratory's long-term nuclear capabilities are in the conceptual planning and preliminary design stages. Consolidation of nuclear and non-nuclear facilities to a minimal number of secure areas or functional areas will optimize use of facility capabilities and minimize future costs. Flexibility in the development of concepts to accommodate both program and facility uncertainties is a key component of development of a responsive infrastructure laboratory. Relocating essential capabilities from aging facilities to upgraded or new facilities will maintain and improve the Laboratory's response to current and future missions.

The INP effort ultimately relies on joint Laboratory and NNSA workshops to validate capabilities, requirements, and

priorities. To date, eight INP workshops have been held with active participation from Laboratory and DOE/NNSA program, line, safety, and security organizations. The first workshop was held on April 18, 2001 and provided NNSA and the Laboratory a consensus mission set for INP. The future mission set at Los Alamos is expected to include pit manufacturing/certification, surveillance, Pu-238 work, analytical chemistry/materials characterization, Advanced Recovery and Integrated Extraction System (ARIES), Special Recovery Line (SRL), and material supply.

The second workshop was held July 10–11, 2001, and this workshop provided a "validated list of capabilities" and "project elements" to be included in the CMRR and TA-18 Mission Relocation projects. The CMRR Project will replace the existing CMR Building, which is nearing its end of useful life (~2010). The CMRR facility is necessary to support the programs noted from INP Workshop #1 in terms of providing the AC/MC support for these programs. CMRR and PF-4 provide a programmatic bridge to future plutonium facilities such as the MPF, MOX FFF, etc., which are expected to be available for programmatic work no sooner than the mid-2020s.

Additionally, the workshop chartered the INP Team to propose an integrated plan for addressing capabilities or project elements that are not included in the CMRR or the TA-18 Mission Relocation projects but are necessary to meet overall NNSA missions. Specific examples of such project elements included the long-term storage of SNM; radiography of SNM components; infrastructure needs for TA-55; and infrastructure reinvestment and security needs for TA-55 (subsequently, the long-term SNM storage issues are to be included in the CMRR Project via the long-term storage vault). For example, the CMRR and NMSSUP Phase II Projects have developed memorandums of understanding that clarify the specific projects responsibilities at the TA-55 site. As an example, one of the memorandum explains that the NMSSUP Phase II Project will construct the security fencing around the CMRR nuclear facility and initiate its operation only after the nuclear facility is operating.

A third workshop, held July 23–24, 2002, accomplished the following:

- Validated a disposition path for project elements related to supplemental capabilities, site-infrastructure needs and security requirements that are necessary to execute the mission,
- Established Laboratory and NNSA consensus on planning and project coordination between various ongoing INP construction projects,
- Updated NNSA guidance regarding a path forward for INP as it relates to the TYCSP efforts, and
- Addressed coordination needs between INP efforts and other NNSA nuclear construction activities as they relate to NNSA missions.

A fourth workshop, held in early 2003, was limited to discussions regarding the TA-18 mission relocation to the Nevada Test Site. The primary goal of INP

Workshop #4 was to validate the scope of that project.
The fifth INP workshop was held on June 9-10, 2003. The objectives of that workshop included the following:

- To validate Laboratory recommendations on CMRR preliminary nuclear facilities layout selection,
- To obtain consensus on CMRR Project phasing recommendations in support of an NA-10 decision to allow Acquisition Execution Plan development, and
- To update NNSA on the status of other INP activities including discussing the SNM Storage Strategy, NMSSUP Phase II status, and CMR Disposition.

The CMRR Project has determined that the logical project implementation occurs in three distinct phases: 1) construction of the Radiological Utility Office Building (RLUOB) (simplest construction, provides some contingency in case the existing CMR Building experiences operating problems, provides a testing space for equipment to be moved into the nuclear facility); 2) special facility equipment (some items require large lead times for procurement, installation, testing, and startup), and 3) construction of the nuclear facility. Experience gained in the first two project phases will support successful completion of the nuclear facility construction phase, generally viewed as the most complex and highest risk component of the project.

Figure 4-17: INP pre-conceptual site plan at TA-55.

As with the fifth workshop, the CMRR Project was again the focus of the sixth INP workshop held on August 19-20, 2003. The primary goal was to obtain status reports from the three sub-teams established during the fifth workshop and also from the working group performing the CMR Disposition Study.

The seventh workshop was held at Los Alamos January 31 and February 1, 2005 with a focus on a comprehensive review of the proposed project set for TA-55 and the proposed protection strategy for that area due to recent revisions to the DBT (DBT). For specific projects, focus was also given to the status of AB activities and plans.

At the eighth INP workshop held on June 28 and 29, 2005, a number of project related objectives were achieved. As the TA-55 Radiography project progressed through conceptual design activities, the project team recognized that a subset of the project alternatives conceived at CD-0 were unfeasible. In an effort to support the accelerated approach being taken with this line item project, INP Workshop #8 was utilized to disposition this subset of project alternatives. The project team is now focusing on continued CDR efforts with a smaller set of feasible alternatives. For the RLWTF Upgrade line item project, two alternatives were considered in early conceptual design activities, renovate the existing treatment plant or construct a new plant. The project team utilized the workshop to brief their analysis of the two alternatives and recommend that further conceptual design activities consider only the new construction alternative. The workshop participants concurred with the team's recommendation.

The Defense TRU Waste Facility project was also discussed in INP workshop #8. As a new project being developed to support ultimate closure of TA-54, the briefing focused on explanation of the pre-conceptual mission need, drivers for this project, and plan to achieve CD-0. The AC/MC task team briefed their progress in analysis of AC/MC requirements and capabilities related to the development of the CMRR project. Lastly, the INP team gave an overview of the contents and progress in development of the NFC Program Plan. The plan is envisioned to address the technical elements of nuclear facility consolidation at the Laboratory as well as recent guidance from NNSA on the management elements of INP both at Los Alamos and NNSA and LASO. Workshop participants concurred with the program plan approach and path forward.

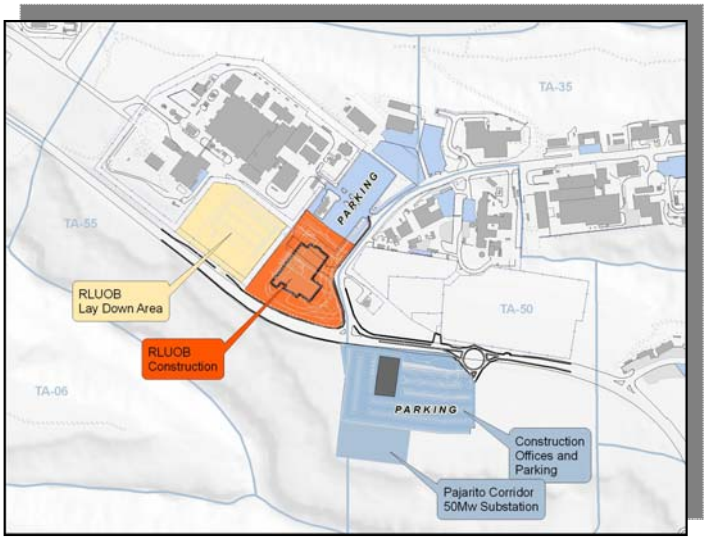
On a broad basis, the interactions discussed above flow from INP workshops and contribute to further INP activities such as integration meetings and analyses. Other areas of integration include scheduling, identification of construction areas (e.g., laydown areas), and identification of programmatic interfaces and impacts. Recent integration challenges associated with the Pajarito Road Corridor have included analysis of transportation, parking, and utility demands. As many of the major NFC projects have worked through the design process, combined effects on the existing infrastructure in the Pajarito corridor are becoming more apparent. Specific longer term strategies are in development for both transportation and utility capacity. The transportation strategy includes provisions for accommodation of potential security

requirement changes to Pajarito Road. The utility capacity strategy will include provisions to accommodate potential increased requirements for both electrical distribution and other utilities. The graphic below depicts two near term efforts which have been initiated to support immediate needs in both parking and electrical utility distribution for the TA-55/50 area.

The pending critical project in the TA-55 area is the CMRR Project. Other projects include the RLWTF Upgrades, NMSSUP Phase II, TA-55 Reinvestment, DBT Implementation/Security Perimeter, TA-18 Relocation, Defense TRU Waste Project, and Radiography Projects. INP provides a high-level forum for integration of all these projects (detailed integration occurs on a project-to-project basis) in terms of issues identification, conducting ancillary studies, and obtaining consensus on issues, such that the projects are treated as an integrated portfolio to support missions in the Pajarito corridor.

Additional projects that may affect the TA-55 and surrounding areas include those related to Nuclear Nonproliferation (N) and Chemistry (C) Division facility improvements.

Figure 4-18: Near-term efforts to support immediate needs in the TA-55 area.



4.7.3 TA-3 Master Plan

TA-3 is located in the northwest corner of the Laboratory and contains the majority of the Laboratory's population, buildings, and infrastructure. It is the heart of the Laboratory and its "central business district." A new master plan for TA-3, based on previous revitalization plans first begun in 1997, was recently completed. The goal of the master plan is to develop a unifying center of the Laboratory while creating a secure environment, integrating well-designed buildings, and establishing a pedestrian circulation network. Key points to the updated master plan are described below.

Assumptions

- TA-3 will house administrative, theoretical/computational, and experimental science activities.
- SNM activities will be removed from the CMR building.
- Support functions and services will be relocated to more appropriate sites.
- TA-3 is the initial focus area for replacing older buildings.

Design Principles

- Organize primary exterior space with pedestrian networks and open space.
- Secure Laboratory traffic through access control gates.
- Consolidate parking to structures along the main loop arterial roads.
- Promote efficient infrastructure and land use through infill and increased density.
- Enhance security by excluding public traffic from the core area.

Phasing 0-5 Years

- Consolidate parking into structures.
- Remove deficient facilities.
- Build National Security Sciences Building.
- Continue infill with other buildings.
- Begin open space and pedestrian network development.
- Develop road and access network for security and parking.
- Develop disposition plan for CMR, Shops, Physics and Sigma.

Phasing 5-10 Years

- Build infill facilities south of the new NSSB.
- Create central pedestrian network open space.
- Continue consolidation of parking into structures.

Phasing 10+ Years

- Continue development of infill buildings within the Core Area.
- Continue development of pedestrian and open space network.
- Continue to remove old facilities.

4.7.4 Waste Management Facilities Planning

Waste management activities take place in four technical areas (TA-21, TA-50, TA-53, and TA-54). Facilities run the gamut from storage sheds and office transportables to two nuclear facilities at TA-50 (RLWTF and Waste Characterization Reduction and Repackaging (WCRR) Facility), one nuclear facility at TA-54 (RANT), and three radiological facilities (RLW treatment facilities at TA-21 and TA-53, and the DVRS Facility at TA-54).

In part because of the lack of facilities, most waste activities (storage, characterization, shipment) take place in fabric domes or portable trailers. This is true for chemical wastes, mixed wastes, LLW, and transuranic wastes, where activities such as characterization, sampling, and bulking all take place in non-permanent facilities. While RLW operations take place in fixed facilities, the TA-50 RLWTF is 42 years old, 17 years beyond its 25-year design life.

Several major changes will occur on the Laboratory's waste management facilities and infrastructure during the next 10 years. First, the waste management footprint will be reduced. Some Area L facilities will be decommissioned, and the Area L footprint will shrink 80% to make way for closure of the MDA L by 2010 as directed by the NMED Consent Order of March 2005. Similarly, Area G facilities will be decommissioned so that the area can be capped by 2015 as directed in the NMED Consent Order. At TA-50, the WCRR Facility will be placed in cold standby waiting decommissioning. The functionality will be replaced by modular capabilities that are being developed in FY06.

Other major changes include the movement of TRU and RLW waste management activities into new, seismically-qualified Nuclear Hazard Category 2 facilities. At present, TRU waste activities are conducted in mobile trailers, in fabric domes, or in facilities that only marginally meet DOE seismic requirements (RANT, WCRRF, and DVRS). Similarly, the TA-50 RLWTF fails to meet seismic requirements. By 2012, new facilities will have been constructed for both of these waste streams.

All waste types have at least one challenge area during the 10-year planning period; however efforts over the next 10 years will be focused on transuranic wastes and RLW. A high-level perspective of a ten-year facilities and infrastructure strategy is as follows:

- For LLW, the Laboratory will continue on-site disposal of LLW at Area G by expanding disposal and other operations into Zone 4. This on-site capability will be supplemented with off-site disposal for large volumes of LLW from environmental restoration projects (e.g., contaminated soils). The off-site disposal paths will also serve as a contingency to on-site disposal for NNSA missions. In support of the NMED Consent Order, LLW operations will be relocated from MDA G to Area G, Zone 4. This will require

the relocation of the access control, characterization, and compaction capabilities.

- For RLW, the Laboratory will continue on-site treatment and discharge, consistent with policy for the DOE complex. New, robust treatment facilities will be constructed by completing the approved line-item RLWTF Upgrade Project to reduce the potential for program impacts. Storage capacity will also be constructed to reduce the operational risks during a plant-wide outage. A major challenge will be to keep the current plant operating reliably in support of core NNSA missions while the plant upgrades project is completed. An increased emphasis on completing planned deferred maintenance projects and the escalating preventative and corrective maintenance. These are mission critical facilities for the Laboratory's enduring mission.

- Finally, the Laboratory will continue to dispose of transuranic wastes at WIPP as required by law. TRU waste operations will be moved from temporary to fixed structures by constructing Nuclear Hazard Category Facilities for use by FY12. Similar to the RLW capabilities, the TRU facilities are incurring increasing maintenance requirements due to age. Many of the structures are non-permanent materials that will require substantial maintenance until the legacy waste mission is completed in the 2012 timeframe.

Funding and timing are the key risks to the maintenance of waste management facilities. Projects have been identified, but not all are funded. The timing of replacement and upgrade projects must be completed on a schedule that will allow for uninterrupted operations. The following table summarizes the planning targets.

Table 4-20: Facilities and infrastructure planning targets for waste management activities.

Waste Type	2008	2009	2010	2011	2012
MLLW	MLLW operations consolidated within Area L				
LLW			Construction started on new LLW facilities		LLW operations started in new facilities Decommissioning of Area G structures started
TRU		Construction of new TRU waste facilities begun WCCR Facility placed in cold standby		TRU waste operations started in new facilities	Decommissioning of Area G structures, including DVRS, started
RLW	Construction of new RLW facilities begun TA-21 RLWTF placed in cold standby *			RLW operations started in new facilities	

*TA-21 RLWTF should be placed in cold standby during 2006 or, at latest, 2007.

4.7.5 Los Alamos Science Complex

The Laboratory's infrastructure is rapidly aging and there are many multi-purpose, non-directly funded facilities reaching the end of their useful life and which will require major upgrades to meet future mission needs. Since these facilities are indirectly funded, during times of budget constraints they are considered lower priority as long as mission-critical stockpile stewardship facilities, funded by DP, remain unfunded.

The University of California's Office of the President (UCOP) has been working closely with DOE/NNSA Headquarters to develop alternative financing (e.g., third-party) methods in addition to traditional construction mechanisms such as congressional line-item or GPP funding as a means to address the indirectly funded infrastructure.

Beginning in FY03/04, UCOP began developing the mission need and acquisition strategy plan to finance the Los Alamos Science Complex (Science Complex). Two buildings, one classified and one unclassified, totaling 402,000 GSF, will house approximate 1,400 scientific staff members from across the Laboratory. This new multi-disciplinary, state-of-the-art infrastructure will be LEED Silver certified and highly cost effective.

In February 2004, the Los Alamos Site Office, on behalf of the NNSA, executed a Memorandum of Understanding with the United States Postal Service (USPS) and authorized the USPS, as a third-party, to assist in the development of the two buildings and parking to meet the needs of the DOE/NNSA. U.S. Code of Federal Regulations Title 39 defines the USPS' authorization to furnish property and services to Executive agencies (e.g. DOE) within the meaning of Section 105 of Title 5.

Mission Need for the Science Complex was approved by the Office of Program Analysis and Evaluation in January 2004 and the Deputy Administrator for Defense Programs, NA-10, granted UCOP approval to proceed to prepare a detailed alternative financing proposal package and operating lease in April 2004.

Development of the Science Complex is underway and groundbreaking will occur approximately second quarter FY07.

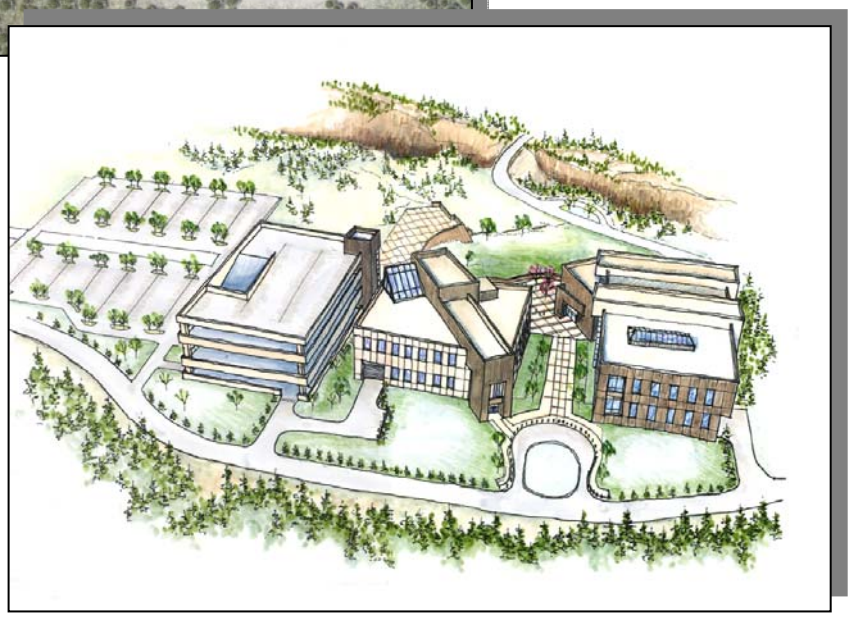


Figure 4-19: Los Alamos Science Complex conceptual master plan and rendering.

4.7.6 Nuclear Materials Storage

The safe, secure storage of SNM is essential to accomplish the Laboratory's missions. There are numerous programmatic initiatives and associated funding sources that utilize SNM, including the following:

- Pit Manufacturing – NA-11 sponsorship,
- ARIES – NA-26,
- SRL – NA-12,
- DNFSB Recommendations 94-1/00-1, 05-1, and 97-1 – NA-12,
- Certification – NA-11,
- DYNEX – NA-11,
- Surveillance – NA-11,
- Tritium Activities – NA-12,
- Pu-238 Activities – NA-12/NE,
- Criticality Experiments – NNSA/others,
- Emergency Response – multiple, and
- 94-1 R&D – EM.

This wide variety of programs and funding sources requires a strategic plan for nuclear materials management and storage. A classified report, "Strategic Nuclear Materials Storage Plan for Los Alamos National Laboratory" (LA-CP-02-218), provides a detailed look at planned programmatic activities at the Laboratory and the impacts on SNM storage. The capacity of the new CMRR SNM storage capabilities is being sized to meet reasonably anticipated forecasts identified in current and recently completed programmatic evaluation analysis and reports, as reflected in the results of Critical Decisions issued by the DOE Energy System Acquisition Advisory Board process.

There are currently two Security Category I nuclear storage sites at Los Alamos, TA-55 and TA-18, and numerous Security Category III/IV storage locations across the Laboratory. For planning purposes, Category I sites are of the most interest. In the present configuration, the TA-55 vault is designed for plutonium storage with a much smaller inventory of enriched uranium. The inventory in the vaults at TA-18 is primarily enriched uranium with a small amount of plutonium. However, new NNSA guidance issued in April 2004 directs the de-inventory of the TA-18 site to a Security Category III status by October 2005. This process has begun and TA-18 is no longer viewed as a viable Category I storage location; therefore, all local storage needs will need to be met at the TA-55 site.

The major programs that will contribute to the continuing growth of the nuclear materials inventory at the Laboratory are ARIES, SRL, surveillance, and, possibly Pu-238. The current configuration and capacity of the TA-55 vault is inadequate to meet the projected storage requirements, unless material can be moved to other NNSA sites. Specific needs are for increased capacity for both large item storage, including pits, and 3013-type containers. The projected growth in inventory is primarily in 3013-type containers, but there is a steady increase in the requirement for large storage locations. Changes during the past year in the planned nuclear materials requirements for the NA-26 Materials Disposition Program should alleviate some of the pressure for the storage of 3013 type containers. Specifics are still under development. If storage becomes a

problem prior to the CMRR vault beginning operation, an acceleration of nuclear materials consolidation efforts (e.g., 94-1-like efforts) may be required.

The long-term storage requirements for nuclear materials are being incorporated into the planning for the CMR Replacement facility. This facility is presently planned to house a storage vault and a day, or working, vault. The capacity of these new storage capabilities will be adequate to meet all of the forecasted needs. With respect to TA-18, the DOE/NNSA guidance is to move the critical assemblies and associated materials to the Design Assembly Facility (DAF) at the Nevada Test Site. The nuclear material required to support other missions currently performed at TA-18 will be moved to TA-55 for some duration and then possibly relocated to the DAF. A small, but still Category I, quantity of material at TA-18 has been declared excess. This material will be handled and repackaged with the intent of shipping to Y-12. The remaining material is associated with the Category III/IV activities such as the Solution High Energy Burst Assembly (SHEBA).

The Category III/IV quantities of material do not pose a storage concern, although siting the operations using these materials will require storage appropriate to the amount and form of the material. The remainder of the material will still constitute a Category I quantity. As such, it must be stored in facilities that meet certain safety and security requirements. Clearly, one such facility is TA-55, although this option is unattractive due to the storage issues with the existing and planned inventory. Other Los Alamos options include continuing storage at the TA-18 site or the construction of new storage capability. A final option is to ship this material, a majority of which is enriched uranium, to other DOE contractors such as the Y-12 site.

The Laboratory has continued to produce master plans for various Laboratory areas during the past year. Areas studied and planned include TA-3, TA-48, TA-59, and TA-63, while an ADP for the Pajarito Corridor West area is under development. The level of planning performed varied based on current needs within these different areas. Summaries of some of the more complex urban planning efforts undertaken recently are presented below. Although physical planning documents were produced, planning is an interactive, ongoing process, and the documents will be updated as necessary.

4.7.7 Pajarito Corridor West ADP

The Pajarito Corridor West ADP will address issues of land use, transportation, utilities, security, facilities, urban design and environment. It will identify development opportunities for potential growth and revitalization in support of the Laboratory's key mission activities at TAs -48, -64, -55, -35, -63, -66, and -52. In particular, the ADP will examine and make recommendations for expanding the nuclear facilities complex around TA-55 and for providing separate access to the science activities conducted at TA-35. TA-66 is proposed for current and future Homeland Security missions, while TAs –63 and –52 may provide room for growth of numerous Laboratory activities.

4.7.8 TA-48 Master Plan

The TA-48 master plan addresses the need for Chemistry (C) Division to remain located within the TA for the foreseeable future. The master plan proposes four to six new buildings to maintain and upgrade onsite capabilities while several old structures would be removed. The TA-48 master plan also includes a proposed radiological complex to the east, adjacent to TA-55. Other elements addressed include open space, parking, pedestrian networks, and a more attractive physical environment than currently exists.

4.7.9 Landfill Closure

Historically, the Laboratory has utilized the Los Alamos County (LAC) Landfill for disposal of sanitary wastes, per an agreement between the County and DOE/NNSA. The County's current landfill is anticipated to reach full capacity and be closed within the next two years. The Laboratory and LAC conducted a joint feasibility study to determine an optimal path forward for addressing the anticipated landfill closure and continued need for solid waste disposal.

Based on the results of the study, LAC determined that construction of a new landfill would be too expensive, and an alternative solid waste management strategy would need to be identified. The NNSA LASO, Laboratory and LAC are currently implementing a protocol for modifying the existing Special Use Permit for the Landfill as needed to construct and operate a new waste transfer station at the existing landfill. The waste transfer station will be used to prepare solid waste for transfer to a regional solid waste landfill in Rio Rancho, New Mexico.

4.7.10 Radiological Sciences Institute Planning

The Laboratory's national security mission relies on R&D activities that involve radiological materials in all forms, concentrations, and configurations. These include NNSA campaigns such as defense nuclear nonproliferation (NN-20), emergency operations (NN-40), domestic safeguards (SO-20) and corresponding training operations, encompassing activities related to nuclear weapons, non-proliferation and arms control, homeland security, nuclear energy, nuclear waste management, environmental management, nuclear regulation, health and safety, nuclear medicine, and advanced materials science.

Major national missions whose work is being supported in radiological facilities proposed for replacement include:

- Russian Materials Protection, Control, and Accounting
- Nuclear Material Safeguards,
- Domestic Nuclear Event Attribution,
- Enhanced Surveillance,
- Emergency Response,
- Export Control,
- Proliferation Detection & Analysis,
- Significant Finding Investigations,
- Joint Test Assemblies,
- Test Archiving,
- Radio-bioassay Weapons Support,
- Beryllium Control & Industrial Hygiene,
- International Atomic Energy Agency (IAEA) Training School,
- DoS International Safeguards,
- Second Line of Defense,
- Radiation Sensor R&D,
- Uranium Machining,
- Medical Radioisotope Production,
- Advanced Fuel Cycle Initiatives,
- Life Extension Programs,
- Radiochemistry Weapons Support,
- Plutonium Aging and Stabilization, and
- Directed Radiological R&D.

These missions represent over $60M in annual DP funding and over $105M in annual NN funding.

The Laboratory's radiological infrastructure is 40 to 60 years old and the ability to continue these and other critical missions is at risk. Mission requirements are expanding with new efforts in Homeland Security, emergency response, and increased emphasis on nuclear nonproliferation and the war against global terrorism. Implementing these critical national missions is far from optimal, given the state of facilities. The most cost-effective approach is to build a new, consolidated and integrated radiological complex that will result in higher efficiency, lower operating costs, and modern capabilities, with greater flexibility to respond to changing mission requirements.

A conceptual diagram of the proposed complex is seen in Figure 4-21. It includes a Security Category I underground vault for storage of SNM. The routine transport of nuclear material on public roads, currently a massive inefficiency for Laboratory operations, will be greatly reduced in this new radiological complex. The complex will be designed to accommodate multiple concurrent radiological activities and Security Categories (III-IV), and temporary Security Category II IAEA training schools. A Nuclear Hazard Category 3 operations building

for specific co-located actinide chemistry operations and safeguards activities is included.

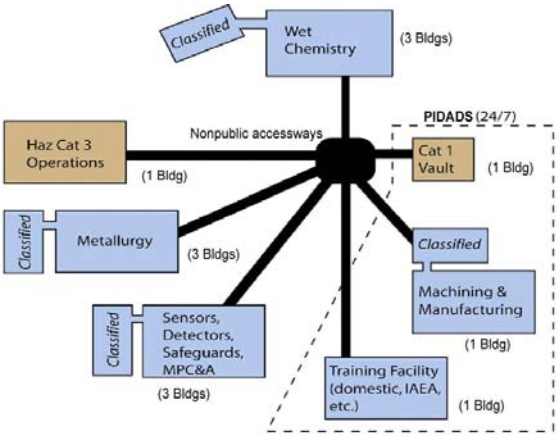


Figure 4-20: Conceptual diagram of proposed Radiological Sciences Institute.

This project will retire approximately 630,000 GSF of obsolete footprint and decommission 61 deteriorating structures scattered over five TAs. Proposed for replacement are 24 structures at TA-18, 11 structures at TA-35, 14 structures at TA-48, 6 structures at TA-3, 5 structures at TA-46, and a portion of 1 building at TA-59.

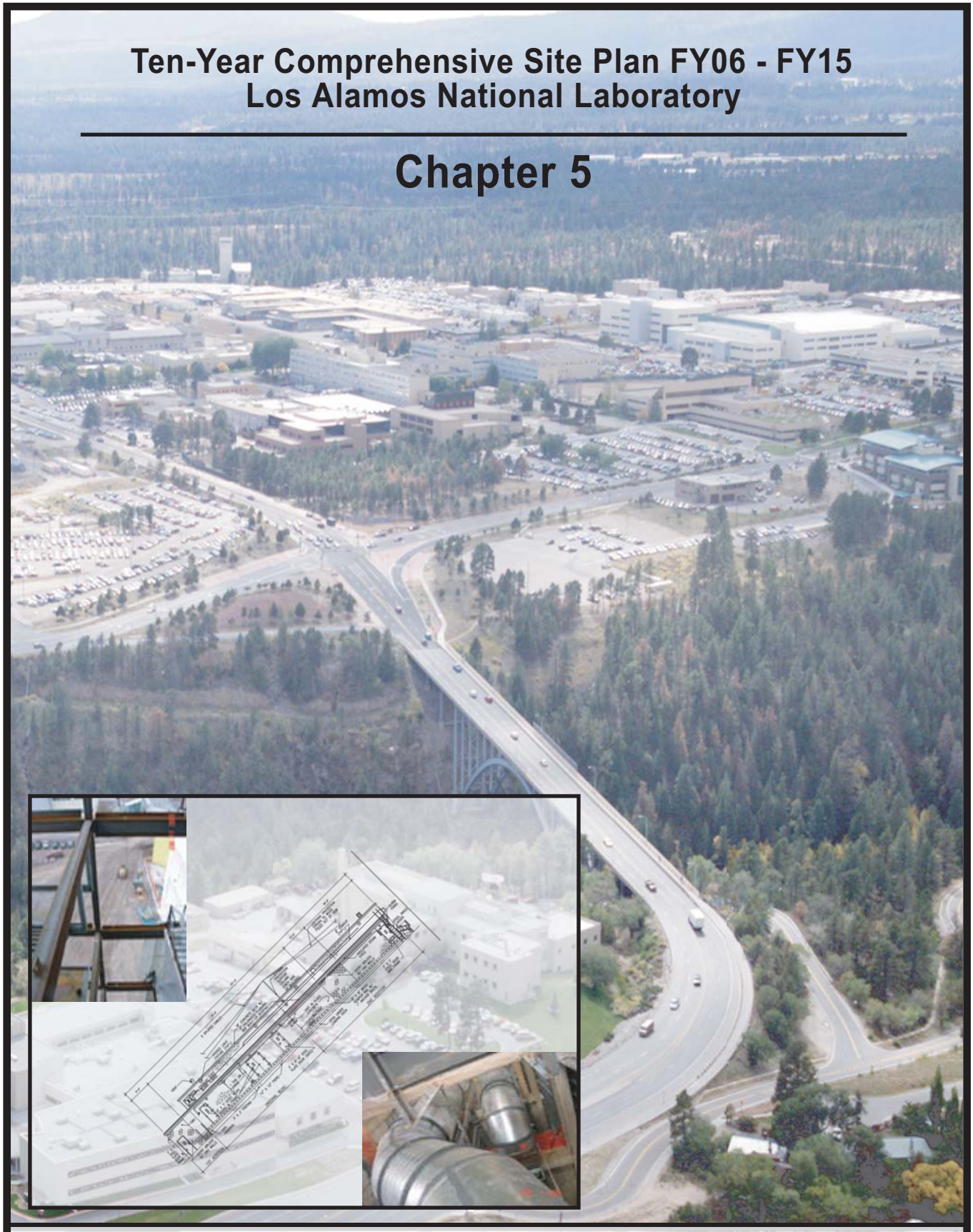
The complex will consolidate radiological labs and working spaces to a smaller footprint (approximately 475,000 GSF) into 12-14 buildings suited to long-term mission and efficient operation. The first major phase proposed for the radiological complex includes three buildings (secure and open, offices and labs) comprising the Institute for National Nonproliferation Science & Technology (INNST), replacing more than 20 Cat III-IV buildings and structures listed in the TA-18 closure plan, and one chemistry laboratory building for Threat-Reduction detection and analysis missions, adding a new capability for secure radiochemistry.

Infrastructure and site development for the entire complex will be implemented during the first phase. Subsequent phases completing the complex will include replacement facilities for the missions being performed in the Weapons Materials Science (Sigma) building, and the remaining portion of the chemistry and non-proliferation/threat-reduction missions. Space in the complex is also being allocated for current radiological work being conducted for space nuclear, advanced nuclear fuel cycle testing, transmutation research, and bioscience activities. Planning, design, and construction are envisioned to be phased over 20 years; funding strategies include multiple sponsors, such as DOE, DoD, the intelligence community, and others.

Figure 4-21: Conceptual rendering of proposed Radiological Sciences Institute.

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Chapter 5



Facilities and Infrastructure Projects

5.1 OVERVIEW OF SITE PROJECT PRIORITIZATION AND COST PROFILE

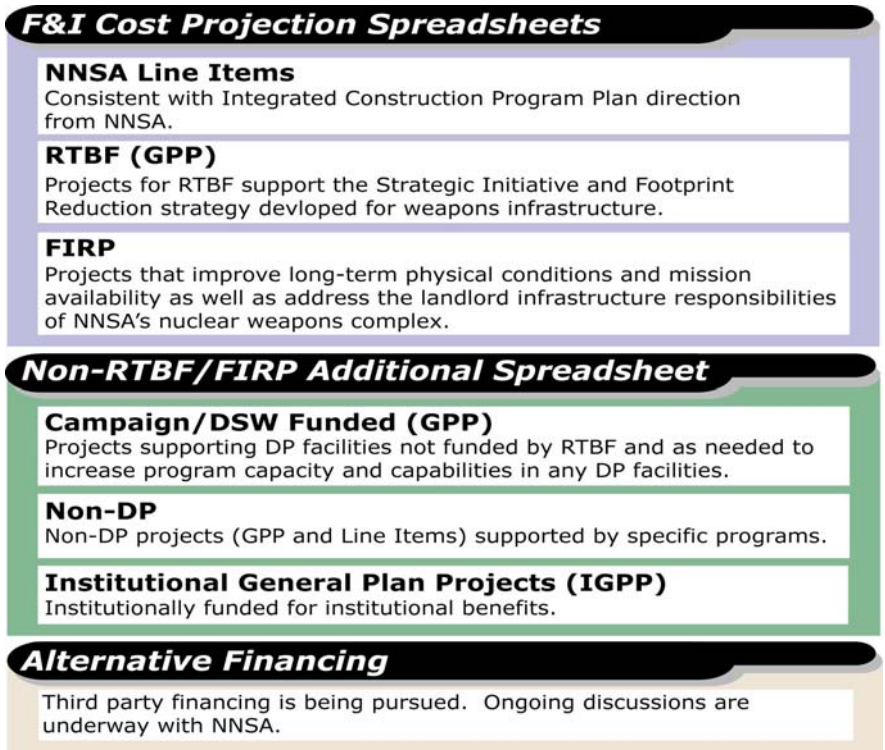
This TYCSP includes the following three facility and infrastructure spreadsheets required by the guidance:

- Line items supporting DP (reported under RTBF, DSW, and Campaigns),
- Proposed line items,
- RTBF/Operations of Facilities (excluding line items),
- Facilities and Infrastructure Recapitalization Program (FIRP) (excluding utility line items),
- Non-RTBF/Non-FIRP projects, including Campaign/DSW (non-line item); non-DP; and IGPPs, and
- Security Infrastructure (excluding line items).

The DP line items are consistent with the March 23, 2005 direction provided in the Integrated Construction Program Plan (ICPP). In some cases, funding profiles and project descriptions have been revised to incorporate NNSA guidance and budgetary changes which have occurred since the March ICPP.

Within the RTBF Operations of Facilities list are projects that support the new program element at Los Alamos for Strategic Investments/Footprint Reduction. While we expect this list to evolve with time, many of the projects listed for this version of the TYCSP were developed as

Figure 5-1: Construction project funding sources.



part of facility consolidation or strategic planning. Additional evaluation and validation of this list will be needed as this program element evolves.

Currently, projects within RTBF are priorities using a methodology for creating quantitative measures of costs, benefits, and risks for prioritizing projects in a systematic and auditable manner.

This prioritization methodology is based on multiattribute preference theory. Multiattribute preference theory provides a logical, consistent basis for solving prioritization problems and is a generalization of cost-benefit analysis. The practical application of multiattribute preference theory relies on three basic steps. First, the specific objectives of the decision maker are identified and grouped into a set of evaluation categories. Second, the contribution of each of the competing projects to each of the evaluation categories is measured. Finally, the results for each project are aggregated to give a single score. These aggregate scores then are used to prioritize the projects.

The prioritization process is highly interactive. The concerned parties (decision makers, project managers, etc.) are involved at every step. Although a prioritized list of projects is the final result of the process, other useful results include the identification of the main determinants of project differentials and analyses of the sensitivity of the results to model inputs. Note that this same prioritization process is used for IGPP funded projects as well.

The latest call for proposals for Strategic Initiatives/Footprint Reduction within RTBF was issued as part of the FY06 budget guidance to RTBF funded divisions. These proposals will be prioritized and those that are funded will be included in the FY07 TYCSP Limited Update. It is expected that the number of proposals will far exceed available funding. Projects not considered critical investments that are not funded in a given fiscal year will be shifted to subsequent years. They will then be revalidated against new proposals received in subsequent years.

Within FIRP, projects shown are consistent with those provided in the Congressional Tables submitted in November 2004. The project list focuses on the reducing deferred maintenance captured in the FY03 baseline for mission essential facilities. For prioritizing recapitalization projects, the Facilities and Infrastructure Recapitalization Rating Matrix is utilized. Each project is rated in categories including Health and Safety, Environmental and Waste Management, Safeguards and Security, and Mission and Investment. Per the guidance, the higher score of the individual categories was used. In the case of projects with the same score, ranking was based on the Safety category being the highest and Mission and Investment category being the lowest. In the case of projects with the same score in the same category, ranking was based on secondary category scores.

A significant challenge associated with all funding sources is project execution, as projects cannot begin until funding is received. In years when funding is delayed due to continuing resolutions or other issues, projects are at risk of higher than

planned uncosted and/or uncommitted balances. This is especially critical for projects implementing best-value, design-build procurement approaches. Projects using design-bid-build acquisition strategies often plan design in one year followed by construction in the next to reduce the risk of uncosted balances. It is critical that the clarity of the purpose of each funding source is maintained in order to best serve the missions of the funding sponsors.

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5.2 Significant Project Additions and Deletions

The following table shows significant project additions and deletions from Attachment A of the FY05 TYCSP and is arranged by funding source. To illustrate less significant changes, those projects in Attachment A that have had changes to their titles or funding profiles since the FY05 TYCSP are highlighted in blue text. New projects are also shown in blue text.

Table 5-1: Significant project additions and deletions since FY05 TYCSP.

Project Number	Project Name	Addition or Deletion?	Reason for Change
Line Item Projects			
LANL-10-001	Defense TRU Waste Consolidation Project	Addition since FY05 TYCSP	Project to process TRU waste generated from ongoing defense program activities.
LANL-08-001	Institute for Nuclear Nonproliferation Science & Technology (INNST)	Addition since FY05 TYCSP	Project to provide modern capability for nonproliferation and homeland security activities.
LANL-09-001	RH TRU Processing Facility	Addition since FY05 TYCSP	Project to process, package, and ship RH TRU waste.
RTBF Projects			
LANL-05-427	TA-55 SST Pads	Addition since FY06 TYCSP Limited Update	GPP to support mission needs.
LANL-05-428	RLW Tie-In	Addition since FY06 TYCSP Limited Update	GPP to tie in new acid and caustic waste lines from TA-55 to TA-50.
LANL-05-426	RANT Seismic Upgrade	Addition since FY05 TYCSP	GPP to increase seismic strength of facility.
LANL-06-430	LLW Verification Building	Addition since FY05 TYCSP	GPP to support mission needs for waste management.
LANL-07-432	LLW Access Control	Addition since FY05 TYCSP	GPP to support mission needs for waste management.
LANL-08-433	LLW Compaction Facility	Addition since FY05 TYCSP	GPP to support mission needs for waste management.

Table 5-1 Continued

Project Number	Project Name	Addition or Deletion?	Reason for Change
FIRP Projects			
Various	Various	Additions	Multiple changes to be consistent with FIRP Congressional Tables and guidance from NA-52 to be concentrate on Mission Essential Facilities.
Various	Various "Deferred Maintenance Bundle"	Deletion	Multiple changes to be consistent with FIRP Congressional Tables and guidance from NA-52 to be concentrate on Mission Essential Facilities.
Non-RTBF/Non-FIRP Projects			
LANL-05-423	TA-3 Telecom Duct Bank Expansion	Addition	New prioritized IGPP project.
LANL-06-445	Upgrade RC-1 Roof	Addition	New prioritized IGPP project.
LANL-06-446	Upgrade RC-1 HVAC	Addition	
LANL-07-427	Warehouse Relocation	Addition	New prioritized IGPP project.
LANL-07-429	Computing and Communications Operations Facility	Addition	New prioritized IGPP project.
LANL-08-435	Construct TA-69 EOC Support Office	Addition	New prioritized IGPP project.
LANL-08-436	TA-16-171 Water Tank Refurbishment	Addition	New prioritized IGPP project.
LANL-09-438	Electrical Upgrade for Institutional Computing	Addition	New prioritized IGPP project.
LANL-09-439	Construct TA-49 Consolidated Emergency Training Center Bldg.	Addition	New prioritized IGPP project.
LANL-09-440	TA-3/TA-59 Sewer Upgrade	Addition	New prioritized IGPP project.
LANL-10-441	Construct Building to Relocate IM-2 and IM-3 Groups	Addition	New prioritized IGPP project.
LANL-10-444	Road Safety Upgrades	Addition	New prioritized IGPP project.
Various	Various "LANL GPP – New Construction Projects"	Deletion	All projects are over target budget requests.

5.3 LINE ITEM HIGHLIGHTED PROJECTS

This section presents a review of 12 selected line item projects. Together these projects represent a substantial investment by NNSA and are absolutely vital to maintain and provide the capabilities to meet present and future NNSA missions. Most of these projects are currently in the planning stages, and the bulk is sponsored by DP and NNSA Facilities and Operations. A summary is provided in Table 5-2 while Figure 5-3 provides an integrated cost and schedule summary.

These projects provide the following fundamental benefits that will be realized over the next 10 to 15 years:

- Improving security to protect vital assets against increased threats,
- Providing better worker and public safety and protection of the environment,
- Revitalizing and replacing old, unreliable infrastructure, thus reducing operational and programmatic costs through facility consolidation,
- Reducing and eliminating the deferred maintenance backlog, and
- Improving technical capabilities to satisfy new programs and perform work more efficiently and safely.

Many of the projects listed here are critical elements of the Laboratory's NFC plan discussed in Section 4.7.1. NNSA and the Laboratory are working closely to develop each project to ensure that the scope, estimated costs, and schedules are integrated with NNSA programmatic drivers and deliverables. This is accomplished through the INP process and the ICPP. Each project is also closely coordinated with NNSA organizational elements, through their corresponding overarching programs, including RTBF, Safeguards and Security (S&S), and FIRP. Although safety, security, and capability improvements are always an emphasis and goal of the line item program, more efficient use of operating and

Figure 5-2: The line item projects are aligned with NNSA/DOE priorities and programs and maintain and improve the Laboratory's capabilities.

programmatic funds is an important objective. Due to aging (and in many instances unreliable) infrastructure and facility systems, an inordinate proportion of resources and management attention to maintain and operate them is necessary. This situation diverts funds and attention from programmatic activities, the core Laboratory mission. These facility and infrastructure investments, when complete, will result in a more balanced resource allocation and management focus.

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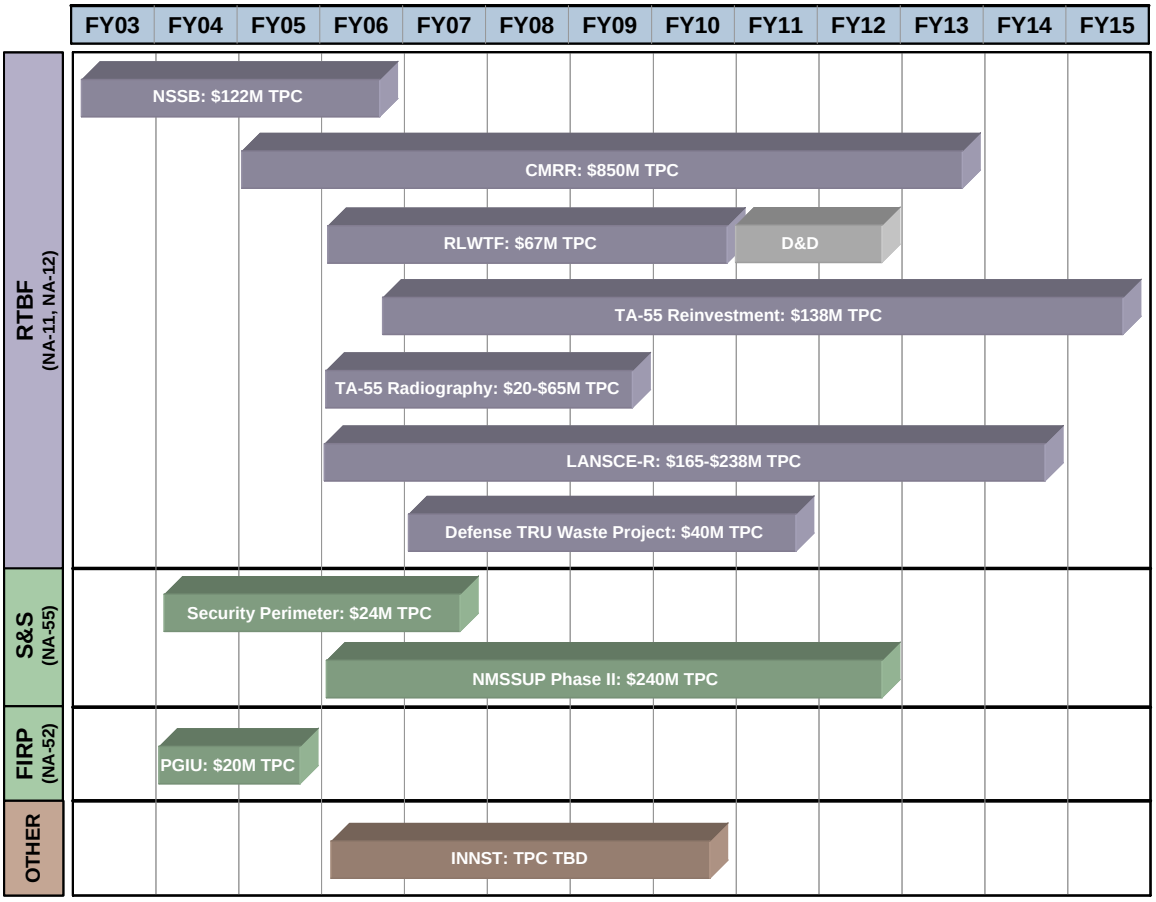
Table 5-2: Features and benefits of selected line item projects.

Project	Feature / Description	Benefits: *Improved Security*	*Better Worker & Public Safety*	*Revitalize Infrastructure & Reduce Ops Cost*	*Reduce Deferred Maintenance*	*Improve Technical Capability*
RTBF						
National Security Sciences Building	Provides new, modern facility to replace aging SM-43. Will house weapons design, theoretical/computation and management.	X	X	X	X	X
CMRR	New state-of-the-art actinide chemistry and research facility sited at TA-55 to replace existing and aging CMR. TA-55 location will make nuclear operations more efficient and consolidated.	X	X	X	X	X
Radioactive Liquid Waste Treatment Facility Upgrade	Upgrades process capabilities to improve capacity, compliance, and waste minimization.		X	X	X	
TA-55 Reinvestment Project	Replacement of aging mechanical, electrical, and other systems will permit facility to manufacture and certify nuclear weapons stockpile more effectively		X	X	X	
TA-55 Radiography Facility	Install radiography capabilities at TA-55 to support TA-55. Will result in more secure and cost effective NDE of Pu and other nuclear assemblies.	X	X	X	X	X
LANSCE-R	Refurbish and revitalize accelerator vital to SSP and R&D programs to improve long-term reliability and operability.		X	X	X	X
Defense TRU Waste Consolidation Project	Provide TRU Waste facility to serve shipping, packaging, characterization, and other activities necessary for waste management. Current set of facilities at TA-54 will no longer be available after the 2010 time frame due to the closure of TA-54 pursuant to an agreement between DOE/NNSA and the State of New Mexico.		X	X	X	X
S&S						
Security Perimeter	Establishes physical separation and access controls between public areas and Laboratory core area through vehicle entry/exit control and road realignment.	X	X			
NMSSUP Phase II	Replaces and improves physical security features at TA-55 to respond to new threat scenarios. Fully integrated with Phase I (controls and data backbone).	X		X	X	
FIRP						
Power Grid Infrastructure Project	Construct a third power line to serve the site. Provides a redundant source of power, eliminates single point failures. Reduces lost time and costs due to outages; improve reliability and maintenance.		X	X	X	
Other DP / Programmatic						
Institute for Nuclear Nonproliferation Science and Technology (INNST)	Replaces aging TA-48 facilities and reconstitutes essential training capabilities from TA-18, all capable of satisfying long term NNSA requirements	X	X	X	X	X

Figure 5-3: Integrated cost schedule and summary. (Amounts rounded to the nearest $1M)



5.3.1 Readiness in Technical Base and Facilities (RTBF) Projects

RTBF projects are sponsored through the Deputy Administrator for Defense Programs, NA-10, and specifically through NA-11 and NA-12. The RTBF mission is to ensure that the prescribed facilities and infrastructure are maintained to manufacture and certify the 21st century nuclear weapons stockpile, and each of these projects supports that requirement.

5.3.1.1 National Security Sciences Building (NSSB)

The highest priority of the SSP is to ensure the operational readiness of the nuclear weapons stockpile. The NSSB Project will support this by replacing the 45-year-old SM-43 Administration Building with a new facility fully compliant with current safety requirements. The NSSB Project

Figure 5-4: NSSB will be located in the TA-3 core.

will provide modern, safe, productive facilities for theoretical and applied physics, computational science, program management and general management, all of which contribute to ensuring stockpile readiness. Functional, safety, and security obsolescence of the existing SM-43 building is the impetus for the NSSB, and the project scope also includes a new facility for LASO.

The NSSB Project will continue the development of the theoretical-computational core in TA-3 that was started in FY99 with the Metropolis Center and NISC projects. The project includes construction of approximately 275,000 square feet of office space to house approximately 700 employees, including Central Records Management operations. A parking structure for 400 vehicles is included, as is a 600-seat auditorium. The SM-43 building (315,000 square feet) will be decommissioned and demolished as part of the project.

The NSSB Project solves the following problems:

- **Improves Occupant Safety:** SM-43 has the highest level of occupancy of any Laboratory facility and does not meet current DOE, Uniform Building Code seismic, or NFPA requirements. In an earthquake, it is anticipated that SM-43 would experience extensive failures and could collapse. The NSSB will be structurally safe and code compliant.
- **Increases System Reliability:** SM-43 systems are near failure, unreliable due to age, and can no longer satisfy occupancy demands. System failures are disrupting programmatic work. NSSB will provide consistent reliability and availability.
- **Reduces Cost of Operations:** SM-43 cannot be operated indefinitely without significant upgrade investments.

Further investment to SM-43 is impractical and estimated to exceed $100M. NSSB is the most cost effective solution.

- **Tightens Security:** Security concerns and requirements have changed dramatically in the last 45 years and changes cannot be economically implemented in SM-43. NSSB will be designed to satisfy today's (and future) physical and cyber security needs.
- **Enhances the Work Environment:** NSSB will dramatically improve the "human factor." Current working conditions have negative impacts on current staff and the Laboratory's ability to retain existing personnel and recruit new staff. NSSB will provide an attractive, appealing, and functional work environment.

NSSB Quick Facts and Status:
- 275,000 gross square feet
- Houses ~700 (~9% of total staff)
- TEC = $98M
- TPC = $122M
- Start Design: FY03
- Start Construction: FY04
- Move-in: FY06
- Status: Construction underway; on schedule and budget

5.3.1.2 Chemistry, Metallurgy, and Research Replacement Project

The capabilities needed to execute the NNSA mission activities require facilities to handle actinide and other radioactive materials in a safe and secure manner. Of primary importance are the capabilities located within the CMR Building and the Plutonium Facility (located at TA-3 and -55, respectively).

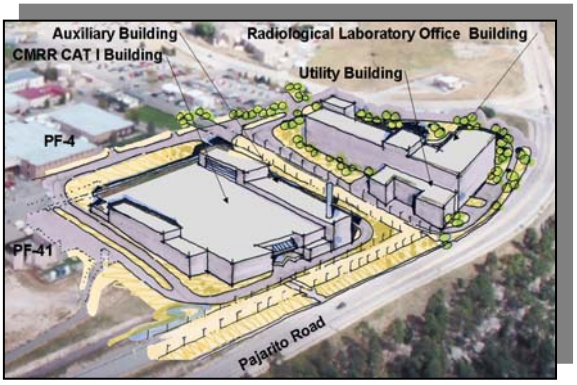


Figure 5-5: Proposed CMRR.

These facilities process, characterize, and store SNM. Most of the Laboratory's mission support functions require analytical chemistry, material characterization, and actinide research and development support capabilities and capacities that currently exist within the CMR Building and are not available elsewhere. Other unique capabilities are located at the Plutonium Facility. Work is sometimes moved between the CMR Building and the Plutonium Facility in order to use the full suite of capabilities these two facilities provide.

Mission critical CMR capabilities support NNSA's stockpile stewardship and management strategic objectives; these capabilities are necessary to support the current and future directed stockpile work and campaign activities conducted at the Laboratory.

The 50-year old CMR Building has many systems and structural components in need of upgrades, refurbishment, or replacement. Past studies identified a seismic fault trace located beneath the CMR Building, which greatly enhances the level of structural upgrades needed at

the CMR Building to meet current structural seismic code requirements for a Hazard Category 2 nuclear facility. Performing the needed repairs, upgrades, and systems retrofitting for long-term use of the CMR Building would be extremely difficult and cost prohibitive. Over the long-term, NNSA cannot continue to maintain the critical support capabilities in the CMR Building at an acceptable level of risk to public and worker health and safety without severe operational restrictions.

NNSA needs the physical means for accommodating the continuation of the CMR Building's functional, mission-critical CMR capabilities beyond 2010 in a safe, secure, and environmentally sound manner. The current AB for the CMR Building is set to expire in 2010. At the same time, NNSA should also take advantage of consolidating like activities for the purpose of operational efficiency. It is also prudent to provide extra space for future anticipated capabilities or activities requirements.

The CMRR Project will construct a new facility at TA-55 to house the existing CMR Building capabilities. Major capabilities provided by the project in AC/MC and SNM storage. Currently envisioned are two buildings, a combination radiological laboratory, office, and utility building and a SNM Category I and II building. At a minimum, the buildings would be designed to operate for the next 50 years.

The project is split into three phases. The RLUOB will provide space outside the PIDADS for offices, light laboratories, and utility systems for both the nuclear facility as well as the RLUOB. Special Facilities Equipment (SFE) will provide the enclosures and equipment associated with both the RLUOB and Nuclear Facility. The Nuclear Facility (NF) phase consists of the design and construction of the main facility located within the PIDADS.

The conceptual design phase was completed in FY2004, and updated in early FY2005 to reflect current NNSA guidance. FY05 activities include receipt of CD-1 in June 2005, initiation of preliminary design for the SFE and NF phases, and acquisition activities for the RLUOB phase. Current schedule has forecast CD-2/3 for Phase I, RLUOB, in September 2005.

CMRR Quick Facts and Status:

- Cat I & Cat II SNM Facilities
- Two structures: Radiological Laboratory Utility Office Building & Haz Cat II/Security Cat I facility
- TEC = $750M
- TPC = $850M
- Start Design: FY05
- RLUOB Start Construction: FY06
- Move-in: FY2013 (early finish)
- Status: CD-1 received Spring 2005, Preliminary design start: September 2005

5.3.1.3 Radioactive Liquid Waste Treatment Facility (RLWTF) Upgrade

This project will improve the RLWTF at TA-50 by improving reliability and process capability to meet projected regulatory requirements for discharge. The RLWTF is over 35 years old and many process and facility systems (e.g., electrical, mechanical, HVAC) are at the end of their design life and require upgrades and/or replacement.

Design alternatives include eliminating clarification processes and increasing utilization of filtration and reverse osmosis. Another improvement will include on-site evaporation capability. These features will make treatment processes more efficient. Effluent discharge standards are becoming more restrictive and the upgrades need to take this into account to the extent feasible. Further, the project will allow for future flexibility and adaptability to future changes in regulatory requirements through the use of modular process treatment equipment and piping configuration.

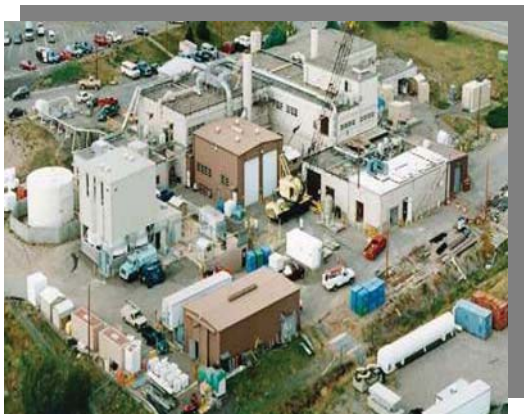


Figure 5-6: A modern RLWTF is essential to reliable nuclear operations for TA-55 and the Laboratory's waste management.

Project alternatives to be considered during the conceptual design phase, which is underway, include renovation of the existing facility and construction of a new facility. Factors to be weighed and carefully evaluated in alternative selection will include the ability to effectively comply with current codes and standards, risks associated with renovation, and the ability to provide future flexibility.

RLWTF Project Quick Facts and Status:

- Integrate new processes in coordination with existing facility and operations
- TEC = $61M
- TPC = $67M
- Start Design: FY06
- Start Construction: FY08
- Const. Complete: FY10
- D&D existing facilities: FY12
- Status: CD-0 received early FY05; currently preparing conceptual design

5.3.1.4 TA-55 Reinvestment Project

The TA-55 Reinvestment Project will revitalize aging and obsolete facility and safety systems to ensure continuing support of NNSA's Stockpile Stewardship Mission, including the following critical activities conducted at TA-55:

- Manufacturing plutonium components,
- Surveillance and disassembly weapons components,
- Actinide materials science and processing research and development,
- Plutonium recovery from pit production and surveillance,
- War reserve plutonium metal recovery and production,
- Vault storage of nuclear materials, and
- Waste processing.

Figure 5-7: TA-55 infrastructure will be revitalized to increase availability and cost effective operations.

TA-55 is the premiere nuclear and plutonium facility in the nation and was constructed in the mid-1970s. It consists of a high security Category I SNM laboratory and processing facility as well as various support structures and systems. It is the most modern and well-equipped nuclear facility at the Laboratory; however, it is aging and critical systems are beginning to require excessive maintenance. As a result, the facility is experiencing increased operating costs and reduced system availability. An investment over the near term to upgrade electrical, mechanical, safety, facility controls, and other selected systems will enable continued operation to satisfy mission objectives and programmatic milestones cost effectively for the next 30 to 40 years.

The goal of this project is to enable TA-55 to meet present and future nuclear component manufacturing, research and development, and related requirements for the stockpile while simultaneously meeting all safety and security requirements. This project will ensure that the right TA-55 facility infrastructure systems are in place to manufacture and certify the nuclear weapons stockpile safely and effectively and perform nuclear R&D. The scope of this project will be coordinated through the INP process and close coordination with NA-12.

TA-55 Reinvestment Quick Facts and Status:

- Focus on facility infrastructure systems
- Accomplish project without prolonged disruptions to programs and activities
- TEC = $118M
- TPC = $138M
- Start Design: FY06
- Start Construction: FY08
- Complete: FY14
- Status: CD-0 received March 2005; conceptual design underway

5.3.1.5 LANSCE Refurbishment Project

LANSCE provides extraordinary research capabilities in basic and applied science for national security, defense, and civilian applications. Central to the LANSCE facility is a versatile 800 MeV proton linear accelerator (Linac) that drives four major facilities with unique national research capabilities: the Proton Radiography (pRad) Facility that supports Defense Program missions, the Lujan Neutron Scattering Center that supports DP and Office of Science (SC) missions, the Weapons Neutron Research Facility (WNR) that supports DP missions, and the Isotope Production Facility (IPF) that supports Office of Nuclear Energy, Science, and Technology (NE) missions.

The highest-priority NNSA driver for LANSCE-R is the unique capability of proton radiography. The Proton Radiography Facilit
y, which uses the pulsed H^- beam from the Linac, is unique in the world and provides time-sequenced radiographs of dynamic phenomena with billionths-of-a-second time resolution. Proton radiography is critical for ongoing certification and model development as described in detail in the classified addendum. It is anticipated that the data from 800 MeV pRad will continue to be of tremendous importance to Stockpile Stewardship for a least the next 15 to 20 years. Ensuring Linac beam operations for proton radiography beyond 2020 will benefit all LANSCE programs. All three DOE offices (DP, NE, and SC) that support research at LANSCE have affirmed the importance of having LANSCE operational as a reliable facility for the next decade and beyond. Although all these offices use LANSCE, the Office of the Secretary of Energy has assigned NNSA DP with responsibility and accountability for reliable accelerator operations in support of the overall DOE mission. LANSCE continues to be the major Laboratory experimental-science facility and therefore is a critical feature of the Laboratory's science-based mission. There is no foreseeable substitute for this capability. Historically, LANSCE and its predecessor, the Los Alamos Meson Physics Facility, have been essential in bringing exceptional talent to the entire Laboratory. Keeping LANSCE viable will continue this process.

Figure 5-8: LANSCE performs a wide array of SSP activities and has been operational since 1972.

LANSCE's reliability has significantly declined over the past 3 years. Major components have become obsolete, demonstrated failure, are years beyond their expected service lives, and could cause a 1-year shutdown while replacements are custom fabricated. Without reinvestment now the facility will continue to decline and will be unable to meet the requirements of its stakeholders

and milestones for the Stockpile Stewardship Program.

The LANSCE-R project is designed to sustain reliable facility operations past 2020 for defense research and applications with a focus on dependable beam delivery for proton radiography experiments. LANSCE-R is proposed as a line item capital improvement project with an estimated total project cost ranging from $165 to $238M. The mission need justification for LANSCE-R is to:

- Preserve dependable operation of the Linac, and
- Increase the cost effectiveness of operations because many of the existing facility systems are beyond their expected end-of-life, and have failures for which spare parts are no longer available.

LANSCE-R Quick Facts and Status:

- Revitalize 30 year old accelerator complex vital to SSP
- TPC Range = $165M-$238M
- Start Design: FY06
- Start Refurbishment: FY06
- Complete: FY14
- Status: CD-0 package in review by NNSA; CD-1 package to be developed in FY06

5.3.1.6 Defense TRU Waste Consolidation Project

The overall objective of this project is to design and construct a set of facilities and capabilities to process TRU waste generated from ongoing defense program activities at the Laboratory. The existing set of TRU Waste facilities, due to their location at TA -54, will no longer be available after Project 2010 is completed. TA-54 is the Laboratory's central facility for hazardous, chemical, and radiological waste streams. TA-54 supports various functions including storage (temporary above ground and long term burial), characterization, volume reduction, segregation, packaging, and shipping.

The need for this project has just recently emerged as a result of the agreement that the DOE and NNSA made with the State of New Mexico in March 2005 to close significant portions of TA-54. The buried disposal areas will be either capped or otherwise remediated pursuant to future agreements with the State of New Mexico sometime after 2010. The existing TRU Waste facilities, although functional, are in the midst of the proposed closure area and continued operation during closure and/or remediation is not feasible.

The mission of the Project 2010 is to retrieve, characterize and ship the Laboratory's entire legacy TRU waste, currently in storage, to WIPP for disposal by the year 2010. At the end of Project 2010, newly generated TRU waste will continue to be generated and will require similar functions of characterization, temporary storage, packaging, certification and shipment to WIPP. This project will

provide the facilities and equipment necessary to fulfill those functions.

TRU waste will continue to be generated by TA-55, CMR and the RLWTF after 2010 and as long as defense programs are conducted at the Laboratory. There is also a possibility that TRU waste could also be generated by ER and D&D projects, although the volume may be small. The volume of newly generated TRU waste is difficult to predict, due to changes in laboratory missions, mission priorities and funding levels. However, rough estimates indicate that the annual volumes may be in the range of 800 to 1,000 drums per year. It is also expected that there will be a continuing need to decontaminate and size reduce large or bulky items (e.g., gloveboxes, machine tools) for packaging for shipment to WIPP, much the same as the DVRS function that is currently operating at TA-54 Area G.

CD-0 development is underway and a formal CD-0 approval is anticipated in FY06, with conceptual design to be completed in early FY07 and capital design to commence also in FY07 (early start) or FY08.

5.3.1.7 TA-55 Radiography Facility

The proposed Radiography Facility for sealed nuclear components is planned to be located at TA-55, within the PIDAS enclosed area, a new purpose built facility, in a renovated PF-41, or some combination of new facilities and renovation of PF-41. The facility will house high-energy and medium energy x-ray systems suitable for examination of various sealed nuclear components. It will serve Pit Production Programs and Pit Surveillance Programs. The project will be designed and constructed to meet appropriate rigorous nuclear facility operations, safety, and security requirements.

The completed facility will be a long-term, flexible solution for TA-55 sealed nuclear component radiography. Currently, radiography is conducted at TA-8 where extensive temporary safety and security measures must be established each time an examination is made. These temporary measures are very expensive and time consuming and are not suitable for the long term efficiency, safety, and security of the plutonium and pit programs. Currently, the project is in the conceptual design phase.

TA-55 Radiography Quick Facts and Status:

- Relocate sealed component Radiography from TA-8 to TA-55
- TPC Range = $20M-$65M
- Start Design: FY06
- Complete: FY09
- Status: CD-0 approved, CD-1 forecast for January FY06

5.3.2 Safeguards and Security Projects

These projects are sponsored by NA-70, the Office of Defense Nuclear Security.

5.3.2.1 Security Perimeter Project

As a result of the events of September 11th, the nature of terrorist threats has changed significantly in terms of the potential magnitude of the attack as well as terrorist motivations, targets, and methods. In recognition of this increased threat, the Laboratory and NNSA security and management have determined that there is a critical need to upgrade the physical protection around critical assets at the core of the site.

This project provides the Laboratory the ability to isolate the core area of the site from unscreened vehicle access in order to protect vital national security assets, government property, and human life from possible terrorist activity. This project will provide the capability to enact a graded closure of the core area of the site depending on the NNSA Security Condition levels in effect at the time. During elevated threat conditions, all but emergency and designated government vehicles may be prevented from entering the core area of the site. Staffed access control stations with vehicle queuing approaches, necessary utilities, and security equipment will be required to screen vehicles and provide the capability of closing off vehicle access if required. The scope of work includes the following:

- **Access Control Stations:** New access control stations will be constructed off of East Jemez Road and on West Jemez Road near the intersection with Camp May Road. They will provide primary vehicle access into the core area. Two existing stations will also be modified.

- **Road Closures:** In order to assure that vehicle traffic routes through the access control stations, Diamond Drive must be permanently closed to unscreened vehicle traffic by physical separation of the road. West Jemez Road (State Route 501) will also be closed to unscreened vehicle traffic. West Road will be isolated from West Jemez Road by vehicle gates and barriers. The commuter bus area and existing parking lots must be accommodated. Emergency vehicle access will be maintained where required to assure response times remain low so that life and property saving actions can be taken in a timely manner.
- **Relocation and Demolition:** Minor relocation and demolition of existing structures and utilities will occur but will depend on the exact routing of roads and structures. Final routing of the roads will not occur until detailed design, but the general route is set.

Security Perimeter Project Quick Facts and Status:
- Selected road realignments and modifications
- TEC = $20M
- TPC = $24M
- Start Design: 4Q FY05
- Start Construction: 4Q FY05
- Complete: 1Q FY07
- Status: CD-1 in 1Q FY04, Projected CD-2/3 in 4Q FY05

5.3.2.2. Nuclear Materials Safeguards and Security Project (NMSSUP), Phase II

The overall objective of the NMSSUP is to upgrade and replace the existing physical security system to address the new protection strategy requirements and deteriorating physical security infrastructure. Planning for NMSSUP was initiated with a DOE security assessment in 1996. The assessment found that extensive upgrades were necessary to meet new threats. Phase I installed the data and communications backbone for the security system to the central and secondary alarm stations. Phase II will address the security system at TA-55, the Laboratory's key nuclear facility that houses and processes Category I quantities of SNM. TA-55 is particularly important as it is the proposed site for consolidation of nuclear missions for the laboratory, including the CMRR Project.

Phase II includes the upgrade or replacement of the existing exterior intrusion detection and assessment system and installation of interior intrusion detection, assessment, delay, access control and security communications equipment for TA-55. Access control facilities for the Protected Area will be replaced or upgraded. These systems will be integrated with the Argus security control system that has been installed under NMSSUP Phase I.

Figure 5-9: Physical security systems are deteriorating and require upgrades to counteract age and defend against new threats.

When complete, Phase II will significantly improve the security posture at TA-55 while making operations more cost effective. The maintenance backlog on aging systems will be reduced and/or eliminated through replacement with new systems.

NMSSUP Phase II Quick Facts and Status:

- PIDAS and physical security modifications
- Exterior systems
- TEC = $228M
- TPC = $240M
- Start Design: FY06
- Start Construction: FY08
- Complete: FY12
- Status: CD-1 preparation underway; CD-1 request forecast for late FY06

Critical Decision 1 (originally scheduled for 2QFY2005) established at CD-0 (approved August 22, 2003), has been delayed due to the impact of the October 2004 DBT and NNSA guidance. Major changes to project scope of work were necessary to incorporate security protection strategy recommendations by DOE HQ Site Assistance Visit (SAV) security subject matter experts, conducted in February 2005, and results of the Laboratory's Vulnerability Assessment against the October 2004 DBT. The

accelerated CDR development schedule assures completion of the CDR in late FY05 to formally request NNSA Acquisition Executive, Associate Administrator for Infrastructure and Environment (NA-50) approval of CD-1 in late FY05, and authorization to proceed with award of contract for start of Preliminary Design in late FY05 as well.

5.3.3 Facilities and Infrastructure Recapitalization Program (FIRP) Projects

FIRP applies new, increased, direct appropriations to address maintenance and infrastructure activities that will significantly improve the long-term physical and infrastructure conditions and mission availability. Line item projects within FIRP are focused on utility systems. These projects are vital to mission accomplishment, yet they are not tied to a specific Campaign or weapons program. Because of their crosscutting nature, they have not previously achieved priority within strictly programmatic budget reviews. The Laboratory has only one utility line item project under FIRP.

Power Grid Infrastructure Upgrades (PGIU) Project

The PGIU Project will provide improvements to the electrical infrastructure, which is currently prone to single point failures due to a lack of redundancy. This project has been part of the NNSA planning strategy for several years. It will construct a new 115 kV transmission line approximately 10 miles long across DOE administered property. It will originate at a new Southern Technical Area (STA) Substation and proceed northwesterly through the central portion of the site to the West Technical Area (WTA) Substation. The project will reduce deferred maintenance items associated with the Eastern Technical Area (ETA) Substation. The ETA equipment has not received critical maintenance and repairs due to the inability to de-energize the ETA. With this project, the existing

Norton and Reeves lines, as well as the new line, can be individually de-energized to perform critical maintenance, without impact to the Laboratory.

Figure 5-10: The PGIU Project will eliminate single point failure modes, as shown above.

Completion of this project will eliminate single point failures that isolate the Laboratory from electrical power entirely. NNSA's DP guidance explicitly states that reliable facilities capable of supporting mission demands, while meeting security, health, safety, environmental, and operating requirements, are essential to mission success. The existing electrical transmission facilities are considered marginal because they are susceptible to a

total loss of service (through single point failures) under certain conditions and do not meet industry standards. The current transmission line configuration and insufficient reliability pose continued increased operational risk to NNSA and the Laboratory. This situation developed partly out of funding constraints and prioritization issues over the past 30 years.

PGIU Project Quick Facts and Status:

- TEC = $18.5M
- TPC = $20M
- Design & Const: FY05 (ongoing)
- Complete: FY06
- Status: CD-2/3 received November 2004; construction proceeding on budget and schedule—expected complete 3QFY06

5.3.4 Other DP / Programmatic Funded Projects

A further project not included in the current ICPP but under consideration by Laboratory management is the Institute for Nuclear Nonproliferation Science and Technology (INNST). This project was described in detail in Section 4.7.10.

Comprehensive facility planning efforts have identified additional proposed line item projects, including the Fuel Cell National Resource Center and the Center for Weapons Program Research. The Fuel Cell National Resource Center will be a national user facility for research, development and testing and provide a national focus for fuel cell research. The Center for Weapons Program Research (CWPR) will consolidate staff currently located throughout TA-3 in temporary structures or aging permanent buildings who perform portions of the SSP activities including quantum information and science, physics, computational research, theoretical and strategic experimental capabilities. Both of these projects are currently assessing potential funding sources.

5.4 FACILITIES AND INFRASTRUCTURE COST PROJECTION SPREADSHEETS

The Laboratory accomplishes critical infrastructure development, renovations, and upgrades through line item (LI), general plant (GPP), capital equipment, and expense-funded projects. The tables in Attachment A were developed in accordance with DOE/NNSA guidance and format requirements and line organization and program office input. The spreadsheets reflect the prioritized project list and capture all facility and infrastructure-related projects in order of funding type, then by general priority within the funding types. Five spreadsheets are included: Line Item projects, including proposed; RTBF/Operations of Facilities, excluding Line Items; FIRP, excluding Line Items; other/non-NNSA; and Security Infrastructure Projects. Funding profiles are shown for FY06 through FY15. Footnotes provide clarification where necessary at the end of the list.

Primary categories of costs provided are as follows:

- Other Project Costs (OPC) for existing and proposed line item construction,
- Preliminary Engineering and Design (PE&D) for proposed line item construction,
- Expense,
- GPP,
- IGPP, and
- D&D.

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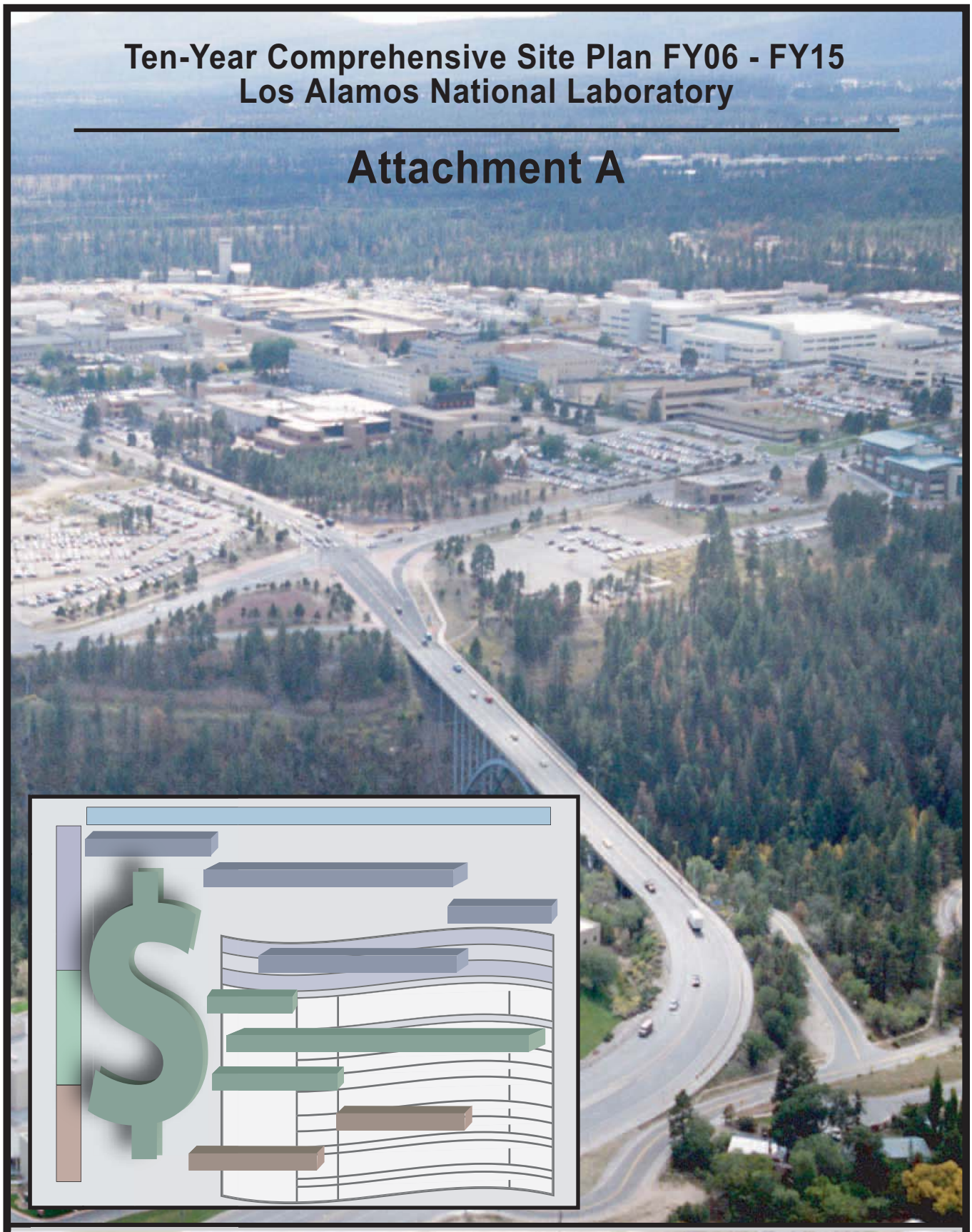
Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment A



Facilities and Infrastructure Cost Projection Spreadsheets

Attachment A
Facilities and Infrastructure Cost Projection Spreadsheets

The Facilities and Infrastructure Cost Projection Spreadsheets provide prioritized lists of the projected NNSA facilities and infrastructure projects and activities and burdened costs for FY06-FY15 and actuals for FY04. The projects and activities included in these spreadsheets reflect FIRP funding ending in FY11 and are consistent with the FYNSP and the latest Integrated Construction Program Plan (ICPP). The spreadsheets are as follows:

1. **A-1 Line Item Spreadsheet**: This spreadsheet includes all NNSA Line Items for RTBF, FIRP, and Safeguards and Security (S&S).
2. **A-2: Proposed Line Item Projects**: This spreadsheet proposes additional line item projects that are either above the FYNSP profile and/or are not reported in the current ICPP (March 23, 2005 for FIRP and S&S and May 26, 2005 update for RTBF).
3. **A-3: RTBF/Operations of Facilities** (excludes Line Items): This spreadsheet includes facilities and infrastructure projects associated with Operations of Facilities within the RTBF category. RTBF/Operations of Facilities represents baseline funding necessary to ensure safe, secure, reliable facility operations on a daily basis.
4. **A-4: FIRP** (excludes utility line items): This spreadsheet includes projects that target deferred maintenance reduction and meet certain rating and scoring criteria. Since FIRP specifically targets deferred maintenance reduction, proposed projects that do not substantially reduce the site's FY03 Deferred Maintenance Baseline (as reported in its FY04 TYCSP) may not be accepted for funding. Projects were prioritized per the guidance using the Facilities and Infrastructure Recapitalization Rating Matrix, with each project rated in each category of Health & Safety, Environmental & Waste Management, Safeguards & Security, and Mission & Investment. FIRP funding will end in FY11 per Congressional language.
5. **A-5: Non-RTBF/Non-FIRP**: This spreadsheet includes facilities and infrastructure projects associated with non-NNSA tenant programs and activities and projects that are Campaign/DSW (non-line item) and IGPPs.
6. **A-6: Security Infrastructure Cost Projection Spreadsheets:** These spreadsheets crosswalk Security Infrastructure projects currently accepted for: 1) execution, to include funding for FY05 and 2) planning for FY06 and FY07, from Attachments A-1 through A-5 so that NNSA headquarters has a corporate roll-up of ongoing Security Infrastructure projects. These spreadsheets also list the planned unfunded projects in a disciplined prioritization order to ensure that management attention and potential resource allocation are focused on the highest priorities. To provide rough order financial constraints, the unfunded submissions are for FY06 and FY07 only.

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NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: LANSCE Refurbishment / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
David Crandall, NA-11; Joel Leeman, PADNWP

Federal and Contractor Project Manager(s):
Eugene Colton, LASO

Project Description:
The Los Alamos Neutron Science Center (LANSCE) Refurbishment Project addresses five main priorities: 1.) increasing the overall beam availability and reliability in a manner that is sustainable over the longer term, 2.) enhancing the cost effectiveness of the operation by system improvements that increase reliability and maintainability, 3.) upgrading facility equipment where necessary to address code compliance or end-of-life issues that could severely impact beam availability, 4.) increasing H^- beam intensity to reduce operating costs, and 5.) accomplishing the above with minimal disruption to the scheduled user programs.

Current Proposed/Actual Project Schedule:
A CD-0 package is in preparation with submittal planned for FY05.

Project Justification (Program Requirements):
The LANSCE is a national user facility that produces intense sources of pulsed protons and spallation neutrons for defense and civilian research and applications. LANSCE is presently used for research in condensed-matter science and engineering, accelerator science, nuclear science, fundamental nuclear physics, radiography, and the production of radioactive isotopes. This broad array of accelerator uses has matured over 32 years of facility operation with the result that LANSCE is the largest NNSA user facility. LANSCE supports Defense Programs (DP) in areas of Stockpile Stewardship such as proton radiography, materials science and nuclear science; the Office of Science (OS) in areas of neutron scattering and nuclear physics; and the Office of Nuclear Engineering (NE), Science and Technology in the area of radioactive isotope production for medical and industrial use.

Over the past few years, LANSCE has become a workhorse for Stockpile Stewardship and it is clear that the demand for neutrons and protons is increasing. Both NNSA and DOE have affirmed the importance of having LANSCE operational as a reliable facility for the next decade and beyond. LANSCE has been operational since 1972, is aging, and requires investment to keep operating. LANSCE reliability is deteriorating and thus

increased risks to safety and programmatic activities will increase without these planned upgrades.

Alternatives Developed/Available to Meet Program Requirements:
LANSCE is a unique facility and if it is to continue to operate past the near term, there are no alternatives to this project.

Proposed Funding Profile ($K):

	Funding	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14
OPC	$9,500	$4,100	$1,900	$500	$500	$500	$500	$500	$500	$500
PED	$10,000		$10,000							
LI	$173,000			$25,000	$42,000	$47,000	$37,000	$15,000	$5,000	$2,000
TPC	$192,500	$4,100	$11,900	$25,500	$42,500	$47,500	$37,500	$15,500	$5,000	$2,500

Projected Annual Operating Costs:
Details are unknown at this time, but this project is anticipated to significantly reduce operating and maintenance costs at the LANSCE facility.

Project Site/Facility Space Utilization:
LANSCE refurbishments and improvements would occur within existing facilities and building infrastructure.

NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: Institute for Nuclear Nonproliferation Science and Technology / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
NA-22; Douglas Beason, ADTR

Federal and Contractor Project Manager(s):
TBD

Project Description:
The INNST Project will provide the following four types of facilities at TA-48, collocated with the TA-55 plutonium facility inside the nuclear corridor thereby enabling collaborations with national laboratories, universities, and partner governments.

- A moderate security/moderate hazard (Category III/IV) facility, incorporating both open and secured laboratories. The facility will be used for research, development, testing, and the evaluation of technology directly applied to programs, including international and domestic safeguards, emergency response, second line of defense, export control, and work for other government agencies, such as DoD, DHS, and the Intelligence Community.

- A security hazard Category I/II Nuclear Nonproliferation Training Center will offer hands-on training with realistic, traceable, Special Nuclear Material (SNM) items to the IAEA, personnel from other government agencies, and safeguards professionals from other US nuclear facilities. This will include training and R&D for nuclear emergency response and for the demonstration of advanced equipment and protocols for the identification of nuclear materials and special components.

- Outdoor vehicle portal and long-standoff nuclear material monitoring and detection field laboratory to be used to develop and demonstrate advanced nuclear detection technology suitable for deployment in border protection situations and other environments requiring long distance monitoring. The field laboratory will be configured as a training center for domestic and international inspectors.

- An office complex sized to accommodate staff in the newly established Institute. This facility will include both open and secured office space and modest mechanical, electrical, and software design, fabrication, and assembly facilities for building prototype instruments and supporting R&D needs.

Current Proposed/Actual Project Schedule:
CD-0 preparation will begin in FY06.

Project Justification (Program Requirements):
The INNST will provide a modern capability to continue to perform nonproliferation, national and homeland security, arms control technology development, component and equipment testing, and provide for the deployment of nuclear detection and monitoring technologies and systems. In addition, the capability will augment and strengthen the Nuclear Emergency Response functions currently under the jurisdiction of the Laboratory.

Alternatives Developed/Available to Meet Program Requirements:
None identified that will meet program requirements.

Proposed Funding Profile ($K):

	Funding	FY06	FY07	FY08
OPC	7,000	2,500	3,500	1,000
PED	20,000		5,000	15,000
LI				
TPC	27,000	2,500	8,500	16,000

Projected Annual Operating Costs:
$19.2M (based on all Category III and IV programmatic operations for FY03)

Project Site/Facility Space Utilization: (All figures are approximate net square feet (NSF))
High security, high hazard lab - 8,500 NSF
Medium hazard labs - 8,000 NSF
Radiological Labs (Low Hazard) - 19,100 NSF
Offices - 61,000 NSF
Electronics Labs - 5,000 NSF
Machine Shop & High Bay, -5,000 NSF
Software Labs - 3,500 NSF
Secure Outdoor Space - 8,000 NSF

Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	NEPA Status (22)	Deferred Maintenance Identifier(s) (4)	Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years Funding (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 (16)	FY 2011 (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																					
F	National Security Sciences Building **(23)**	03-D-102	EA-FONSI	N/A	21.3	275.0	OPC	**23,700**	3,400	154	2,900	12,100	5,300								
							PE&D	**98,364**	61,264	28,221	37,100										
							LI														
							Total (TPC)	**122,064**	**64,664**	**28,375**	**40,000**	**12,100**	**5,300**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
1	CMR Replacement Project	04-D-125	DOE/EIS-0350	N/A	50.8	(150.0)	OPC	**100,000**	28,900	7,702	5,000	5,000	7,000	7,000	16,000	18,000	13,100				
							PE&D	**66,392**	9,500		13,567	29,000	14,325								
							LI	**671,800**	9,941		39,684	55,000	102,422	160,586	178,011	126,156					
							Total (TPC)	**838,192**	**48,341**	**7,702**	**58,251**	**89,000**	**123,747**	**167,586**	**194,011**	**144,156**	**13,100**	**-**	**-**	**-**	**-**
2	Criticality Experimental Facility	04-D-128	DOE/EIS-0319	N/A	8.4	0.0	OPC	**36,831**	15,460		4,700	5,048	5,751	4,281	786	805					
							PE&D	**23,968**	9,015	438	5,953	9,000									
							LI	**81,924**	3,768		-	13,000	22,000	22,000	21,156						
							Total (TPC)	**142,723**	**28,243**	**438**	**10,653**	**27,048**	**27,751**	**26,281**	**21,942**	**805**	**-**	**-**	**-**	**-**	**-**
3	Radioactive Liquid Waste Treatment Facility Upgrade	LANL-06-021	New SWEIS	N/A	14.0	TBD	OPC	**3,100**	-		1,900	1,200									
							PE&D	**11,100**	-			3,000	8,100								
							LI	**50,000**	-				15,000	18,000	17,000						
							Total (TPC)	**64,200**	**-**	**-**	**1,900**	**4,200**	**23,100**	**18,000**	**17,000**	**-**	**-**	**-**	**-**	**-**	**-**
4	TA-55 Radiography **(24)**	06-D-140.1	New SWEIS	N/A	TBD	TBD	OPC	**3,250**			1,000	750	250	250	1,000					-	-
							PE&D	**4,000**	-			2,000	2,000								
							LI	**31,000**	-					20,000	11,000						
							Total (TPC)	**38,250**	**-**	**-**	**1,000**	**2,750**	**2,250**	**20,250**	**12,000**	**-**	**-**	**-**	**-**	**-**	**-**
5	TA-55 Reinvestment **(25)**	LANL-06-015	New SWEIS	N/A	TBD	0.0	OPC	**4,800**	-	-	1,000	3,800								-	-
							PE&D	**7,000**	-		-	2,000	5,000								
							LI	**111,000**	-				-		12,000	12,000	12,000	12,000	12,000	12,000	39,000
							Total (TPC)	**122,800**	**-**	**-**	**1,000**	**5,800**	**5,000**	**-**	**12,000**	**12,000**	**12,000**	**12,000**	**12,000**	**12,000**	**39,000**
6	Support Services Consolidation	LANL-07-019	New SWEIS	N/A	TBD	TBD	OPC	-	-												
							PE&D	-	-												
							LI	**14,000**	-					14,000							
							Total (TPC)	**14,000**	**-**	**-**	**-**	**-**	**-**	**14,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
7	TRU Waste Consolidation Project (formerly Defense TRU Waste Waste Processing Facility)	LANL-10-001	New SWEIS	TBD	TBD	TBD	OPC	TBD	-												
							PE&D	TBD	-												
							LI	**40,000**	-					5,000	8,000	12,000	15,000				
							Total (TPC)	**40,000**	**-**	**-**	**-**	**-**	**-**	**5,000**	**8,000**	**12,000**	**15,000**	**-**	**-**	**-**	**-**
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																					
1	Power Grid Infrastructure Upgrade	05-D-602	EA-FONSI	LA-LI-05-01	7.0	0.0	OPC	**1,500**	1,250	1,029.6	-	125	125								
							PE&D	-													
							LI	**18,421**			9,921	8,500									
							Total (TPC)	**19,921**	**1,250**	**1,030**	**9,921**	**8,625**	**125**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	NEPA Status (22)	Deferred Maintenance Identifier(s) (4)	Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years Funding (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 (16)	FY 2011 (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)
C. Safeguards & Security (S&S) Line Items																					
F	NMSSUP Phase 1	99-D-132	CX	N/A	0	0.0	OPC	**12,808**	12,788		20	-									
							PE&D	**-**	-												
							LI	**60,862**	60,862												
							Total (TPC)	**73,670**	**73,650**	**-**	**20**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
1	Security Perimeter Project	LANL-05-017	EA-FONSI	N/A	0	TBD	OPC	**4,020**	3,000		520	500									
							PE&D	**-**	-												
							LI	**19,842**	-		19,842	-									
							Total (TPC)	**23,862**	**3,000**	**-**	**20,362**	**500**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	NMSSUP Phase 2	05-D-170.1	CX	N/A	TBD	TBD	OPC	**12,000**	7,800		1,700	300	200	200	200	200	1,400				
							PE&D	**45,000**	-		10,000	35,000									
							LI	**183,000**	-			-		45,000	50,000	44,000	44,000				
							Total (TPC)	**240,000**	**7,800**	**-**	**11,700**	**35,300**	**200**	**45,200**	**50,200**	**44,200**	**45,400**	**-**	**-**	**-**	**-**
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																					
	No "Other Defense Programs Line Items"																				
E. Nuclear Nonproliferation (NN) Line Items																					
	No "Nuclear Nonproliferation Line Items"																				
TOTAL (All NNSA Costs For Site Line Items)					**102**	**125**		**1,739,682**	**226,948**	**37,544**	**154,807**	**185,323**	**187,473**	**296,317**	**315,153**	**213,161**	**85,500**	**12,000**	**12,000**	**12,000**	**39,000**
E. Non NNSA Line Items (OFFICE OF SCIENCE)																					
F	Los Alamos CINT Gateway	LANL-02-010	CX	N/A	-	36.5	OPC	**510**	30	25	225	230									
							PE&D	**600**	600	105											
							LI	**14,948**	1,931	8,595	4,000	347									
							Total (TPC)	**16,058**	**2,561**	**8,725**	**4,225**	**577**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
TOTAL (All OFFICE OF SCIENCE Costs For Site Line Items)					**0**	**36.5**		**16,058**	**2,561**	**17,424**	**4,225**	**577**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Attachment A-2
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
PROPOSED Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Deferred Maintenance Identifier(s) (4)	Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years Funding (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 (16)	FY 2011 (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																				
1	LANSCE Refurbishment	LANL-07-001	TBD	TBD	TBD	OPC	**9,500**				4,100	1,900	500	500	500	500	500	500	500	
						PE&D	**10,000**					10,000	-	-						
						LI	**173,000**						25,000	42,000	47,000	37,000	15,000	5,000	2,000	
						Total (TPC)	**192,500**	-	-	-	**4,100**	**11,900**	**25,500**	**42,500**	**47,500**	**37,500**	**15,500**	**5,500**	**2,500**	-
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																				
	No "Facilities and Infrastructure Recapitalization Program Line Items" proposed					OPC														
						PE&D														
						LI														
						Total (TPC)														
C. Safeguards & Security (S&S) Line Items																				
	No "Safeguards & Security Line Items" proposed					OPC														
						PE&D														
						LI														
						Total (TPC)														
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																				
	No "Other Defense Programs Line Items" proposed					OPC														
						PE&D														
						LI														
						Total (TPC)													-	
E. Nuclear Nonproliferation (NN) Line Items																				
1	Institute for Nuclear Nonproliferation Science & Technology (26)	LANL-08-001	TBD	TBD	200.0	OPC	**7,000**				2,500	3,500	1,000							
						PE&D	**20,000**					5,000	15,000							
						LI	**TBD**													
						Total (TPC)	**27,000**	-	-	-	**2,500**	**8,500**	**16,000**	-	-	-	-	-	-	
TOTAL (All NNSA Costs For Proposed Site Line Items)				TBD	TBD		**219,500**	-	-	-	**6,600**	**20,400**	**41,500**	**42,500**	**47,500**	**37,500**	**15,500**	**5,500**	**2,500**	-
F. Non NNSA Line Items (ENVIRONMENTAL MANAGEMENT)																				
2	RH TRU Processing Facility	LANL-09-001	TBD	TBD	TBD	OPC	**3,700**				500	1,500	300	300	300	800				
						PE&D	**4,000**						3,000	1,000						
						LI	**22,000**							8,000	14,000					
						Total (TPC)	**29,700**	-	-	-	**500**	**1,500**	**3,300**	**9,300**	**14,300**	**800**	-	-	-	-
TOTAL (Environmental Management Costs For Proposed Site Line Items)							**29,700**	**0**	**0**	**0**	**500**	**1,500**	**3,300**	**9,300**	**14,300**	**800**	**0**	**0**	**0**	**0**
G. Non NNSA Line Items (OFFICE OF SCIENCE)																				
	No "Non NNSA Line Items (Office of Science)" proposed																			
TOTAL (Office Of Science Costs For Proposed Site Line Items)																				
H. Non NNSA Line Items (OFFICE OF TRANSPORTATION)																				
	No "Non NNSA Line Items (Office of Transportation)" proposed																			
TOTAL (Office Of Transportation Costs For Proposed Site Line Items)																				

OFFICIAL USE ONLY

Attachment A-3
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
RTBF/Operations of Facilities for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (22)	Funding Type (7)	Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	Prior Years (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)
F	Monitoring Well Project (NA)	LANL-98-048	NA11	CX	E	-	0.0	**53,000**	37,000	3,676	12,800	3,200									
F	Electrical Infrastructure Safety Upgrade (TA-3-40)	LANL-02-071	NA11	CX	GPP	TBD	0.0	**1,856**	1,856	166											
F	Weapons Plant Support Building	LANL-02-093	NA11	EA-FONSI	GPP	-	23.0	**5,000**	5,000	3,256											
F	WETF 1.6 MVA Generator Installation	LANL-02-092	NA12	CX-TBD	GPP	TBD	0	**1,700**	1,700	1,057											
F	TA-16 Intersection	LANL-02-107	NA11	CX	GPP	-	0	**2,837**	2,837	2,704											
F	TA-15 Electrical Distribution Upgrade	LANL-02-126	NA11	CX	GPP	TBD	0.0	**2,200**	2,200	450											
F	Pajarito Road Access Control Stations	LANL-03-068	NA11	EA-FONSI	GPP	-	0.6	**4,700**	4,700	3,797											
F	Kirby Building TA-03-1437	LANL-04-205	NA11	CX-TBD	GPP	-	3.5	**1,269**	727	445	97										
F	PF-4 Switchgear Installation (TA-55)	LANL-04-216	NA11	CDC-TBD	GPP	TBD	0.0	**5,000**	400		550	4,050									
F	TA-55 SST Pads	LANL-05-427	NA12	CX	GPP	-	0.0	**2,603**			2,603										
F	RLW Tie-In	LANL-05-428	NA12	CX	GPP	-	0.0	**1,466**			1,466										
1	RANT Seismic Upgrade	LANL-05-426	NA11	CX_TBD	GPP	TBD	0.0	**2,400**			400	1700	300								
2	LLW Verification Building	LANL-06-430	NA11	CX_TBD	GPP	TBD	2.5	**4,750**				250	800	2,700	1,000						
3	Installation of an Anchor Ranch Gate (TA-22)	LANL-05-312	NA-11	CX-TBD	GPP	-	0.2	**5,000**				400	4,600								
5	LLW Access Control	LANL-07-432	NA11	CX_TBD	GPP	TBD	1.2	**1,000**					100	900							
6	Construct Neutron Production Target System	LANL-06-120	NA11	SWEIS	GPP	-	0	**1,300**					1,300								
7	Renovate MPF-3 Sector R and MPF-1 Basement	LANL-06-215	NA11	CX-TBD	GPP	TBD	0	**4,080**					600	3,480							
8	LLW Compaction Facility	LANL-08-433	NA11	CX_TBD	GPP	TBD	5.0	**4,750**						250	800	2,700	1,000				
9	Construct Calibration Laboratory	LANL-07-145	NA12	EA-FONSI	GPP	-	12.0	**3,050**						3,050							
10	Construct Data Systems Facility	LANL-07-184	NA12	CX-TBD	GPP	TBD	8.6	**5,000**						5,000							
11	RLW WAC Compliance	LANL-07-305	NA11	CX-TBD	GPP	-	0.0	**5,000**						1,470	3,530						
12	Construct Vessel Facility 1of 4	LANL-08-128	NA12	CX	GPP	TBD	6.7	**4,750**							4,750						
13	Construct LANSCE Lab/Office Building	LANL-08-216	NA11	CX-TBD	GPP	TBD	18.0	**5,000**							2,700	2,300					
14	Construct Medium/Heavy Lab At TA-22	LANL-08-153	NA12	EA-PREP	GPP	TBD	6.0	**3,680**							3,200	480					
15	BTF-Upgrades to FMS and VAV systems	LANL-08-014	NA12	CX-TBD	GPP	-	0	**2,000**							300	1,700					
16	Move Existing Vessel To TA-22	LANL-09-167	NA12	EA-PREP	GPP	-	0	**1,500**								1,500					
17	Construct TA-37 Classified HE Storage Facility	LANL-09-009	NA11	CX-TBD	GPP	-	2.0	**3,200**								3,200					
18	Construct Vessel Facility 2 of 4	LANL-09-152	NA12	CX	GPP	TBD	4.2	**2,500**								2,500					
19	TA-16-202 Renovation/Tritium Consolidation	LANL-09-020	NA12	CX-TBD	GPP	TBD	0	**2,650**								2,650					
20	Construct Vessel Facility 3 of 4	LANL-09-143	NA12	CX	GPP	TBD	4.2	**5,400**								5,000	400				
21	Construct Test Engineering Facility	LANL-10-194	NA12	CX-TBD	GPP	-	11.0	**3,500**									3,500				
22	Gas Gun Relocation TA-40 To TA-22	LANL-10-176	NA12	CX-TBD	GPP	-	0	**3,000**									3,000				
23	Construct Shock and Vibration Lab	LANL-10-185	NA12	CX-TBD	GPP	TBD	TBD	**5,000**									5,000				
24	Construct Electronics Facility	LANL-10-193	NA12	CX-TBD	GPP	TBD	10.0	**3,000**									1,270	1,730			
25	Construct Nuclear Safeguards Training Center	LANL-10-183	NA12	CX-TBD	GPP	-	8.0	**5,000**									3,700	1,300			
26	Facility Bomb Proofing (TA-22)	LANL-11-175	NA12	CX-TBD	GPP	-	0	**4,000**										4,000			
27	Construct Secure Dissolving Rad Chemistry Building	LANL-11-191	NA12	CX-TBD	GPP	-	3.0	**5,000**										5,000			
28	Construct Joint DX/ESA Conference Facility	LANL-11-181	NA12	CX-TBD	GPP	-	5.0	**2,000**										2,000			
29	Construct Parking Lots (TA-22)	LANL-11-102	NA-11	CX-TBD	GPP	-	0.0	**1,700**										1,700			
30	Construct Vessel Facility 4 of 4	LANL-11-160	NA12	CX-TBD	GPP	TBD	4.2	**2,500**										2,500			
31	Radial Bridge Crane (LANSCE)	LANL-11-318	NA12	CX-TBD	GPP	-	0.0	**2,700**										2,700			
32	Construct Replacement Machine Shop (TA-22)	LANL-11-166	NA12	EA-PREP	GPP	TBD	10.0	**4,000**										4,000			
33	Construct Central Classified Storage Facility	LANL-12-194	NA12	CX-TBD	GPP	-	0.0	**5,000**											5,000		
34	Post-FIRP Investment	Various	TBD	TBD	GPP	TBD	0.0	**123,648**										30,000	30,600	31,212	31,836
TOTAL RTBF/Operations of Facilities (facilities & infrastructure reported under this category)						TBD	148.9	318,689	56,420	15,552	17,916	9,600	7,700	16,850	16,280	22,030	17,870	54,930	35,600	31,212	31,836

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Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	FRRS Score	Project Name (2)	Project Number / Deferred Maintenance Identifier (3)(4)	NEPA Status (22)	Funding Type (7)	Deferred Maintenance Reduction (5)	Amount of DM Associated with ME Facilities	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	Prior Years (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
F	60	LANSCE Chiller Replacement	LANL-R-03-01	CX	GPP	4,304		0	**4,472**	4,472	2,583							
F	50	Beryllium Tech Facility - Cartridge Filter House Install	LANL-R-03-02	CX	GPP	2,200		3.1	**2,700**	700	255		2,000					
F	50	Electrical Infrastructure Safety Upgrade (TA-3-261)* **(27)**	LANL-R-03-03	CX	GPP	403		0	**2,500**	2,500	412							
F	50	Electrical Infrastructure Safety Upgrade (TA-8-21)*	LANL-R-03-04	CX	GPP	938		0	**1,076**	1,076	407							
F	50	Electrical Infrastructure Safety Upgrade (TA-43-1)*	LANL-R-03-05	CX	GPP	2,889		0	**2,430**	2,430	580							
F	60	TA-16-260 Reconfiguration*	LANL-R-03-06	CX	GPP	7,654		4	**4,967**	4,967	1,342							
F	50	Hydrotest Design Facility	LANL-R-03-07	CX	GPP	682		14	**5,000**	5,000	2,386							
F	45	FWO Office Building	LANL-R-03-09	CX	GPP	74		18	**5,000**	5,000	3,724							
F	40	CCF Electrical Upgrades	LANL-R-03-10	CX	GPP	400		0	**400**	400	393							
F	40	HRL-1 HVAC	LANL-R-03-11	CX	GPP	0		0	**450**	450	185							
F	40	TA-46-24 Roof Replacement	LANL-R-03-12	CX	GPP	235		0	**600**	600	10							
F	N/A	Roofing Assessment	LANL-R-03-13	CX	GPP	0		0	**1,000**	1,000	98							
F	N/A	FY03 FIRP Funded D&D	LANL-D-03-01	CX	E	0		-119.5	**9,186**	9,186	4,124							
F	N/A	FY04 Planning	LANL-P-03-01	N/A	E	0		0	**1,985**	1,985	281							
F	60	TA-50 Stem Wall Repair	LANL-R-04-01	CX	E	405		0	**400**	400	119							
F	60	WETF Systems Refurbishment	LANL-R-04-02	CX	GPP	7,978	7,978	0	**4,509**	2,809	1,964	1,700						
F	60	Deferred Maintenance Small Projects	LANL-R-04-03	CX	GPP	4,000		0	**5,000**	5,000	2555.7							
F	50	Vulnerable Building Replacement - DX Shock & Detonation	LANL-R-04-04	EA-FONSI	GPP	413		18	**5,323**	620	59	1,734	2969					
F	50	TA-16 WE Campus Grading, Drainage & Utilities	LANL-R-04-05	EA-FONSI	GPP	244		0	**4,912**	4,912	560							
F	50	Electrical Infrastructure Safety Upgrade (TA-46-31)*	LANL-R-04-06	CX	GPP	1,170		0	**3,260**	3,260	281.5							
F	60	TA-50 Caustic Tank Replacement*	LANL-R-04-07	CX	GPP	605		0	**750**	750	338							
F	60	MCC Replacement at CMR	LANL-R-04-08	CX	GPP	1,200		0	**1,100**	1,100	352							
F	50	Generator/Load Bank Installation at TA-55	LANL-R-04-09	CX	GPP	1,000		0	**1,750**	1,750	87							
F	50	Electrical Infrastructure Safety Upgrade (TA-3-40)*	LANL-R-04-10	CX	GPP	1,000	0	0	**1,562**	1,562	1,039							
F	55	Roof Replacement TA-53-1, TA-8-21, TA-59-1*	LANL-R-04-11	CX	E/GPP	390		0	**390**	390	178							
F	55	Deferred Maintenance Intermediate Projects	LANL-R-04-12	CX	E/GPP	1,492		0	**1,746**	1,746	595							
F	65	Deferred Maintenance TA-16-410/411	LANL-R-04-13	CX	GPP	3,330	3,330	0	**4,250**	750	206	2,000	1,500					
F	40	TA-3 Sidewalks	LANL-R-04-14	CX	E/GPP	335	0	0	**335**	335								
F	N/A	FY04 FIRP Funded D&D	LANL-D-04-01	CX	E	TBD	TBD	-104.4	**9,100**	9,100	3,908							
F	N/A	FY05 Planning	LANL-P-04-01	N/A	E	0	0	0	**770**	770	323							
F	60	TA-16-193 Reconfiguration	LANL-R-05-01	EA-FONSI	GPP	3,923	3,923	0	**4,992**	643	458	2,000	2,349					
F	60	Deferred Maintenance Small Projects 05-01	LANL-R-05-02	CX-TBD	E/GPP	4,000	3,200	0	**5,000**			5,000						
F	60	Deferred Maintenance Intermediate Projects 05-01	LANL-R-05-03	CX-TBD	E/GPP	5,313	4,250	0	**5,000**			5,000						
F	60	RAMP Roofing Support	LANL-R-05-04	CX-TBD	E/GPP	2,300	2,300	0	**1,219**			1,219						
F	60	Reconfigure TA-39-98, Close 39-2,39-103, 39-07	LANL-R-05-05	CX-TBD	GPP	1,384	1,384	0	**1,541**	381	267.700	1,160						
F	60	Lujan Center Ventilation and Cooling Upgrade	LANL-R-05-06	CX	GPP	900	900	0	**935**	130	101	490	315					
F	50	IM-Division Office Building Replacement	LANL-R-05-07	CX-TBD	GPP	4,497	0	0	**5,300**	300	210	535	4,465					
F	60	HVAC/Electrical Upgrade, MPF-6	LANL-R-05-08	CX-TBD	GPP	2,990	2,990	0	**3,813**	62	99.700	2,000	1,751					
F	55	Chiller Replacement for TA-48, RC-45	LANL-R-05-09	CX	GPP	711	0	0	**1,707**			1,707						
F	N/A	FY05 FIRP Funded D&D	LANL-D-05-01	CX-TBD	E	TBD	TBD	-176.8	**9,486**			9,486						
F	N/A	FY06 Planning	LANL-P-05-01	N/A	GPP/E	0	0	0	**6,450**			6,450						
1	65	TA-50 Waste Treatment Plant Deficiencies - 1A (Room 60 Modifications)	LANL-DM-07G30-02A	CX-TBD	GPP/E	6,868	6,868	0	**4,411**			826	3,585					
2	55	Bldg 53-0003 Hot Water Distribution System Deficiencies	LANL-DM-05D30-02	CX-TBD	GPP/E	1,573	1,573	0	**1,792**				1,792					
3	55	Bldg 53-0003 Chilled Water System Deficiencies	LANL-DM-05D30-04	CX-TBD	GPP/E	1,573	1,573	0	**5,346**				2,104	3,242				
4	50	Bldg 53-0007 HVAC System Deficiencies	LANL-DM-05D30-11	CX-TBD	GPP/E	2,103	2,103	0	**4,050**					4,050				
5	55	Bldg 53-0003 Electrical Distribution System Deficiencies	LANL-DM-05D50-02	CX-TBD	GPP/E	2,038	2,038	0	**10,549**				3,451	7,098				
6	60	RAMP Roofing Support	LANL-R-06-05	CX-TBD	GPP/E	1,500	1,500	0	**800**				800					
7	50	TA-3-32 & TA-3-34 Revitalization (MST)	LANL-R-06-08	CX-TBD	GPP	3,100	0	0	**4,300**				900	3,400				
8	50	Electrical Infrastructure Safety Upgrade (TA-48-1)	LANL-R-06-12	CX-TBD	GPP	2,293	0	0	**4,625**	225	81			2500	1900			
9	N/A	FY06 FIRP Funded D&D	LANL-D-06-01	CX-TBD	E	TBD	TBD	-97.5	**10,700**				10,700					
10	N/A	FY07 Planning	LANL-P-06-01	N/A	GPP/E	0	0	0	**4,469**				4,469					
11	50	Electrical Infrastructure Safety Upgrade (TA-53-2)*	LANL-R-06-10	CX-TBD	GPP	1,974	1,974	0	**3,565**	515	295		420	2,630				
12	50	Electrical Infrastructure Safety Upgrade (TA-35-2)*	LANL-R-06-07	CX-TBD	GPP	1,236		0	**4,059**	729	122			3,330				
13	50	Electrical Infrastructure Safety Upgrade (TA-46-1)	LANL-R-06-09	CX	GPP	332		0	**3,304**	414	323			2,890				
14	40	TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion	LANL-R-06-11	CX-TBD	GPP	72	72	0	**2,741**	341	162			2,400				
15	55	Radiography Facility Upgrades (TA-8-23)	LANL-R-XX-04	CX-TBD	GPP/E	1,059	1,059	0	**1,600**					1,600				
16	55	TA-55 Roof Systems Deficiencies (ME)	LANL-DM-06B30-02	CX-TBD	GPP/E	639	639	0	**1,000**					1,000				
17	55	TA-09, -15, -16, -35, -39, -53 and -69 Roof Systems Deficiencies (ME)	LANL-DM-06B30-03	CX-TBD	GPP/E	864	864	0	**1,500**					1,500				
18	55	Roof Systems Deficiencies (ME)	LANL-DM-06B30-03	CX-TBD	GPP/E	1,294	1,294	0	**2,000**					2,000				
19	45	TA-03, -15, -16, -35 and -36 HVAC Systems Deficiencies (ME)	LANL-DM-06D30-01	CX-TBD	GPP/E	1,460	1,460	0	**1,400**					1,400				
20	45	TA-53 and -55 HVAC Systems Deficiencies (ME) - A	LANL-DM-06D30-03A	CX-TBD	GPP/E	583	583	0	**900**					900				
21	55	TA-16, -53 and -55 Electrical Systems Deficiencies	LANL-DM-06D50-03	CX-TBD	GPP/E	8,198	8,198	0	**1,200**						1,200			
22	45	Bldg 55-0042 HVAC and Cooling Systems Deficiencies (ME)	LANL-DM-06D30-05	CX-TBD	GPP/E	655	655	0	**1,000**						1,000			
23	45	Bldg 53-0030 HVAC Systems Deficiencies (ME)	LANL-DM-06D30-10	CX-TBD	GPP/E	611	611	0	**940**						940			
24	55	TA-09, -22, -35, -39 and -53 Electrical Systems Deficiencies (ME)	LANL-DM-06D50-01	CX-TBD	GPP/E	1,601	1,601	0	**2,500**						2,500			

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	FRRS Score	Project Name (2)	Project Number / Deferred Maintenance Identifier (3)(4)	NEPA Status (22)	Funding Type (7)	Deferred Maintenance Reduction (5)	Amount of DM Associated with ME Facilities	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	Prior Years (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
25	50	Electrical Infrastructure Safety Upgrade (TA-15-183)	LANL-R-06-01	CX-TBD	GPP	196	196	0	**1,900**						1,900			
26	50	Bldg 53-0030 Electrical Distribution Systems Deficiencies (ME)	LANL-DM-06D50-04	CX-TBD	GPP/E	642	642	0	**1,000**						1,000			
27	50	TA-15, -16 and -55 Plumbing and Fire Protection Systems Deficiencies (ME)	LANL-DM-06D90-01	CX-TBD	GPP/E	484	484	0	**750**						750			
28	45	TA-16, -22, -36, -39 and -53 Construction Deficiencies (ME)	LANL-DM-06X90-01	CX-TBD	GPP/E	166	166	0	**250**						250			
29	55	Electrical System Deficiencies (ME)	LANL-DM-07D50-01	CX-TBD	GPP/E	4,771	4,771	0	**7,300**						3,650	3,650		
30	45	Mechanical Systems Deficiencies (ME)	LANL-DM-07D90-01	CX-TBD	GPP/E	4,412	4,412	0	**6,500**						3,350	3,150		
31	N/A	FY07 FIRP Funded D&D	LANL-D-07-01	CX-TBD	E	TBD	TBD	-67.5	**8,530**					8,530				
32	N/A	FY08 Planning	LANL-P-07-01	N/A	GPP/E	0	0	0	**5,360**					5,360				
33	45	Construction and Specialty Systems Deficiencies (ME)	LANL-DM-07X90-01	CX-TBD	GPP/E	1,708	1,708	0	**2,800**						2,800			
34	45	Bldg 53-0003 HVAC System Deficiencies (ME)	LANL-DM-08D30-03	CX-TBD	GPP/E	658	658	0	**1,000**						1,000			
35	45	TA-11, -15, -16, -36, -39, -40, -53 and -54 HVAC and Cooling Systems Deficiencies (ME)	LANL-DM-08D30-04	CX-TBD	GPP/E	306	306	0	**500**						500			
36	50	TA-50 HVAC and Cooling Systems Deficiencies (ME)	LANL-DM-08D30-09	CX-TBD	GPP/E	635	635	0	**1,000**						1,000			
37	55	TA-53 Fire Protection Systems Deficiencies (ME) - A	LANL-DM-08D40-01A	CX-TBD	GPP/E	613	613	0	**950**						950			
38	55	TA-08, -35, -54 and -55 Fire Protection Systems Deficiencies (ME)	LANL-DM-08D40-02	CX-TBD	GPP/E	715	715	0	**1,100**						1,100			
39	55	Bldg 53-0004 Fire Protection System Deficiencies (ME)	LANL-DM-08D40-02	CX-TBD	GPP/E	2,485	2,485	0	**3,800**						3,800			
40	55	Bldg 53-0002 HVAC System Deficiencies	LANL-DM-05D30-09	CX-TBD	GPP/E	1,893	1,893	0	**2,700**						2,700			
41	55	Bldg 09-0045 Electrical System Deficiencies	LANL-DM-05D50-01	CX-TBD	GPP/E	901	901	0	**1,300**						1,300			
42	55	Bldg 53-0002 Electrical System Deficiencies	LANL-DM-05D50-03	CX-TBD	GPP/E	1,382	1,382	0	**2,000**						2,000			
43	50	Electrical Infrastructure Safety Upgrade TA-9-21	LANL-R-XX-01	CX-TBD	GPP/E	1,900	1,900	0	**2,700**						2,700			
44	55	Bldg 55-0004 Electrical Distribution System Deficiencies	LANL-DM-05D50-04	CX-TBD	GPP/E	815	815	0	**1,200**						1,200			
45	55	Roof System Deficiencies (ME)	LANL-DM-06B30-06	CX-TBD	GPP/E	695	695	0	**1,000**						1,000			
46	45	Bldg 16-0260 HVAC Systems Deficiencies (ME)	LANL-DM-06D30-01	CX-TBD	GPP/E	567	567	0	**800**							800		
47	45	TA-16 Air Handling and Ductwork Systems Deficiencies (ME)	LANL-DM-06D30-04	CX-TBD	GPP/E	1,116	1,116	0	**1,600**							1,600		
48	55	Bldg 53-0003 Electrical Lighting Systems Deficiencies (ME)	LANL-DM-06D50-01	CX-TBD	GPP/E	560	560	0	**800**							800		
49	45	TA-53 and -55 Mechanical Systems Deficiencies (ME) - B	LANL-DM-06D90-05B	CX-TBD	GPP/E	2,331	2,331	0	**3,100**							3,100		
50	45	TA-11 and -53 Construction and Specialty Systems Deficiencies (ME)	LANL-DM-06X90-02	CX-TBD	GPP/E	177	177	0	**300**							300		
51	45	Construction and Specialty Systems Deficiencies (ME)	LANL-DM-06X90-02	CX-TBD	GPP/E	393	393	0	**600**							600		
52	50	Roof System Deficiencies (ME)	LANL-DM-08B30-01	CX-TBD	GPP/E	5,738	5,738	0	**7,600**							1,000	3,800	2,800
53	55	TA-15 and -21 Electrical Systems Deficiencies (ME)	LANL-DM-08D50-03	CX-TBD	GPP/E	9,214	9,214		**15,400**						4,000	4,000	4,000	3,400
54	N/A	FY08 FIRP Funded D&D	LANL-D-08-01	CX-TBD	E	TBD	TBD	-51.1	**6,724**						6,724			
55	N/A	FY09 Planning	LANL-P-08-01	N/A	GPP/E	0	0	0	**5,657**						5,657			
56	55	Bldg 16-0260 Electrical System Deficiencies (Mission Essential (ME))	LANL-DM-05D50-05	CX-TBD	GPP/E	1,737	1,737	0	**2,700**							1,000	1,700	
57	55	TA-55 Electrical Systems Deficiencies	LANL-DM-06D50-03	CX-TBD		7,443		0	**12,400**							4,200	4,200	4,000
58	55	Classified Parts Storage	LANL-R-XX-06	CX-TBD	GPP/E	812	812		**1,100**							1,100		
59	55	TA-53 Fire Protection Systems Deficiencies (ME) - B	LANL-DM-08D40-03B	CX-TBD	GPP/E	699	699	0	**900**							900		
60	55	Bldg 50-0037 Fire Protection System Deficiencies (ME)	LANL-DM-08D40-05	CX-TBD	GPP/E	560	560	0	**750**							750		
61	40	Construction and Specialty Systems Deficiencies (ME)	LANL-DM-08C30-03	CX-TBD	GPP/E	7,233	7,233	0	**9,600**							3,200	3,200	3,200
62	50	CMR Roof System Deficiencies (ME)	LANL-DM-05CMR-01	CX-TBD	GPP/E	950	950		**1,600**							1,600		
63	40	CMR Mechanical Systems Deficiencies (ME)	LANL-DM-05CMR-01	CX-TBD	GPP/E	2,202	2,202		**3,700**							1,900	1,800	
64	50	CMR Electrical Distribution Systems Deficiencies (ME)	LANL-DM-05CMR-02	CX-TBD	GPP/E	1,019	1,019		**1,700**							1,700		
65	45	Bldg 55-0004 Roof System Deficiencies (ME)	LANL-DM-05B30-01	CX-TBD	GPP/E	4,891	4,891		**8,200**							4,100	4,100	
66	55	Bldg 53-0001 Electrical System Deficiencies (ME)	LANL-DM-08D50-02	CX-TBD	GPP/E	2,108	2,108		**3,500**							2,100	1,400	
67	55	TA-03, -08, -09, -11, -15 and -16 Plumbing and Fire Protection Systems Deficiencies (ME)	LANL-DM-08D90-01	CX-TBD	GPP/E	1,399	1,399		**2,350**							1,200	1,150	
68	45	TA-16 Construction Deficiencies (ME)	LANL-DM-08X90-02	CX-TBD	GPP/E	442	442		**750**								750	
69	45	TA-21 Roof Systems Deficiencies (ME)	LANL-DM-09B30-03	CX-TBD	GPP/E	2,272	2,272		**4,800**								4,800	
70	45	Construction Deficiencies (ME)	LANL-DM-09C30-01	CX-TBD	GPP/E	6,951	6,951		**11,600**							4,000	4,000	3,600
71	N/A	FY09 FIRP Funded D&D	LANL-D-09-01	CX-TBD	E	TBD	TBD	-92	**11,217**							11,217		
72	N/A	FY10 Planning	LANL-P-09-01	CX-TBD	GPP/E	0	0		**6,380**							6,380		
73	45	TA-03, -16, -36, -37, -40, -53, -54 and -55 Roof Systems Deficiencies (ME)	LANL-DM-09B30-04	CX-TBD	GPP/E	803	803		**1,400**								1,400	
74	55	TA-11, -15, -16, -36, -39, -40, -53 and -54 HVAC and Cooling Systems Deficiencies (ME)	LANL-DM-09D30-04	CX-TBD	GPP/E	789	789		**1,300**								1,300	
75	55	TA-55 Heating and Cooling Systems Deficiencies (ME)	LANL-DM-09D30-05	CX-TBD	GPP/E	2,363	2,363		**4,000**								4,000	
76	50	Replace High Voltage Electrical Panels TA-48-1*	LANL-R-06-13	CX	GPP	2,293		0	**4,154**	454	42						3,700	
77	55	Life Extension Project (TA-9-21)	LANL-R-XX-05	CX-TBD	GPP/E	4,002	4,002	0	**5,000**								2,000	3,000
78	55	Bldg 53-0003 Heat Ventilation Systems Deficiencies (ME)	LANL-DM-09D30-07	CX-TBD	GPP/E	675	675		**1,200**								1,200	
79	55	TA-50 HVAC and Cooling Systems Deficiencies (ME)	LANL-DM-09D30-09	CX-TBD	GPP/E	59	59		**200**								200	
80	55	TA-53 Fire Protection Systems Deficiencies (ME) - A	LANL-DM-09D40-01A	CX-TBD	GPP/E	404	404		**700**								700	
81	N/A	FY10 FIRP Funded D&D	LANL-D-10-01	CX-TBD	E	TBD	TBD	-74.6	**10,157**								10,157	
82	N/A	FY11 Planning	LANL-P10-01	CX-TBD	GPP/E	0	0		**6,862**								6,862	
83	55	TA-08, -35, -54 and -55 Fire Protection Systems Deficiencies (ME)	LANL-DM-09D40-02	CX-TBD	GPP/E	215	215		**400**								400	
84	55	TA-11, -16, -35, -36, -37, -39, -53 and -54 Electrical Systems Deficiencies (ME)	LANL-DM-09D50-02	CX-TBD	GPP/E	369	369		**600**								600	
85	55	TA-15 and -21 Electrical Systems Deficiencies (ME)	LANL-DM-09D50-03	CX-TBD	GPP/E	396	396		**700**								700	
86	55	Bldg 55-0008 Electrical Systems Deficiencies (ME)	LANL-DM-09D50-04	CX-TBD	GPP/E	1,019	1,019		**1,700**								1,700	
87	55	TA-03, -08, -09, -11, -15 and -16 Plumbing and Fire Protection Systems Deficiencies (ME)	LANL-DM-09D90-01	CX-TBD	GPP/E	1,279	1,279		**2,100**									2,100
88	45	TA-03, -08, -09, -14, -15, -16, -22, -35, -36, -39, -40, -50, -53, -54 and -55 Exterior Construction Deficiencies (ME)	LANL-DM-09X90-04	CX-TBD	GPP/E	1,379	1,379		**2,300**									2,300
89	45	TA-08, -15, -16, -35, -36, -39, -40, -53, -54 and -55 Internal Construction Deficiencies (ME)	LANL-DM-09X90-05	CX-TBD	GPP/E	1,257	1,257		**2,100**									2,100

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	FRRS Score	Project Name (2)	Project Number / Deferred Maintenance Identifier (3)(4)	NEPA Status (22)	Funding Type (7)	Deferred Maintenance Reduction (5)	Amount of DM Associated with ME Facilities	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	Prior Years (9)	FY 2004 Actual Cost (10)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
90	55	Electrical System Deficiencies (Mission Essential)	LANL-DM-08D50-01	CX-TBD	GPP/E	2,372	2,372		**4,000**									4,000
91	55	Mechanical Systems Deficiencies (ME)	LANL-DM-09D30-01	CX-TBD	GPP/E	741	741		**1,250**									1,250
92	55	TA-50 HVAC Systems Deficiencies (Mission Essential)	LANL-DM-09D30-06	CX-TBD	GPP/E	3,355	3,355		**5,540**									5,540
93	50	Electrical Infrastructure Safety Upgrade (TA-33-114)	LANL-R-07-02	CX-TBD	GPP	188		0	**1,200**									1,200
94	50	Electrical Infrastructure Safety Upgrade (TA-35-46)	LANL-R-08-02	CX-TBD	GPP	49		0	**2,000**									2,000
95	50	Electrical Infrastructure Safety Upgrade (TA-39-2)	LANL-R-09-02	CX-TBD	GPP	93		0	**1,200**									1,200
96	50	TA-03 Roof Systems Deficiencies - B	LANL-DNM-05B30-01B	CX-TBD	GPP/E	968		0	**1,600**									1,600
97	40	TA-16 and -48 HVAC Systems Deficiencies	LANL-DNM-05D30-01	CX-TBD	GPP/E	733		0	**1,200**									1,200
98	50	TA-03, -16 and -35 Roof Systems Deficiencies	LANL-DNM-06B30-01	CX-TBD	GPP/E	1,032		0	**1,700**									1,700
99	50	TA-03 Roof Systems Deficiencies - A	LANL-DNM-06B30-02A	CX-TBD	GPP/E	670		0	**1,150**									1,150
100	50	TA-03 and -35 and General Site (7155010823) Mechanical Deficiencies	LANL-DNM-06D90-01	CX-TBD	GPP/E	636		0	**1,100**									1,100
101	50	TA-03, -48 and Site 7155010823 Mechanical and Electrical Systems Deficiencies	LANL-DNM-06D90-02	CX-TBD	GPP/E	711		0	**1,200**									1,200
102	60	TA-50 Waste Treatment Plant System Deficiencies - 4A	LANL-DNM-06G30-01A	CX-TBD	GPP/E	600	600	0	**1,000**									1,000
103	55	TA-16 and -55 Construction and Roof Systems Deficiencies (ME)	LANL-DM-08B90-02	CX-TBD	GPP/E	342	342	0	**550**									550
104	40	TA-16-200 Upgrades	LANL-R-XX-07	CX-TBD	GPP/E	1,086		0	**1,800**									1,800
105	50	TA-03, -16 and -35 Roof Systems Deficiencies	LANL-DNM-07B30-01	CX-TBD	GPP/E	82		0	**150**									150
106	50	TA-03, -16, 35, -46, -48, -49, -53, -60 and -72 Roof Systems Deficiencies*	LANL-DNM-07B30-01	CX-TBD	GPP/E	1,246		0	**2,100**									2,100
107	50	TA-16 Roof Systems Deficiencies	LANL-DNM-07B30-03	CX-TBD	GPP/E	566		0	**950**									950
108	50	Bldg 59-0001 Roof Systems Deficiencies	LANL-DNM-07B30-05	CX-TBD	GPP/E	478		0	**800**									800
109	N/A	FY11 FIRP Funded D&D	LANL-D-11-01	CX-TBD	E	TBD	TBD	-152.6	**18,308**									18,308
TOTAL (FIRP)						**230,427**	**166,088**	**(726)**	**484,256**	**79,214**	**31,504**	**41,307**	**43,570**	**53,830**	**56,871**	**64,347**	**69,819**	**75,298**

Note: FIRRS scores for projects funded in FY07 & beyond are initial estimates and will be refined with project development.

Attachment A-5
Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL
($000s)

Priority (1)	Description (2)	Project Identification No. (3)	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	FY 2004 Actual Cost (10)	FY05 (11)	FY06 (12)	FY07 (13)	FY08 (14)	FY09 (15)	FY10 (16)	FY11 (17)	FY12 (18)	FY13 (19)	FY14 (20)	FY15 (21)
	NNSA GPPs															
F	Construct Classified Detonator Storage Facility	LANL-05-427	2.4	2,150	0	250	1,900									
	TOTAL NNSA GPPs		**2.4**	**2,150**	**0**	**250**	**1,900**									
	***LANL GPPs* (28)**															
F	Construct Conflict Simulation Lab	LANL-03-124	0.0	1,900	630	185										
F	Conversion of PF-4 Packing/Unpacking Room	LANL-04-172	0.0	2,200	600	1,600										
F	Construct TA-64 PTLA Building	LANL-04-168	8.0	1,800	1,065	590	60									
F	TA-33 Bunker Refurbishment	LANL-04-167	0.0	3,000	1,200	1,200	200									
F	Centralized Charactertization Project	LANL-05-531	3.6	800		450	350									
1	Guard Post Automation	LANL-05-529	0.0	650		325	325									
2	Construct PF-1 Annex Office Building	LANL-06-530	17.5	5,000			5,000									
	TOTAL LANL GPPs		**29.1**	**15,350**	**3,495**	**4,350**	**5,935**									
	Total LANL GPPs - Construction Projects		**32**	**17,500**	**3,495**	**4,600**	**7,835**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	***Institutional GPPs (IGPP)* (29)**															
F	Construct Parking Structure	LANL-03-243	0.0	5,240	2,730											
F	Badge Office Communication Lines	LANL-03-144	0.0	680	380											
F	Construct Surface Parking Lots	LANL-04-314	0.0	1,170	800											
F	Construct Mercury/Pajarito Parking Lot	LANL-05-420	0.0	420		85	335									
F	Relocate Radio Shop	LANL-05-421	7.0	2,600		515	2,085									
F	Relocate Roads & Grounds	LANL-05-422	7.0	2,800		1,200	1,600									
F	TA-3 Telecom Duct Bank Expansion	LANL-05-423	0.0	225		85	140									
1	Construct Office Building Replacement #1 **(30)**	LANL-06-424	18.0	4,900			3,400	1,500								
2	Construct Office Building Replacement #2	LANL-06-425	18.0	4,900			3,400	1,500								
3	Construct Office Building Replacement #3	LANL-06-426	17.0	4,900			2,900	2,000								
4	Upgrade RC-1 Roof (TA-48-1)	LANL-06-445	0.0	1,000			1,000									
5	Upgrade RC-1 HVAC (TA-48-1)	LANL-06-446	0.0	1,000			1,000									
6	Warehouse Relocation	LANL-07-427	25.0	4,900				3,800	1,100							
7	Construct Computing and Communications Operations Facility	LANL-07-429	14.0	4,900				3,000	1,900							
8	Upgrade Diamond Drive/Eniwetok Drive Intersection	LANL-07-428	0.0	2,000				2,000								
9	Construct Wellness Center Replacement	LANL-08-434	17.0	4,900					2,400	2,500						
10	Construct TA-69 EOC Support Office	LANL-08-435	17.0	4,900					3,000	1,900						
11	TA-16-171 Water Tank Refurbishment	LANL-08-436	17.0	4,000					2,000	2,000						
12	Construct Office Building Replacement #4	LANL-08-437	17.0	4,900					2,300	2,600						
13	Electrical Upgrade for Institutional Computing	LANL-09-438	0.0	2,500						2,000	500					
14	Construct TA-49 Consolidated Emergency Training Center Bldg.	LANL-09-439	17.0	4,900						2,900	2,000					
15	TA-3/TA-59 Sewer Upgrade	LANL-09-440	0.0	1,500						1,500						
16	Construct Building to Relocate IM-2 and IM-3 Groups	LANL-10-441	13.0	4,900							3,800	1,100				
17	Construct Office Building Replacement #5	LANL-10-442	16.5	4,900							4,000	900				
18	Construct Office Building Replacement #6	LANL-10-443	13.0	4,900							4,000	900				
19	Road Safety Upgrades	LANL-10-444	0.0	4,000							2,000	2,000				
	TOTAL IGPPs		**233.5**	**87,935**	**3,910**	**1,885**	**15,860**	**13,800**	**12,700**	**15,400**	**16,300**	**4,900**	**0**	**0**	**0**	**0**
	Decommissioning and Demolition Charges							*Demolition Notes*								
	SM-43 D&D	LANL-06-DD-13	(315.0)	0	0	250	1,600	14,000	14,000	D&D of the existing 315,00 S.F. SM-43 structure is being funded as an OPC cost of the National Security Sciences Building Line Item Project.						
	Potential D&D Transfer of Responsibility To EM															
	TSTA	LANL-TBD-DD-16	(18.8)	0				Transfer of the TSTA Facility from the Office of Science to EM has occurred. The negotiated costs and schedules for D&D are unknown at this time.								
	TA-21 Facilities	LANL-TBD-DD-17	(164.2)	0				Transfer of TA-21 facilities to EM is being requested as noted in Attachment E-1.								
	TOTAL DECOMMISSIONING & DEMOLITION CHARGE		**(498.0)**	**0**	**0**	**250**	**1,600**	**14,000**	**14,000**	**0**	**0**	**0**	**0**	**0**		**0**
	TOTAL		**(233.0)**	**105,435**	**7,405**	**6,735**	**25,295**	**27,800**	**26,700**	**15,400**	**16,300**	**4,900**	**-**	**-**	**-**	**-**

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Attachment A-6(a) - FY 2005
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Currently Funded Security Infrastructure Projects for LANL ($000s)

					FY05 Planned Funding Source					
Priority	**Project Name**	**Site Specific Project Number**	**Estimated Total Project Cost**	**Estimated Total *Real Property* Cost**	**Line Item A-1,2**	**RTBF A-3**	**FIRP A-4**	**Other A-5**	**DBT Related? Y or N**	**Mission Essential Y or N**
1	Security Perimeter Project	LANL-05-017	$23,862	$1,480	X				Y	Y
	2 Main Buildings @ $500K each = $1,000									
	8 Security Booths @ $60K each = $ 480									

Attachment A-6(b) - FY 2006
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Currently Funded Security Infrastructure Projects for LANL ($000s)

Priority	Project Name	Site Specific Project Number	Estimated Total Project Cost	FY06 Planned Funding Source					Mission Essential Y or N
				Line Item A-1,2	RTBF A-3	FIRP A-4	Other A-5	DBT Related? Y or N	
	No projects								

Attachment A-6(c) - FY 2007
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Currently Funded Security Infrastructure Projects for LANL ($000s)

					FY07 Planned Funding Source					
Priority	**Project Name**	**Site Specific Project Number**	**Estimated Total Project Cost**	**Estimated Total *Real Property* Cost**	**Line Item A-1,2**	**RTBF A-3**	**FIRP A-4**	**Other A-5**	**DBT Related? Y or N**	**Mission Essential Y or N**
1	NMSSUP Phase 2	05-D-170.1	$240,000	$46,500	X				Y	Y
	East Pedestrian Entry Facility = ~$46,500									

Attachment A-6(d) - FY06 and FY07 Unfunded
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Security Infrastructure Projects for LANL ($000s)

Priority	Prioritization Score	Project Name	Site Specific Project Number	Estimated Total Project Cost	Estimated Total *Real Property* Costs	Proposed for Either FY06 or FY07 funding	DBT Related? Y or N	Mission Essential Y or N
1	80	DBT Implementation Plan (FY04)		$104,000 to $372, 000	$43,098			
		East Vehicle Access Portal = ~$3,598	DBTP.11.00.03.01.01			$362	Y	N
		PTLA Indoor Range Facility = ~$6,600	DBTP.11.00.03.01.10			$555	Y	N
		PTLA Tactical Range Facility = ~$5,900	DBTP.11.00.03.01.11			$495	Y	N
		PTLA Adv Tactical Training Facility = ~$6,200	DBTP.11.00.03.01.12			$495	Y	N
		West Entry Control Facility = ~$20,800	TBD			TBD	Y	N
2	66	Badge Office Relocation	TBD	$5,000	$5,000	$5,000	N	N
3	23	S-Division Office Building	TBD	$5,000	$5,000	$5,000	N	N
TOTAL				**$10,000**		**$11,907**		

NNSA Facilities and Infrastructure Cost Projection Spreadsheets
Notes

Column (1) Priority. Each of the funding types (Line Item, RTBF/Operations of Facilities, and FIRP) is prioritized in sequential order (from 1 to xyz) for site facilities and infrastructure projects/activities. For funded projects – an "F" is shown in the priority column.
Column (2) Official Project Name.
Column (3) Project Number/Project Identification Number.
Column (4) Deferred Maintenance Identifier. Unique project ID number required by Implementation of Congressional Guidance for FIRP.
Column (5) Deferred Maintenance Reduction. Deferred maintenance reduction from the FY03 deferred maintenance baseline from execution of the project.
Column (6) Gross Square Footage. Gross square footage constructed or demolished as a result of the project.
Column (7) Funding Type. The type of funding associated with each activity/project, as applicable using the following abbreviations:
LI = Existing Capital Funded Line Item Project
OPC = Other Project Costs
PE&D = Project Engineering & Design
TPC = Total Project Cost
E = Expense
GPP = General Plant Project
GPE = General Purpose Equipment
IGPP = Institutional General Plant Project
Column (8) Total. On the Line Item Spreadsheets, the total (cumulative) cost associated with each existing and proposed line item project for each funding type listed. Under "Total", is the Total Project Cost (TPC) associated with each "Proposed Line Item" and "Existing Line Item" project. TPC is the sum of the LI and PE&D plus the OPC.
Column (9) Prior Years Funding. On the Line Item Spreadsheet, the actual prior years funding associated with the project (sum of the prior years funded through FY 2002 actual) for each funding type listed.
Column (10) FY 2004 Actual. The FY04 cost and appropriation associated with the project. FY04 Appropriation column added so that totals will be consistent with ICPP.
Column (11) FY 2005. Data for FY05 is consistent with the Guidance Site Funding Profile for LANL.
Column (12) FY 2006. Data for FY 2006 is consistent with the Guidance Site Funding Profile for LANL.
Columns (13) – (16) FY 2007 – FY 2010 FYNSP. The site's Future Years Nuclear Security Program (FYNSP) constrained case for Fiscal Years 2007 – 2010.
Columns (17) – (21) FY 2011 – FY 2015. Provides a requirements based case that is constrained by a 2.6% annual inflation- based assumption or, in the case of Line Items, the Integrated Construction Program Plan's out-year projections.
Column (22) Levels of NEPA Status are EIS-ROD - an EIS was drafted and Record of Decision issued; EIS Draft - an EIS was drafted and issued for public comment; EIS PREP - an EIS has been determined to be needed and is currently being prepared; EIS-TBD - a determination for need of EIS is not yet complete but an EIS is anticipated; SWEIS - the project is in the Site Wide Environmental Impact Statement; New SWEIS - the project will be included in the Laboratory's new SWEIS; EA-FONSI - an environmental assessment was completed with a Finding Of No Significant Impact; EA-PREP - an environmental assessment is in progress; EA-TBD - an environmental assessment has not been conducted but is anticipated; CX - the proposed activity has been determined to be categorically excluded from requiring further NEPA analysis; CX-TBD - the planned activity is anticipated to be within categorical exclusion.

Attachment A-1 Notes
(23) NSSB: FY06-FY07 OPCs include institutional funding for SM-43 demolition.
(24) TA-55 Radiography: FY06 PED funding proposed from RTBF. FY07 funding and beyond proposed from Pit Program.
(25) TA-55 Reinvestment Project The current funding profile matches that presented in NNSA's ICPP. NNSA and the Laboratory are working together to have the profile in the ICPP adjusted to match the most recent project Critical Decision approval. Once the ICPP is modified, this document will be adjusted accordingly.

Attachment A-2 Notes
(26) Institute for Nuclear Nonproliferation Science & Technology Proposed Line Item Cost Projection Profile shows Project Engineering and Design Funds only in conjunction with the FY07 Office of Management and Budget Construction Project Data Sheet.

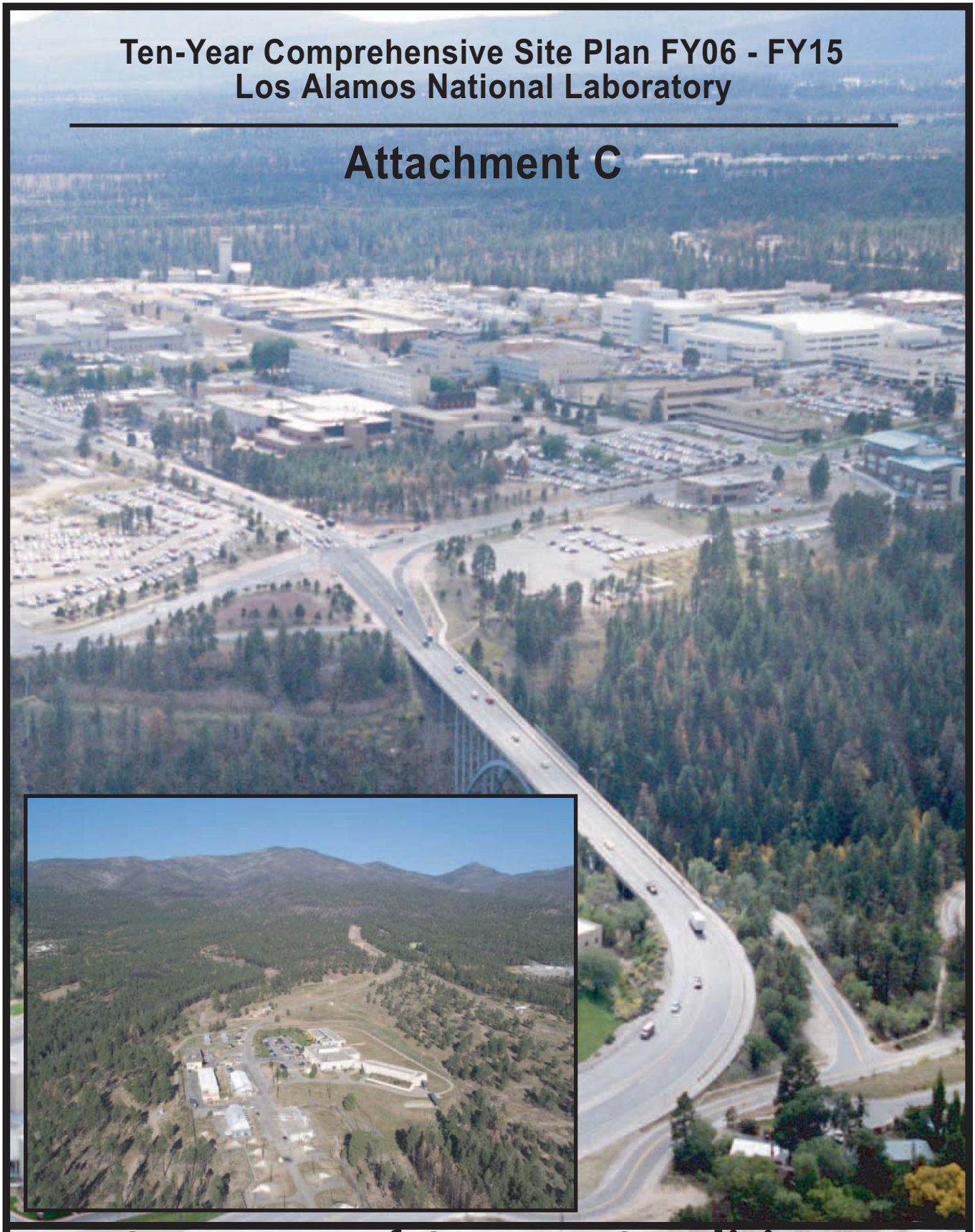
Attachment A-4 Notes
(27) FIRP project titles with an asterisk (*) denote a Replacement in Kind project. See Attachment F-6 for the full list of RIK projects.

Attachment A-5 Notes
(28) GPP construction projects that meet mission needs but currently do not have a funding source identified. Prioritization and funding determination to be developed.
(29) Proposed Insitutional General Plant Projects (IGPPs).
(30) Office Building Replacement projects will be targeted at eliminating temporary structures, including trailers and transportables.

No Attachment B Required for FY06-FY15 TYCSP

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment C



Summary of Current Condition and Required Future Condition

Attachment C
Summary of Current Condition and Future Condition

This table is based on FYNSP/fiscal constraints and reflects the best business judgment of the Laboratory based on life-cycle analyses. In general, the expectation is that mission essential facilities and infrastructure are moving toward the good/ excellent categories and deferred maintenance is addressed with a goal of near term stabilization.
"Future" is defined as the condition as of FY15.

The summary of the FIMS condition code categories are generated based on the facility condition index (FCI), or the DM cost divided by the RPV. The summary condition data determine the condition of each asset's structure and systems and do not to rate the functionality or suitability to meet mission. Information reported in this table is consistent with FIMS.

Condition Categories

- **Excellent –** Deferred maintenance is < 2% of replacement plant value.
- **Good –** Deferred maintenance is 2 < 5% of replacement plant value.
- **Adequate –** Deferred maintenance is required at a cost 5 < 10% of replacement plant value.
- **Fair –** Deferred maintenance is required at a cost 10 < 25% of replacement plant value.
- **Poor –** Major deferred maintenance required at a cost 25 < 60% of replacement plant value.
- **Fail –** Replacement is required because deferred maintenance cost is ≥60% of replacement plant value.
- **None –** Additional category to capture those facilities for which there is no condition currently listed in FIMS.

Use Categories

The facility use categories of Administrative (Office), Storage, Industrial/Production/Process, Research & Development, and Service Buildings (does not include service structures) are consistent with FIMS.

"Other" includes the following: Post Office, Hospital, Prison, School, Other Institutional Uses, Housing, Trust Buildings, Transportation Systems, Catchall for General Services Administration (GSA) and Other Known Assets, Service Structures, Communication Type Systems, or Distribution Systems.

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Use Category	Summary of Current (FY05) Facility Condition Percentage in Excellent, Good, Adequate, Fair, Poor, or Fail Condition Total Square Footage = 8,647,373													
	Excellent		Good		Adequate		Fair		Poor		Fail		Not Applicable	
	FY05 TYCSP[2]	FY06 TYCSP[3]	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP
Administrative	5.2%	6.0%	1.0%	1.0%	1.4%	1.5%	4.6%	4.8%	2.9%	4.3%	7.8%	5.9%	0.0%	0.1%
Industrial / Production / Process	3.4%	3.8%	0.5%	2.2%	2.9%	1.3%	0.9%	0.9%	2.2%	2.0%	1.5%	1.4%	0.0%	0.2%
Research & Development	1.5%	0.8%	0.5%	3.1%	3.0%	0.4%	0.6%	1.2%	1.3%	0.7%	0.9%	0.7%	0.0%	0.3%
Service Buildings[1]	4.9%	5.8%	11.5%	9.9%	5.3%	6.0%	7.3%	6.7%	9.3%	8.2%	1.3%	2.6%	0.0%	1.7%
Storage	1.9%	2.0%	0.6%	0.5%	0.7%	1.8%	2.7%	2.4%	2.5%	1.5%	1.0%	0.6%	0.0%	0.5%
Other	5.8%	4.5%	0.0%	0.1%	0.3%	0.2%	0.1%	1.0%	2.3%	1.6%	0.2%	0.1%	0.0%	0.0%
TOTAL	**22.8%**	**22.9%**	**14.2%**	**16.7%**	**13.6%**	**11.2%**	**16.1%**	**17.1%**	**20.5%**	**18.1%**	**12.7%**	**11.2%**	**0.0%**	**2.8%**
Projected Sitewide Facility Condition Index (FCI) = 8.6%														

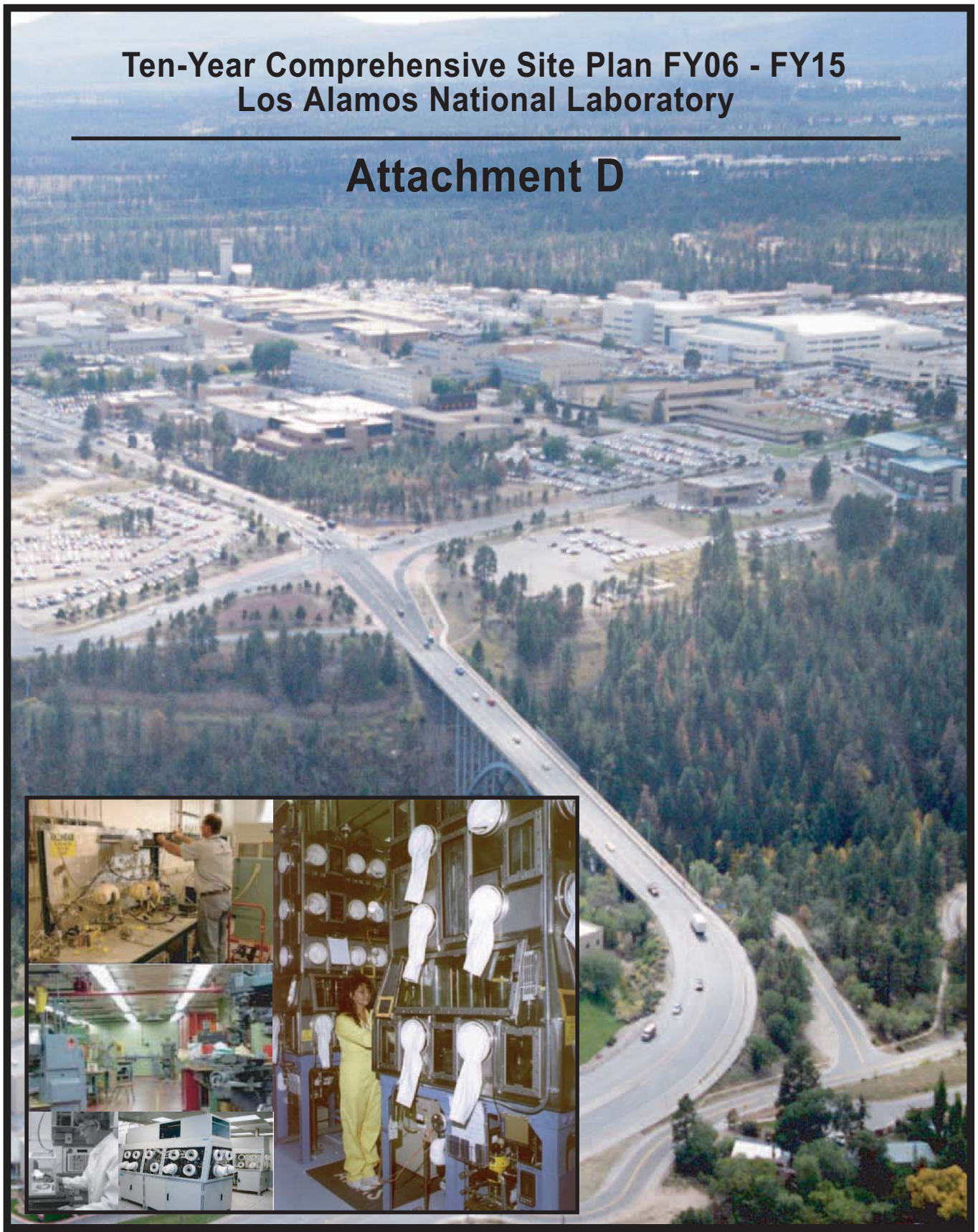
[1] Service Buildings DO NOT include services structures (structures that provide a service support function that is close to the point of consumption, for example, gasoline pumps)
[2] FY05 TYCSP is for the FY04 baseline.
[3] FY06 TYCSP is for the FY05 baseline.

Use Category	Summary of Future (FY15) Facility Condition Percentage in Excellent, Good, Adequate, Fair, Poor, or Fail Condition Total Square Footage = 8,461,148													
	Excellent		Good		Adequate		Fair		Poor		Fail		Not Applicable	
	FY05 TYCSP[2]	FY06 TYCSP[3]	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP
Administrative	22.3%	13.0%	0.6%	1.2%	0.5%	2.9%	1.3%	3.9%	0.1%	4.3%	0.3%	0.3%	0.0%	0.0%
Industrial / Production / Process	7.2%	3.2%	0.4%	1.4%	0.5%	0.3%	0.4%	0.8%	0.0%	1.9%	0.1%	0.9%	0.0%	0.1%
Research & Development	6.3%	4.8%	0.2%	3.7%	0.2%	0.1%	0.2%	0.5%	0.1%	0.6%	0.5%	0.0%	0.0%	0.3%
Service Buildings[1]	28.0%	14.1%	5.1%	7.4%	6.8%	4.8%	0.6%	7.2%	0.3%	3.8%	0.0%	0.4%	0.0%	0.8%
Storage	7.8%	2.9%	0.4%	0.7%	0.7%	3.6%	0.0%	0.7%	0.2%	0.6%	0.1%	0.4%	0.0%	0.2%
Other	8.7%	5.1%	0.0%	0.1%	0.0%	1.0%	0.0%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%
TOTAL	**80.4%**	43.0%	**6.7%**	14.6%	**8.7%**	12.7%	**2.5%**	13.2%	**0.7%**	12.9%	**1.0%**	2.1%	**0.0%**	1.5%
Projected Sitewide Facility Condition Index (FCI) =6.3%														

[1]Service Buildings DO NOT include services structures (structures that provide a service support function that is close to the point of consumption, for example, gasoline pumps)
[2] FY05 TYCSP is for the FY04 baseline.
[3] FY06 TYCSP is for the FY05 baseline.

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment D



Summary Facility Utilization

Attachment D
Summary Facility Utilization

The table below summarizes facility utilization by total square footage. Data were obtained from the Laboratory's FIMS database and through interviews with Laboratory division management. Also included are those excess facilities that are currently tracked in FIMS. The Laboratory, in concurrence with DOE-Albuquerque, does not track a certain subset of buildings, e.g. sheds, transportainers, fabric structures, etc. in FIMS. However, these buildings go through the Laboratory's excess space process, but their gross square footage is not included here.

- **Active Facilities –** Operating (facility required for current and ongoing needs)
- **Spare Facilities –** Operational Standby (future programmatic use other than cleanup expected)
- **Excess Facilities –** Includes Shutdown Pending Deactivation and Decontamination (D&D), Shutdown Pending Transfer, D&D in progress, and Deactivation. Excludes facilities that are Operating Pending D&D.
- **Other –** Operating under an Outgrant, Transfer to Another Federal Facility, Operating Pending D&D. Excludes Sale and Demolished facilities.

Asset Utilization Index (AUI)

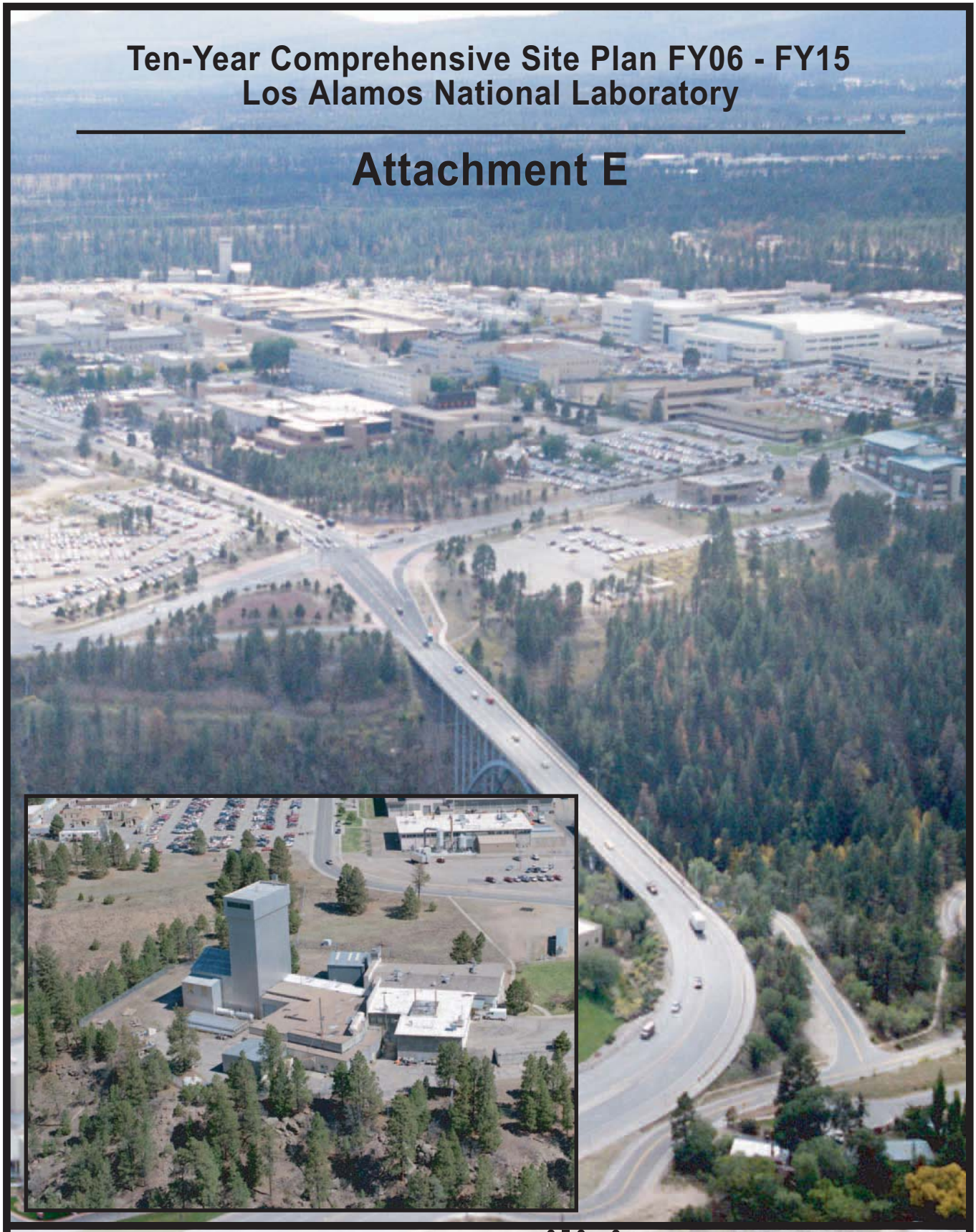
AUI is DOE's corporate measure of facilities and land holdings against requirements. The index reflects the outcome from real property acquisition and disposal policy, planning, and resource decisions. The index is the ratio of the area of operating facilities or land holdings justified through annual utilization surveys (numerator) to the area of all operational and excess facilities or land holdings without a funded disposition plan (denominator). The AUI is derived from data in FIMS obtained from annual utilization surveys. Ratings are assigned to AUI range measures, and the AUI improves as excess facilities are eliminated and consolidation increases space utilization.

AUI Range	AUI Rating
1.00 > 0.98	Excellent
0.98 > 0.95	Good
0.95 > 0.90	Adequate
0.90 > 0.75	Fair
0.75 >	Poor

Use Category	Facility Utilization Percentage of Total Square Footage Total Square Footage =8,647,373							
	Active		Standby		Excess		Other	
	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP	FY05 TYCSP	FY06 TYCSP
Administrative	23%	23%	0%	0%	0%	0%	0%	0%
Storage	11%	12%	0%	0%	0%	0%	0%	0%
Industrial / Production / Process	7%	7%	0%	0%	1%	0%	0%	0%
Research & Development	38%	39%	0%	0%	2%	2%	0%	0%
Service Buildings	9%	9%	0%	0%	1%	1%	0%	0%
Other	9%	7%	0%	0%	0%	0%	0%	0%
TOTAL	**96%**	**97%**	**0%**	**0%**	**4%**	**3%**	**0%**	**0%**
Sitewide Asset Utilization Index (AUI) = 0.935								
NNSA Asset Utilization Index (AUI) = 0.935								

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment E



Excess Facilities Disposition Plan

Attachment E-1
NNSA Excess Facilities Disposition Plan Spreadsheet

The Excess Facilities Disposition Plan spreadsheet (Attachment E-1) captures all facilities (NNSA, DOE, and non-DOE) by program that are currently excess to the DOE, including those facilities that are either in the process of being transferred or will be transferred in the future to the Office of Environmental Management for cleanup, and those that will become excess in the FY06– FY15 period. Also included are prior year (FY02, FY03, and FY04) excess facilities data. Facilities proposed for FIRP D&D funding in FY06 and FY07 are prioritized and ranked on this spreadsheet. Gross square footage data was pulled from FIMS in January 2005.

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Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
				FY02 ARCHIVED TOTAL		**68,161**									
				FY03 ARCHIVED TOTAL		**136,416**									
FIRP	03-0100	No	OFFICE BLDG			8,712									No
FIRP	03-0287	No	LAB/OFFICE BLDG			50,562									Yes - Hist doc complete
FIRP	03-0409	No	HSR CLINIC			9,956									No
OTHER	03-0490	No	BADGE OFFICE			4,524									No
FIRP	03-1635	No	HSR CLINIC			1,690									Yes - Hist doc complete
FIRP	03-1636	No	HSR CLINIC			1,680									No
FIRP	03-1732	No	MST TRAILER			672									No
FIRP	03-1745	No	MST TRAILER			980									Yes - Hist doc complete
FIRP	03-1553	No	MST TRAILER			844									No
FIRP	03-1565	No	MST TRAILER			1,022									No
FIRP	03-1575	No	MST TRAILER			1,680									No
FIRP	03-1731	No	TRAILER			720									No
FIRP	03-1739	No	MST TRAILER			840									No
FIRP	03-1741	No	MST TRAILER			1,440									Yes - Hist doc complete
FIRP	03-1750	No	MST TRAILER			1,960									No
FIRP	03-1760	No	MST TRAILER			980									Yes - Hist doc complete
FIRP	06-0001	No	STORAGE BLDG			1,557									Yes - Hist doc complete
FIRP	06-0002	No	COMPRESSOR BLDG			76									No
FIRP	06-0003	No	FABRICATION BLDG			647									No
FIRP	06-0005	No	STORAGE BLDG			300									No
FIRP	06-0006	No	STORAGE BLDG			2,563									No
FIRP	06-0007	No	STORAGE BLDG			228									No
FIRP	06-0008	No	LAB BLDG			697									No
FIRP	06-0009	No	FIRING CHAMBER			353									No
FIRP	16-0007	No	OFFICE			4,653									No
FIRP	21-0001	No	OFFICE/VAULT			1,585									No
FIRP	21-0228	No	REPLACEMENT WAREHOUSE			6,040									No
FIRP	21-0402	No	STORAGE BUILDING			0									No
FIRP	36-0076	No	Security Division			673									No
FIRP	36-0210	No	Security Division			672									No
FIRP	36-0211	No	Security Division			720									No
FIRP	69-0003	No	Z INCINERATOR C110694			560									No
				FY04 ARCHIVED TOTAL		**109,586**									
FIRP	16-0339	No	STORAGE BLDG	Completed		50,521	2003	2003		N/A				Underway	No
FIRP	16-0340	No	EXPLOSIVES SYNTHESIS				2003	2003		N/A					Eligible, hist doc complete
FIRP	16-0341	No	REST HOUSE				2003	2003		N/A					No
FIRP	16-0342	No	BLENDING BLDG				2003	2003		N/A					Eligible, hist doc complete
FIRP	16-0343	No	REST HOUSE				2003	2003		N/A					No
FIRP	16-0344	No	DRUM STORAGE				2003	2003		N/A					No
FIRP	16-0345	No	REST HOUSE				2003	2003		N/A					Eligible, hist doc complete
FIRP	16-0350	No	PASSAGEWAY				2003	2003		N/A					No
FIRP	16-0351	No	PASSAGEWAY				2003	2003		N/A					No
FIRP	16-0352	No	PASSAGEWAY				2003	2003		N/A					No
FIRP	16-0353	No	PASSAGEWAY				2003	2003		N/A					No
FIRP	16-0354	No	PASSAGEWAY				2003	2003		N/A					No
FIRP	36-0022	No	Security Division	Completed	D07	4,410	2004	2004	$528	$449					No
FIRP	36-0069	No	Security Division				2004	2004							No
FIRP	03-1527	YES	Security Division				2004	2004							No
FIRP	03-1539	YES	Security Division				2004	2004							No
FIRP	03-0587	No	Security Division				2004	2004							No
FIRP	03-1769	No	Security Division				2004	2004							No
FIRP	03-1544	No	OFFICE BLDG	Completed	D04	1,404	2005	2005		N/A					No
FIRP	03-1545	No	OFFICE BLDG				2005	2005							No
FIRP	15-0020	No	BRANCH SHOP & LAB BLDG	Completed	D03	12,659	2002	2006	$771	$80					Eligible, hist doc complete
FIRP	15-0022	No	STORAGE BLDG				2002	2006			$10				Eligible, hist doc complete
FIRP	15-0023	No	LAB/STORAGE BLDG				2002	2006			$6				Eligible, hist doc complete
FIRP	15-0030	No	GUARD STATION				2002	2006							Eligible, hist doc complete
FIRP	15-0194	No	PULSE POWER LAB				2002	2006							Eligible, hist doc complete
FIRP	15-0203	No	REX LABORATORY				2002	2005							Eligible, hist doc complete

Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
FIRP	15-0213	No	PLATFORM				2002	2005			$10				Eligible, hist doc complete
FIRP	15-0245	No	REX CONTROL ROOM				2002	2005							Eligible, hist doc complete
FIRP	16-0370	No	METAL FORMING BLDG	Completed	D05	19,594	2002	2004	$2,100	$7,299					Eligible, hist doc complete
FIRP	21-0021	No	VAULT (SNM)	Completed	D01	3,577	2002	2004		$112	$10				Eligible, hist doc pending
FIRP	03-0246	No	Z CABLE CONTROL BLDG C116500	Completed	D12	6,306	2002	2003	$355	$200	N/A			Expedited Project	No
FIRP	03-0247	No	Z CABLE STRESSER BLDG C116501				2002	2003		N/A					No
FIRP	03-0379	No	Z LEAD POUR & PAINT C116402				2005	2005	$0	$125					No
FIRP	59-0002	No	MODULAR OFFICE BUILDING				2004	2004		N/A					No
FIRP	03-0031	Yes	CHEMICAL WAREHOUSE	56	4	30,049	2005	2005	$2,985	$1,245					Yes - Needs evaluation
FIRP	03-0208	Yes	ION BEAM EQUIPMENT BLDG	80	2	1,440	1999	2005	$143	$2,116	$30				Yes - Needs evaluation
FIRP	03-0483	Yes	OFFICE BLDG			3,333	2005	2005	$331	$314				Updated on 3/1/2005 per BCP	No
FIRP	03-0482	Yes	OFFICE BLDG			3,325	2005	2005	$330	$186					No
FIRP	03-1381	Yes	OFFICE TRAILER			592	2004	2005	$59	$30					No
FIRP	03-1552	Yes	OFFICE BLDG			1,994	2005	2005	$198	$5					No
FIRP	03-1586	Yes	OFFICE BLDG			1,997	2005	2005	$198	$69					No
FIRP	03-1949	Yes	Ion Beam TRANSPORTAINER			48	1999	2005	$5	N/A	$2				No
FIRP	03-2294	Yes	ROVER SEMI-TRAILER			0	1999	2005	$0	N/A	$2				No
FIRP	03-3072	Yes	ROVER SEMI-TRAILER			0	1999	2005	$0	N/A	$2				No
FIRP	21-0046	Yes	Z WAREHOUSE			1,812	2002	2005	$180	$87					Eligible, hist doc pending
FIRP	21-0213	Yes	LAB SUPPLY WAREHOUSE			1,728	2003	2005	$172	$5					No
FIRP	21-0359	Yes	OFFICE TRAILER			540	2005	2005	$54	N/A					No
FIRP	21-0361	Yes	OFFICE TRAILER			1,680	2005	2005	$167	N/A					No
FIRP	21-0365	Yes	OFFICE TRAILER			1,680	2005	2005	$167	$14					No
FIRP	21-0489	Yes	TRAILER			480	2005	2005	$48	$0					No
FIRP	53-0549	Yes	TRAILER			709	2003	2005	$70	$0					No
FIRP	16-0476	Yes	CONTROL ROOM	80	5	238	1999	2005	$24	$54	$15				Eligible, hist doc pending
FIRP	16-0477	Yes	REST HOUSE			374	1999	2005	$37	$64	$15				Eligible, hist doc pending
FIRP	16-0478	Yes	HIGH SPEED MACHINING			1,199	1999	2005	$119	$442	$15				Eligible, hist doc pending
FIRP	09-0035	Yes	PROCESS LAB	80	3	1,911	2005	2005	$190	$432				Moved from FY09	Eligible, hist doc pending
FIRP	09-0043	Yes	PROCESS BUILDING			1,768	2005	2005	$176	$371					Eligible, hist doc pending
FIRP	15-0046	Yes	EXERCISE FACILITY			179	2005	2005	$18	$72					Eligible, hist doc pending
FIRP	15-0138	Yes	BUNKER			100	1999	2005	$10	N/A	$12				Eligible, hist doc pending
FIRP	15-0140	Yes	STORAGE BUILDING			1,210	2005	2005	$120	$66					Eligible, hist doc pending
FIRP	15-0141	Yes	BUNKER			100	1999	2005	$10	N/A	$12				Eligible, hist doc pending
FIRP	28-0001	Yes	MAGAZINE			280	2002	2005	$28	$9	$5			Moved from FY06	Eligible, hist doc pending
FIRP	28-0002	Yes	MAGAZINE			280	2000	2005	$28	$9	$5				Eligible, hist doc pending
FIRP	28-0003	Yes	MAGAZINE			280	2000	2005	$28	$9	$5				Eligible, hist doc pending
FIRP	28-0004	Yes	MAGAZINE			280	2000	2005	$28	$9	$5				Eligible, hist doc pending
FIRP	28-0005	Yes	MAGAZINE			280	2000	2005	$28	$9	$5				Eligible, hist doc pending
FIRP	39-0101	Yes	TRAILER			300	2005	2005	$30	$5				Added per Division on 7/16/04	
FIRP	39-0103	Yes	TRANSPORTABLE			1,680	2005	2005	$167	$91				Moved from FY06	No
FIRP	39-0107	Yes	TRANSPORTABLE			1,680	2005	2005	$167	$10					No
FIRP	40-0004	Yes	FIRING POINT			572	2005	2005	$57	$10					Yes - Needs evaluation
FIRP	40-0019	Yes	OFFICE AND LAB			189	1999	2005	$22	$57	$6				Yes - Needs evaluation
FIRP	40-0043	Yes	STORAGE BUILDING			216	1999	2005	$21	N/A	$10	Former	No		No
FIRP	49-0023	Yes	BOTTLE HOUSE			256	2000	2005	$25	$90	$10				Yes - Needs evaluation
FIRP	49-0121	Yes	CABLE BLDG			377	2000	2005	$37	N/A	$10				No
FIRP	16-0540	Yes	STEAM PLANT	48	1	12,811	2000	2005	$3,200	N/A				Shifted from FY04; Proposed expedited project as ready now for D&D	Eligible, hist doc pending
FIRP	16-0457	Yes	VALVE HOUSE			42	2000	2005							No
FIRP	16-0209	Yes	LABORER SHOP	BCP	Underrun Utilization	187	2006	2005	$22	$12				Underrrun utilized to accelerate D&D, BCP in process	No
FIRP	15-0008	Yes	STORAGE BLDG			324	1999	2005	$32	N/A	$12	Former	No	Underrrun utilized to accelerate D&D, BCP in process	Yes - Needs evaluation
			FY05 FIRP UNDERWAY TOTAL			**176,991**									
FIRP	03-0028	Yes	OFFICE BLDG	84	1	17,174	2006	2006	$1,988	$1,428				Start of D&D is dependent on completion FIRP funded IM Facility.	Yes - Needs evaluation
FIRP	03-0510	Yes	PHOTO LAB BUILDING			9,006	2006	2006	$1,043	$2,458					No
FIRP	03-1566	Yes	TRANSPORTABLE			1,680	2006	2006	$194	$330					No
FIRP	03-1559	Yes	TRANSPORTABLE			1,688	2006	2006	$195	$281					No
FIRP	08-0024	Yes	STORAGE BLDG	76	2	2,231	2006	2006	$258	$110				ESA Consolidation	Eligible, hist doc pending
FIRP	08-0025	Yes	UTILITY BLDG			99	2006	2006	$11	$5					Yes - Needs evaluation

Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
FIRP	08-0028	Yes	GUARD STATION			87	2006	2006	$10	$3					Yes - Needs evaluation
FIRP	08-0029	Yes	UTILITY BLDG			99	2006	2006	$11	$3				ESA Consolidation - Ready in FY06	Yes - Needs evaluation
FIRP	14-0005	Yes	STORAGE BUILDING			375	2001	2006	$43	N/A	$15				No
FIRP	14-0030	Yes	EXPLOSIVE PREP BLDG			246	2006	2006	$28	$3					Yes - Needs evaluation
FIRP	14-0034	Yes	CONTROL BUILDING			342	2006	2006	$40	$36					Yes - Needs evaluation
FIRP	14-0038	Yes	STORAGE SHACK			48	1999	2006	$6	$1	$8			Q Site at DX	No
FIRP	14-0039	Yes	STORAGE SHACK			0	2006	2006	$0	N/A					No
FIRP	14-0040	Yes	INSTRUMENTATION BLDG			80	2006	2006	$9	$6					No
FIRP	14-0043	Yes	ASSEMBLY AND STORAGE BLDG			1,000	2006	2006	$116	N/A					No
FIRP	15-0009	Yes	FIRING BUNKER	76	3	297	1999	2006			$12	Yes	Yes		Yes - Needs evaluation
FIRP	15-0027	Yes	CONTROL BLDG			560	1999	2006			$12	Yes	Yes		Yes - Needs evaluation
FIRP	15-0040	Yes	OFFICE AND LAB			13,487	2005	2006	$1,561	$3,140				Shifted from FY05 due to DX Division Consolidation Plan timing	Yes - Needs evaluation
FIRP	15-0044	Yes	CONTROL BUILDING			508	2001	2006			$12	Yes	Yes	Moved from TBD	Yes - Needs evaluation
FIRP	15-0305	Yes	TRANSPORTABLE			3,552	2005	2006	$411	$87					No
FIRP	36-0082	Yes	TRAILER			665	2006	2006	$66	$33				Potential HE and DU contamination issues	No
FIRP	16-0203	Yes	LUMBER STORAGE	56	5	1,043	2006	2006	$121	$47				ESA Consolidation	No
FIRP	16-0303	Yes	REST HOUSE			5,405	2006	2006	$626	$191				ESA Consolidation	No
FIRP	16-0435	Yes	REST HOUSE			4,439	2005	2006	$514	$287					No
FIRP	16-0437	Yes	REST HOUSE			4,323	2005	2006	$500	$287					No
FIRP	16-0294	Yes	SHED			0	2003	2006	$0	N/A					No
FIRP	18-0002	Yes	GENERAL STORAGE			123	1999	2006	$14	N/A					Eligible, hist doc pending
FIRP	18-0005	Yes	GENERAL STORAGE			123	1999	2006	$14	N/A					Eligible, hist doc pending
FIRP	18-0186	Yes	OTHER SERVICE BUILDINGS			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	18-0187	Yes	GUARD TOWER			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	18-0188	Yes	GUARD TOWER			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	33-0026	Yes	STORAGE BLDG	76	4	173	2000	2006	$20	N/A	$8				Yes - Needs evaluation
FIRP	33-0129	Yes	TEST CELL			202	1999	2006	$23	$11	$8				Yes - Needs evaluation
FIRP	39-0007	Yes	FIRING CHAMBER #2			490	2006	2006		$3	$2			Moved from FY08	Yes - Needs evaluation
FIRP	39-0008	Yes	FIRING CHAMBER #3			582	2006	2006		$4	$2				Yes - Needs evaluation
FIRP	41-0044	Yes	STORAGE BLDG			300	2006	2006	$35	N/A					No
FIRP	41-0054	Yes	STORAGE BLDG			300	2006	2006	$35	N/A					No
FIRP	03-0016	Yes	ION BEAM FACILITY	TBD	6	56,259	1999	2006		$1,043		EM	Yes	Originally candidate for EM, possible contamination issues	Yes - Needs evaluation
				FY06 FIRP TOTAL		**127,094**									
FIRP	03-0542	Yes	GUARD STATION	44	10	50	2007	2007	$6	N/A					No
FIRP	03-1814	Yes	GUARD STATION	84	1	36	2007	2007	$4	N/A					Yes - Needs evaluation
FIRP	60-0228	Yes	Morgan Shed	44	11	118	2007	2007	$0	N/A				Added from Excess on 7/16/04	Yes - Needs evaluation
FIRP	15-0476	Yes	TRAILER	56	7	672	2005	2007	$78	$3				Hold in FY07	No
FIRP	40-0001	Yes	OFFICE AND LAB	56	5	6,095	2006	2007	$706	$82				Added on 10/25/04 per discussion with AA	Yes - Needs evaluation
FIRP	40-0023	Yes	MACHINE SHOP	52	8	8,204	2006	2007	$950	$118					Yes - Needs evaluation
FIRP	40-0045	Yes	SOLVENT SHED	52	9	99	2006	2007	$11	N/A					No
FIRP	16-0304	Yes	PLASTICS BLDG	76	3	19,513	2007	2007	$2,263	$1,234				ESA Consolidation - Ready in FY06. When these buildings are removed, structure 16-1484 (Steam Boiler) may be available for demolition as well. Requires further clarification.	No
FIRP	16-0305	Yes	PLASTICS BLDG	56	6	5,402	2007	2007	$626	$349					No
FIRP	16-0306	Yes	PLASTICS BLDG	76	2	19,636	2007	2007	$2,277	$1,234					Eligible, hist doc pending
FIRP	16-0307	Yes	PLASTICS BLDG	56	4	7,716	2007	2007	$895	$490					No
				FY07 FIRP TOTAL		**67,541**									
FIRP	08-0026	Yes	STORAGE BLDG			638	2006	2008	$74	$37				Shifted from 06	Yes - Needs evaluation
FIRP	16-0242	Yes	TRANSPORTABLE			1,456	2008	2008		$51					No
FIRP	16-0243	Yes	TRANSPORTABLE			3,241	2008	2008		$136				Moved to FY08 from FY06 due to ESA Consolidation timing and GPP construction progress. These structures may slip from FY08, new construction is needed to relocate current occupants.	No
FIRP	16-0244	Yes	TRANSPORTABLE			3,389	2008	2008		$160					No
FIRP	16-0245	Yes	TRANSPORTABLE			1,691	2008	2008		$87					No
FIRP	16-0246	Yes	TRANSPORTABLE			1,688	2008	2008		$76					No
FIRP	16-0897	Yes	TRANSPORTABLE			1,452	2006	2008	$168	$62					No
FIRP	39-0002	Yes	LABORATORY & OFFICE BLDG			13,238	2008	2008		$535					Yes - Needs evaluation
FIRP	39-0006	Yes	FIRING CHAMBER #1			561	2008	2008		$4				Shifted from FY06 due to timing of DX Division Consolidation Plans and new GPP construction prgoress. Potential contamination issues.	Yes - Needs evaluation
FIRP	39-0067	Yes	CAPACITOR BANK ENCLOSURE			280	2008	2008		$6					No
FIRP	39-0138	Yes	NEUTRON FLUX STORAGE			96	2008	2008		N/A					Yes - Needs evaluation
FIRP	54-0215	Yes	TENSION SUPPORT DOME			15,181	2008	2008		$0					Yes - Needs evaluation
FIRP	54-0216	Yes	TENSION SUPPORT DOME			3,306	2008	2008		$0					Yes - Needs evaluation

Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
FIRP	54-1058	Yes	TRAILER			360	2008	2008		$6				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
FIRP	54-0039	Yes	PCB WASTE STORAGE FACILITY			2,173	2008	2008		$0					Yes - Needs evaluation
FIRP	54-0055	Yes	MODIFIED MORGAN SHED			288	2008	2008		$5					No
FIRP	54-0037	Yes	TRAILER OFFICE			547	2008	2008		$16					Yes - Needs evaluation
FIRP	54-0051	Yes	TRAILER			722	2008	2008		$472					Yes - Needs evaluation
FIRP	54-0060	Yes	TRAILER			672	2008	2008		$9					Yes - Needs evaluation
FIRP	54-0083	Yes	PASSAGEWAY			90	2008	2008		$2					Yes - Needs evaluation
FIRP	54-0084	Yes	PASSAGEWAY			62	2008	2008		$1					Yes - Needs evaluation
				FY08 FIRP TOTAL		**51,131**									
FIRP	08-0030	Yes	LAB			602	2007	2009		$65				Moved from FY06 - ESA Consolidation Issue	Yes - Needs evaluation
FIRP	15-0184	Yes	PHERMEX CHAMBER / AMP			10,144	2007	2009		$53					Yes - Needs evaluation
FIRP	15-0185	Yes	POWER CONTROL BUILDING			12,698	2007	2009		$328					Yes - Needs evaluation
FIRP	15-0186	Yes	DETECTION CHAMBER			2,338	2007	2009		$6					Yes - Needs evaluation
FIRP	15-0189	Yes	POWER SUPPLY BLDG			452	2007	2009		N/A					Yes - Needs evaluation
FIRP	15-0198	Yes	TUNNEL			905	2007	2009		N/A					Yes - Needs evaluation
FIRP	15-0199	Yes	TUNNEL			2,027	2007	2009		N/A					Yes - Needs evaluation
FIRP	15-0200	Yes	TUNNEL			702	2007	2009		$54					Yes - Needs evaluation
FIRP	15-0201	Yes	TUNNEL			870	2007	2009		$67					Yes - Needs evaluation
FIRP	15-0310	Yes	MULTI DIAG OPERATIONS BLDG			3,194	2007	2009		$55					Yes - Needs evaluation
FIRP	11-0002	Yes	CONTROL BUILDING			831	2002	2009	$96	$10	$6			ESA Consolidation	Eligible, hist doc pending
FIRP	11-0024	Yes	OFFICE/SHOP BLDG			3,685	2006	2009	$427	$46					No
FIRP	11-0033	Yes	EQUIPMENT SHELTER			66	2006	2009	$8	$12					No
FIRP	16-0414	Yes	STORAGE BUILDING			8,488	2009	2009		$97				Moved from FY06 due to ESA Consolidation Plan timing	Yes - Eligible, KEEP
FIRP	16-0415	Yes	REST HOUSE			4,559	2009	2009		N/A					Yes - Eligible, KEEP
FIRP	54-0434	Yes	MODULAR OFFICE BUILDING			1,436	2009	2009		$60				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
FIRP	54-0022	Yes	TRANSPORTABLE			1,680	2009	2009		$60					Yes - Needs evaluation
FIRP	54-0064	Yes	TRANSPORTABLE			1,680	2009	2009		$19					Yes - Needs evaluation
FIRP	54-0049	Yes	TENSION SUPPORT DOME			25,587	2009	2009		$90					Yes - Needs evaluation
FIRP	54-0224	Yes	TENSION SUPPORT DOME			5,829	2009	2009		$1					No
FIRP	16-0360	Yes	SHOP/STORAGE BLDG			3,911	2009	2009	$0	$118				ESA Consolidation	Eligible, hist doc pending
FIRP	16-0453	Yes	STORAGE BLDG			288	2009	2009	$0	N/A				ESA Consolidation	No
				FY09 FIRP TOTAL		**91,972**									
FIRP	09-0020	Yes	OFFICE			189	2010	2010		$8				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0021	Yes	LAB / OFFICE			25,423	2010	2010		$6,000				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0022	Yes	MAGAZETTE			9	2010	2010		$2				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0023	Yes	MAGAZETTE			9	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0024	Yes	MAGAZETTE			9	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0025	Yes	MAGAZETTE			10	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0026	Yes	MAGAZETTE			9	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0027	Yes	MAGAZETTE			9	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0029	Yes	ACID STORAGE			4,675	2010	2010		$319				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0030	Yes	STORAGE			242	2010	2010		$20				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0031	Yes	SOLVENT STORAGE			330	2010	2010		$27				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0032	Yes	PRESSING LAB			2,629	2010	2010		$399				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0033	Yes	CHEM LAB			949	2010	2010		$209				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0034	Yes	CHEM LAB			1,771	2010	2010		$306				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0037	Yes	PROCESS BUILDING			1,591	2010	2010		$59				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0050	Yes	HE RECEIVING			576	2010	2010		$53				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0204	Yes	STORAGE			39	2010	2010		$1				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0208	Yes	MAGAZETTE			50	2010	2010		$40				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	09-0272	Yes	OFFICE			1,698	2010	2010		$192				HEC Line Item Delayed - Moved from FY09	No
FIRP	09-0273	Yes	CLASSIFIED OFFICE			1,701	2010	2010		$133				HEC Line Item Delayed - Moved from FY09	No
FIRP	40-0012	Yes	LAB			1,342	2010	2010		$69				HEC Line Item Delayed - Moved from FY09	Yes - Needs evaluation
FIRP	40-0090	Yes	HERCULES OFFICE			1,587	2010	2010		$13				HEC Line Item Delayed - Moved from FY09	No
FIRP	54-0002	Yes	LAB SUPPORT FACILITY			1,617	2010	2010		$2				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
FIRP	54-0011	Yes	STORAGE BUILDING			1,136	2010	2010		$16					Yes - Needs evaluation
FIRP	54-0033	Yes	TRU WASTE DRUM PREP			7,854	2010	2010		$5					Yes - Needs evaluation
FIRP	54-0153	Yes	TENSION SUPPORT DOME			18,610	2010	2010		$0					Yes - Needs evaluation
FIRP	54-0156	Yes	MODIFIED MORGAN SHED			192	2010	2010		$3					No
FIRP	54-0486	Yes	MODIFIED TRANSPORTAINER			384	2010	2010		$0					Yes - Needs evaluation

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
					FY10 FIRP TOTAL	**74,640**									
FIRP	03-0039	Yes	ESA SHOPS			152,567	2011	2011		$1,600				Moved from FY09. Line Item Project - ESA Shops POTENTIAL FOR REMOVAL FROM LIST - TWO PROPOSALS ON TABLE, ONE IS TO DEMOLISH, OTHER IS TO RENOVATE	Eligible, hist doc pending
					FY11 FIRP TOTAL	**152,567**									
Other	03-1714	Yes	Trailer			672	2005	2005						Removal by the NISC Line Item Project	
Other	57-027	No	Trailer			470	2005	2005							
					FY05 OTHER TOTAL	**1,142**									
TBD	37-0001	No	STORAGE BLDG			188	2006	2006	$22	$11	$8			Funding TBD	Yes - Needs evaluation
TBD	37-0002	No	MAGAZINE			192	2006	2006	$22	$17					
TBD	37-0003	No	MAGAZINE			416	2006	2006	$48	$9					
TBD	37-0004	No	MAGAZINE			416	2006	2006							
TBD	37-0005	No	MAGAZINE			416	2006	2006							
TBD	37-0015	No	MAGAZINE			800	2006	2006	$93	$28					
TBD	37-0016	No	MAGAZINE			800	2006	2006	$93	$28					
TBD	37-0017	No	MAGAZINE			800	2006	2006	$93	$28					
TBD	37-0018	No	MAGAZINE			800	2006	2006	$93	$28					
TBD	37-0019	No	MAGAZINE			800	2006	2006	$93						
TBD	37-0020	No	MAGAZINE			800	2006	2006	$93						
TBD	37-0021	No	MAGAZINE			800	2006	2006	$93						
TBD	37-0027	No	STORAGE BLDG			800	2006	2006	$93	$28					
OTHER	03-0070	No	Maintenance Shop			6,028	2006	2006						Structures to be removed by the Security Perimeter Project (line item project); previously noted in FY07	
OTHER	03-0225		General Storage			1,168									
OTHER	03-0179		WOODEN SHED			268									
OTHER	03-0225		General Storage			1,168									
OTHER	03-0478		STORAGE SHED			192									
OTHER	03-0479		STORAGE SHED			256									
OTHER	03-1766		JCI SHED			400									
OTHER	03-1976		MORGAN SHED			118									
OTHER	03-1989		STORAGE SHED			87									
OTHER	03-1990		MORGAN SHED			118									
OTHER	61-0019		MORGAN SHED			118									
OTHER	61-0020		MORGAN SHED			118									
OTHER	61-0021		MORGAN SHED			118									
OTHER	61-0022		METAL SHED			130									
OTHER	61-0023		MODEL SHOP			6,661									
OTHER	61-0040		MORGAN SHED			128									
OTHER	61-0041		MORGAN SHED			119									
OTHER	61-0055		TRANSPORTAINER			160									
					FY06 OTHER TOTAL	**25,383**									
RTBF	21-1001	Yes	RECORDS CENTER			15,423	2007	2007						Structures listed will be part of an RTBF supported LAND TRANSFER to Los Alamos County as part of the Department's Land Transfer Agreement. Structures will be vacated as a result of NSSB Construction and records movement to that new facility. These structures are anticipated to be removed (archived) from the database upon completion of Land Transfer.	Eligible, hist doc pending
RTBF	21-1002	Yes	WAREHOUSE			15,881	2007	2007							Eligible, hist doc pending
RTBF	21-1003	Yes	BACKFLOW PREVENTER			113	2007	2007							No
RTBF	21-1004	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1005	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1006	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1007	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1008	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1009	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1010	Yes	TRANSPORTAINER			0	2007	2007							No
					FY07 RTBF TOTAL	**31,417**									
OTHER	03-1526	Yes	OFFICE TRAILER			878	2004	2007						Site is Proposed for DOE-LASO Building	No
					FY07 OTHER TOTAL	**878**									
OTHER	03-0043	No	ADMINISTRATION BUILDING			315,737	2006	2007						Institutionally Funded	Eligible, hist doc pending
					FY08 OTHER TOTAL	**315,737**									
EM	21-0155	No	TRITIUM SYSTEMS TEST ASSEMBLY			16,349	2003	2009				Yes	Yes		Eligible, hist doc pending

Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
EM	21-0213	No	SUPPLY WAREHOUSE			1,728	2003	2009				Yes	Yes	Transferred from the Office of Science to EM in 2003	
EM	21-0220	No	COOLING TOWER			450	2003	2009				Yes	Yes		
EM	21-0388	No	50' STEEL STACK			256	2005	2009				Yes	Yes		
EM	21-0420	No	COOLING TOWER			N/A	2003	2009				Yes	Yes		
				FY09 OTHER (EM) TOTAL		**18,783**									
OTHER	03-0029	No	CMR LABORATORY			566,849	2014	2014						CMR Complex	No
OTHER	03-0503	No	GUARD STATION			349	2014	2014							Eligible, hist doc pending
OTHER	03-0564	No	EQUIPMENT SHELTER			80	2014	2014							Eligible, hist doc pending
OTHER	03-0586	No	MECHANICAL BLDG			336	2014	2014							Eligible, hist doc pending
OTHER	03-1196	No	SWITCHGEAR (CMR)			0	2014	2014							Eligible, hist doc pending
OTHER	03-0154	No	HOT WASTE PUMP HOUSE			400	2014	2014							Eligible, hist doc pending
OTHER	03-1610	No	GUARD STATION			288	2014	2014							Eligible, hist doc pending
OTHER	03-1614	No	GUARD STATION			64	2014	2014							Eligible, hist doc pending
OTHER	03-1615	No	GUARD STATION			64	2014	2014							Eligible, hist doc pending
OTHER	03-2206	No	STORAGE BUILDING			3,028	2014	2014							Eligible, hist doc pending
				FY14 OTHER TOTAL		**571,458**									
			SUBTOTAL ALL FUNDING SOURCES*			**1,706,734**									
FIRP?	18-0001	Yes	STAGING AREA			1,051	2008	TBD				TBD	TBD	These structures will become available for demolition as relocation of TA-18 missions progresses. A phased approach will likely be utilized to begin demolition activities once structures are vacated. Of this structure set, some buildings may potentially be historical and will require review with the State.	Eligible, hist doc pending
FIRP?	18-0116	Yes	CRITICAL ASSEMBLY BLDG			5,790	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0119	Yes	STORAGE BLDG			1,242	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0122	Yes	STORAGE BLDG			1,372	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0127	Yes	PULSED ACCELERATOR BLDG			9,537	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0128	Yes	ASSEMBLY COVER BLDG			120	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0129	Yes	REACTOR SUB-ASSY BLDG			6,570	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0138	Yes	WAREHOUSE			1,344	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0141	Yes	ULTRA-SONIC CLEANING BLDG			963	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0147	Yes	OFFICE BLDG			1,298	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0168	Yes	SHEBA CRITICAL BLDG			400	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0184	Yes	TRAILER			248	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0189	Yes	SECUR ENHANC ASSESSM			912	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0190	Yes	GUARD STATION			523	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0227	Yes	ACCELERATOR DEV LAB			2,838	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0023	Yes	CRITICAL ASSEMBLY BLDG			2,681	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0256	Yes	BUTLER BLDG			920	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0257	Yes	TRAILER			1,440	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0258	Yes	TRAILER			1,440	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0026	Yes	VAULT			287	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0270	Yes	GUARD STATION			42	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0028	Yes	WAREHOUSE			4,782	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0288	Yes	TRAILER			840	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0029	Yes	POND CABIN			384	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0297	Yes	STORAGE BLDG			874	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0030	Yes	MAIN BLDG			23,137	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0031	Yes	UTILITY BLDG			2,093	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0313	Yes	TRAILER			156	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0314	Yes	TRAILER			70	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0315	Yes	TRAILER			70	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0032	Yes	CRITICAL ASSEMBLY BLDG			3,266	2008	TBD				TBD	TBD		Eligible, hist doc pending
FIRP?	18-0037	Yes	GUARD STATION			189	2008	TBD				TBD	TBD		Eligible, hist doc pending
				TA-18 FUNDING TO BE DETERMINED		**76,879**									
EM RQST	21-0212	No	CALCIUM BLDG			455	1999	2005	$228			Yes	Yes		Eligible, hist doc pending
EM RQST	21-0334	No	SHED			0	1995	2005	$0		$4	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0002N	No	LABORATORY BLDG			14,447	1999	2006	$7,224		$24	Yes	Yes		No
EM RQST	21-0002S	No	LABORATORY BLDG				1999	2006				Yes	Yes		No
EM RQST	21-0003	Yes	LABORATORY BLDG.			4,733	1996	2006	$2,367	$32		Yes	Yes		Eligible, hist doc pending
EM RQST	21-0004	Yes	LABORATORY BLDG.			1,551	1996	2006	$776	$39		Yes	Yes		Eligible, hist doc pending
EM RQST	21-0005N	No	LABORATORY BLDG.			27,039	1998	2006	$13,520		$24	Yes	Yes		
EM RQST	21-0005S	No	LABORATROY BLDG				1998	2006				Yes	Yes		No
EM RQST	21-0080	No	PRV STATION (WATER)			35	1999	2006	$9		$4	Yes	Yes		No

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
EM RQST	21-0089	No	PRV STATION (WATER)			40	1999	2006	$10		$4	Yes	Yes		No
EM RQST	21-0110	No	ACID TANK			450	1999	2006	$225			Yes	Yes		No
EM RQST	21-0111	No	ACID TANK			450	1999	2006	$225			Yes	Yes		No
EM RQST	21-0112	No	ACID TANK			450	1999	2006	$225			Yes	Yes		No
EM RQST	21-0113	No	ACID TANK			450	1999	2006	$225			Yes	Yes		No
EM RQST	21-0116	No	WAREHOUSE			2,067	1999	2006	$517		$10	Yes	Yes		No
EM RQST	21-0150	No	MOLECULAR CHEMISTRY			14,842	1999	2006	$7,421		$12	Yes	Yes		No
EM RQST	21-0286	No	WAREHOUSE			3,578	1999	2006	$1,789		$8	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0335	No	CONTAINER VESSEL			0	1999	2006	$0			Yes	Yes		No
EM RQST	21-0355	No	STORAGE TRAILER			500	2003	2006	$50		$15	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0418	Yes	ROVER SEMI-TRAILER			0	2006	2006	$0			Yes	Yes		
EM RQST	21-0451	Yes	STORAGE TRAILER			63	2006	2006	$7			Yes	Yes		
EM RQST	21-0167	No	EQUIPMENT BUILDING			873	2006	2006	$437		$4	Yes	Yes		
EM RQST	21-0209	No	TSFF			13,155	2006	2006	$13,155		$24	Yes	Yes		
EM RQST	21-0223	No	SHED			48	1999	2006	$12			Yes	Yes		
EM RQST	21-0257	No	RAD LIQUID WASTE			4,229	2006	2006	$4,229		$24	Yes	Yes		
EM RQST	21-0031	No	ELECTRONIC/CABLE FAB			5,288	1999	2006	$529			Yes	Yes		
EM RQST	21-0149	No	CORRIDOR STRUCTURE			3,762	1999	2007	$1,881		$10	Yes	Yes		
EM RQST	21-0312	No	CORRIDOR STRUCTURE			2,072	1999	2007	$1,036		$8	Yes	Yes		
EM RQST	21-0313	No	CORRIDOR STRUCTURE			4,264	1999	2007	$2,132		$8	Yes	Yes		
EM RQST	21-0314	No	CORRIDOR STRUCTURE			4,843	1999	2007	$2,422		$8	Yes	Yes		
EM RQST	21-0315	No	CORRIDOR STRUCTURE			4,773	1999	2007	$2,387		$8	Yes	Yes		
EM RQST	21-0315A	No	FAN ROOM			450	1999	2007	$450			Yes	Yes		
EM RQST	21-0315B	No	FAN ROOM			450	1999	2007	$450			Yes	Yes		
EM RQST	21-0458	No	SHED			0	1999	2007	$8		$4	Yes	Yes		
EM RQST	21-0160	No	SHELTER			262	2006	2007	$66		$4	Yes	Yes		No
EM RQST	21-0164	No	ACID SUMP			100	2006	2007	$50		$4	Yes	Yes		No
EM RQST	21-0166	No	EQUIPMENT BUILDING			856	2006	2007	$428		$4	Yes	Yes		No
EM RQST	21-0227	No	SUMP\LIFT			452	1999	2007	$113			Yes	Yes		
EM RQST	21-0313A	No	FAN ROOM			450	1999	2007	$450			Yes	Yes		
EM RQST	21-0313B	No	FAN ROOM			450	1999	2007	$450			Yes	Yes		No
EM RQST	21-0152	No	LABORATORY BLDG			13,750	TBD	2008	$6,875		$24	Yes	Yes		No
EM RQST	21-0229	No	PUMP HOUSE			214	2007	2008	$54			Yes	Yes		
EM RQST	21-0230	No	AERATION/SEDIMENTATION			1,258	2007	2008	$315			Yes	Yes		
EM RQST	21-0346	No	CONDENSATE TANKS			720	2006	2008	$360			Yes	Yes		No
EM RQST	21-0357	No	STEAM PLANT			5,682	2006	2008	$1,421			Yes	Yes		No
EM RQST	21-0370	No	MECHANICAL EQUIPMENT			544	2003	2008	$136			Yes	Yes		
EM RQST	21-0042	No	Z PUMP HOUSE C108692			65	2003	2009	$16		$4	Yes	Yes		
EM RQST	21-0342	No	EAST WATER TOWER			1,600	2009	2009	$160			Yes	Yes		No
EM RQST	21-0258	No	WEST WATER TOWER			1,600	2009	2009	$160			Yes	Yes		
EM RQST	N/A	No	WATER SUPPLY				2009	2009	$766			Yes	Yes		
EM RQST	N/A	No	SANITARY WASTEWATER				2009	2009	$453		$8	Yes	Yes		
EM RQST	N/A	No	STEAM AND CONDENSATE SYSTEM				2009	2009	$188			Yes	Yes		
EM RQST	21-0210	No	RRES-ECO			20,851	1999	2010	$5,213		$36	Yes	Yes		No
TA-21 FUNDING TO BE DETERMINED						**164,211**									
TBD	16-0088	Yes	CASTING REST HOUSE			2,043	TBD	TBD				Yes	Yes	Originally FIRP FY04, beryllium decontamination being investigated	Yes - Eligible
TBD	16-0421	No	FIRE DEPT TRAINING FACILITY			584	2005	2005					No	Division has identified potential of excessing these structures.	
TBD	16-0248	No	TRAILER			208	TBD	TBD					No		
TBD	16-1484	No	STEAM PLANT			1,200	TBD	TBD					No		
TBD	21-0031	No	WAREHOUSE			9,184	TBD	TBD					No		
TBD	15-0233	No	TRAILER			1,440	TBD	TBD					No		
TBD	36-0055	Yes	CONTROL BUILDING			732	TBD	TBD					No		
TBD	36-0104	No	TRAILER			60	TBD	TBD					No		
OTHER TECHNICAL AREAS - FUNDING TO BE DETERMINED						**15,451**									
N/A	08-0001	No	LABORATORY & SHOP BLDG			3,330	N/A	N/A			$6			Historical - Not to be demolished	Yes - Eligible
N/A	08-0002	No	SHOP & STORAGE BLDG			408	N/A	N/A			$6			Historical - Not to be demolished	Yes - Eligible
N/A	08-0003	No	LABORATORY BLDG			602	N/A	N/A			$6			Historical - Not to be demolished	Yes- Eligible
N/A	08-0020	Yes	STORAGE BLDG			187	N/A	N/A						Moved from FY09 - State Historical Issue	Yes - Needs evaluation
N/A	16-0058	No	MAGAZINE			299	N/A	N/A			$8			Historical - Not to be demolished	Yes- Eligible

Attachment E-1
NNSA Excess Facilities Disposition Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
N/A	16-1451	No	GUARD STATION			187	N/A	N/A			$3			Historical - Not to be demolished	Yes - Eligible
N/A	16-0516	No	PROCESS BLDG			660	2001	N/A			$8	EM	Yes	Candidate for DP to EM transfer	Yes - Eligible
N/A	16-0517	No	EQUIP BLDG			318	1999	N/A			$8	EM	Yes	Candidate for DP to EM transfer	Yes - Eligible
N/A	22-0001	Yes	LOADING BLDG			7,895	N/A	N/A		$1,372	$20		No	Historical - Disposition on hold	Yes - Eligible
N/A	22-0025	Yes	PROCESS BLDG			227	N/A	N/A		$36	$8		No	Historical - Disposition on hold	Yes - Needs evaluation
N/A	41-0002	No	GUARD HOUSE			781	N/A	N/A		$23				Historical - Disposition on hold	Yes - Eligible
N/A	41-0003	No	BLOWER HOUSE			24	N/A	N/A		$0				Historical - Disposition on hold	Yes - Eligible
N/A	41-0006	No	COVERED PASSAGEWAY			938	N/A	N/A						Historical - Disposition on hold	Yes - Eligible
N/A	60-0019	No	TEST FABRICATION FACILITY			17,318	N/A	N/A		$564	$20			Historical - Disposition on hold	Yes - Needs evaluation
					HISTORICAL STRUCTURES TOTAL	**33,174**									
					GRAND TOTAL*	**1,963,275**									
* Does not include archived square footage or historical structures not to be demolished															

Attachment E-2
NNSA New Construction Footprint Added Spreadsheet

The New Construction Added spreadsheet (Attachment E-2) captures the gross square footage of all proposed and completed construction (NNSA, other DOE, etc.), along with the year of beneficial occupancy, for Line Item, GPP, IGPP, and other projects from FY03-FY15. New construction includes square footage for only buildings that count against the one-for-one new construction/banked offset.

The New Construction Footprint Added counts against the available banked gross square footage eliminated at the time of beneficial occupancy. Project beneficial occupancy is taken in the fiscal year when the FIMS Status Date for “Year Acquired” is populated. This date is consistent with the project Critical Decision (CD)-4, project closeout approval. New construction added will consist of construction line items and those smaller new construction projects (such as GPP and IGPP) funded with program dollars (FIRP, RTBF, other NNSA funding), approved for FY03 and the outyears.

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Attachment E-2

New Construction Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-03-068	Pajarito Road Access Control Stations	GPP	772	FY04	
FIRP	LANL-R-03-09	FWO Office Building	GPP	19,242	FY04	
Other		Office Building (TA-55-0313)	GPP	23,860	FY04	
RTBF	LANL-04-205	Office Building (TA-3-1437)	GPP	3,500	FY04	
FY04 New Construction Total GSF				**47,374**		
CGRP		Records Center	GPP	8,220	FY05	
FIRP	LANL-R-03-07	Hydrotest Design Facility	GPP	14,000	FY05	
FY05 New Construction Total GSF				**22,220**		
S&S	LANL-04-168	TA-64 PTLA Building	GPP	8,000	FY06	
EM		Centralized Charactertization Project	GPP	3,600	FY06	
FIRP	LANL-R-03-02	Beryllium Tech Facility - Cartridge Filter House Install	GPP	3,100	FY06	
OS	LANL-02-010	Center for Integrated Nanotechnology (CINT)	LI	36,500	FY06	
RTBF	03-D-102	National Security Sciences Building	LI	275,000	FY06	
IGPP	LANL-05-321	Relocate Radio Shop	IGPP	7,000	FY06	
IGPP	LANL-05-422	Relocate Roads & Grounds	IGPP	7,000	FY06	
Other	LANL-06-530	Construct PF-1 Annex Office Building	GPP	17,500	FY06	
LI	04-D-125	CMRR Construction Offices Building	LI	24,650	FY06	
FY06 New Construction Total GSF				**382,350**		
FIRP	LANL-R-04-04	DX Shock & Detonation Bldg	GPP	17,000	FY07	
FIRP	LANL-R-05-07	IM Division Office Building	GPP	18,735	FY07	
S&S	LANL-05-017	Security Perimeter Project	LI	3,384	FY07	
IGPP	LANL-06-424	Office Building Replacement #1	IGPP	17,000	FY07	
IGPP	LANL-06-425	Office Building Replacement #2	IGPP	17,000	FY07	
IGPP	LANL-06-426	Office Building Replacement #3	IGPP	15,000	FY07	
FIRP	LANL-R-06-13	Replace High Voltage Electrical Panels TA-48-1	GPP	100	FY07	
RTBF	03-D-102	LASO (Part of NSSB)	LI	22,000	FY07	
FY07 New Construction Total GSF				**110,219**		
IGPP	LANL-07-427	Warehouse Relocation	GPP	25,000	FY08	
IGPP	LANL-07-429	Computing and Communications Operations Facility	IGPP	14,000	FY08	
FY08 New Construction Total GSF				**39,000**		
IGPP	LANL-08-434	Construct Wellness Center Replacement	IGPP	17,000	FY09	
IGPP	LANL-08-435	TA-69 EOC Support Office	IGPP	17,000	FY09	
IGPP	LANL-08-437	Office Building Replacement #4	IGPP	17,000	FY09	
RTBF	LANL-07-184	Data Systems Facility	GPP	9,000	FY09	
RTBF	LANL-07-145	Calibration Laboratory	GPP	12,000	FY09	

Attachment E-2

New Construction Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-07-019	Support Services Consolidation	LI	TBD	FY09	
RTBF	LANL-08-128	Vessel Facility 1 of 4	GPP	3,300	FY09	
RTBF	LANL-08-153	Medium/Heavy Lab at TA-22	GPP	6,000	FY09	
RTBF	04-D-125	CMR Replacement Project (RLUOB)	LI	200,000	FY09	
FY09 New Construction Total GSF				**281,300**		
RTBF	LANL-08-216	LANSCE Lab/Office Building	GPP	16,000	FY10	
RTBF	LANL-09-152	Vessel Facility 2 of 4	GPP	3,300	FY10	
RTBF	LANL-09-009	TA-37 Classified HE Storage	GPP	2,000	FY10	
IGPP	LANL-09-439	TA-49 Consolidated Emergency Training Center	IGPP	17,000	FY10	
FY10 New Construction Total GSF				**38,300**		
IGPP	LANL-10-441	Relocation of IM-2 and IM-3	IGPP	13,000	FY11	
IGPP	LANL-10-442	Office Building Replacement #5	IGPP	15,000	FY11	
IGPP	LANL-10-443	Office Building Replacement #6	IGPP	15,000	FY11	
RTBF	LANL-09-143	Vessel Facility 3 of 4	GPP	3,000	FY11	
FY11 New Construction Total GSF				**46,000**		
RTBF	LANL-11-160	Vessel Facility 4 of 4	GPP	3,000	FY12	
RTBF	LANL-11-166	Replace Machine Shop at TA-22	GPP	10,000	FY12	
FY12 New Construction Total GSF				**13,000**		
RTBF	LANL-11-181	Joint DX/ESA Conference Facility	GPP	5,000	FY13	
RTBF	04-D-125	CMR Replacement Project (Radiological Facility)	LI	200,000	FY13	
FY13 New Construction Total GSF				**205,000**		
FY14 New Construction Total GSF				**0**		
FY15 New Construction Total GSF				**0**		
GRAND TOTAL				**1,184,763**		

Attachment E-3
GSF Grandfathered Footprint Added Spreadsheet

The Grandfathered Footprint Added spreadsheet identifies projects that approval for start of construction was provided prior to FY03. Approved "grandfathered" projects are not required to meet the Congressional offset requirement. Projects whose start of construction (when the project receives CD-3) was prior to the end of FY02 are considered grandfathered. For GPP and IGPP projects that add new gross square footage, the project qualifies as Grandfathered space added if the construction award date was prior to FY02.

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Attachment E-3
GRANDFATHERED Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Benficial Occupancy	Notes
Other	LANL-02-065	BSL (03-1076)	GPP	3,233	2003	Contract awarded 9/26/02
RTBF		Water Treatment Facility (03-1398)	GPP	4,703	2003	Contract awarded 7/2/02
FIRP	LANL-02-078	D Division Office Building (03-1405)	GPP	25,635	2003	Contract awarded 6/2/02
FIRP	LANL-02-077	S-3 Office building (03-1409)	GPP	21,266	2003	Construction started in July 2002
FIRP	LANL-02-075	Occupational Medical Facility (03-1411)	GPP	20,600	2003	Contract awarded June 2002
Other	LANL-00-008	Nonproliferation and International Security Center (03-2322)	LI	178,638	2003	Construction started in March 2001
DP		DARHT Vessel Preparation Facility (15-0534)	LI	7,964	2003	Part of DARHT; CD3 granted in 1998
DP		Storage Building (15-0603)	LI	615	2003	
DP		Storage Building (15-0604)	LI	613	2003	Part of DARHT; CD3 granted in 1998
CGRP		Shop Building (15-0563)	GPP	3,655	2003	Contract awarded 12/3/01
CGRP		Calibration Building (15-0564)	GPP	3,200	2003	Contract awarded 12/3/01
CGRP	LANL-01-030	Office Building (16-0933)	LI	22,787	2003	Portion of Line Item; Construction complete in Nov 2002
CGRP		Prep Building (36-0078)	GPP	1,527	2003	HE Preparation; CGRP
Other	LANL-99-006	Isotope Production Facility (53-0984)	LI	5,632	2003	Construction started in Feb. 2000
CGRP		Storage Building (64-0064)	GPP	6,168	2003	Contract awarded Nov. 16, 2001
CGRP	LANL-01-029	Emergency Operation Center (69-0033)	LI	40,906	2003	Construction started in January 2002
CGRP		Storage Building (69-0051)	LI	912	2003	Part of EOC Line Item
FY03 Subtotal				**348,054**		
FIRP	LANL-02-076	MST Office Building (03-1415)	GPP	20,646	2004	Contract signed Sept 2002
RTBF	LANL-02-093	Weapons Plant Support Facility (16-0969)	GPP	22,156	2004	Contract awarded 9/27/02
FY04 Subtotal				**42,802**		

Attachment E-4
GSF Footprint Tracking Summary

The Laboratory is required to offset new construction project footprints by the transfer, sale, or demolition of excess buildings and facilities of equal size. Attachment E-4 displays actual and projected total GSF based on Attachments E-1 and E-2 and provides a visual comparison of the projected footprint reduction efforts. In addition, Attachments E-3 and E-5 data are also captured.

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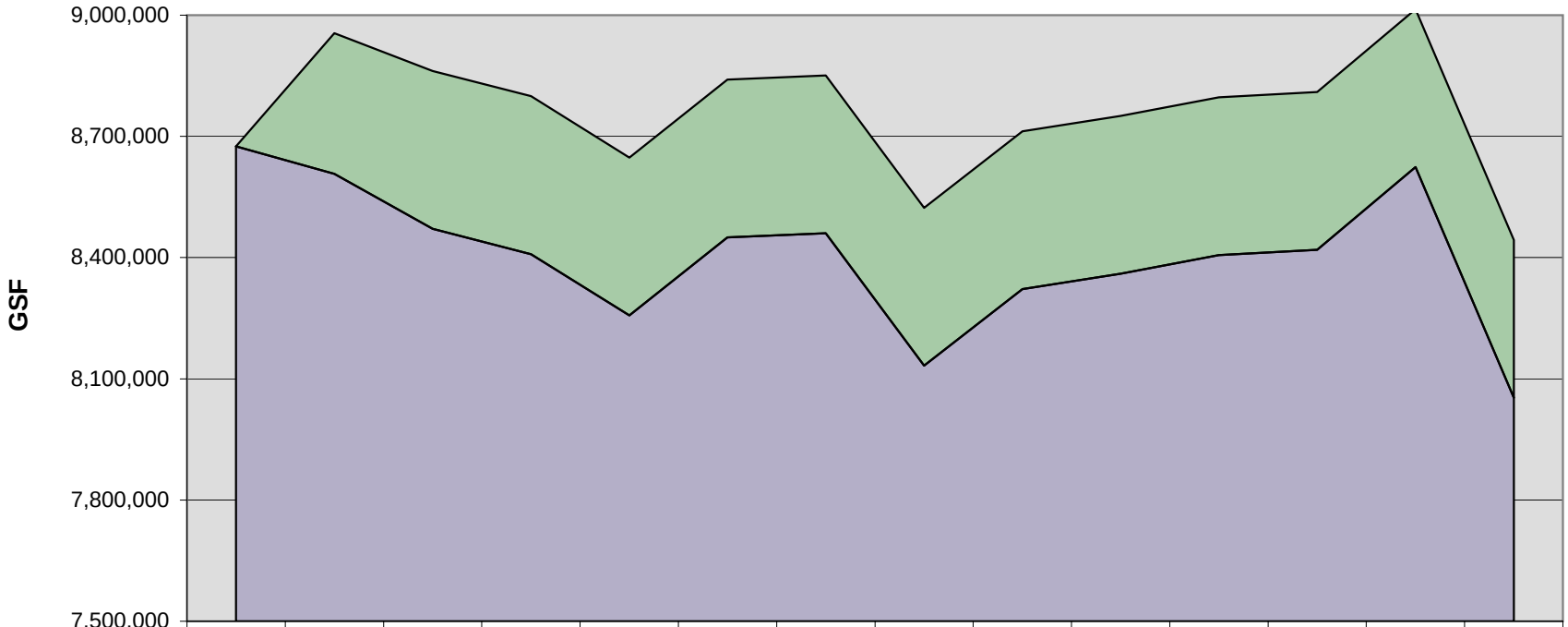
Attachment E-4
FOOTPRINT SUMMARY SPREADSHEET
LANL Footprint Tracking Summary - NNSA

Fiscal Year	Beginning Site Footprint (GSF)	Excess Facilities Footprint Elimination (GSF)	New Construction Footprint Added (GSF)	Site Footprint Reduction by FY	Footprint "Banked" (GSF)	Waiver / Transfer (GSF)	"Grandfathered" Footprint Added (GSF)	Cumulative GrandFathered Footprint Added (GSF)	Site Total Footprint (NNSA) (GSF)
FY 2002 Actual	8,675,489	-68,161	0	8,607,328	-68,161	0	0	0	8,607,328
FY 2003 Actual	8,607,328	-136,416	0	8,470,912	-204,577	0	348,054	348,054	8,818,966
FY 2004 Actual	8,470,912	-109,586	47,374	8,408,700	-266,789	0	42,802	390,586	8,799,286
FY 2005	8,408,700	-178,133	26,220	8,256,787	-418,702	0	-	390,586	8,647,373
FY 2006	8,256,787	-152,477	345,850	8,450,160	-225,329	0	-	390,586	8,840,746
FY 2007	8,450,160	-99,836	110,219	8,460,543	-214,946	0	-	390,586	8,851,129
FY 2008	8,460,543	-366,868	39,000	8,132,675	-542,814	0	-	390,586	8,523,261
FY 2009	8,132,675	-91,972	281,300	8,322,003	-353,486	0	-	390,586	8,712,589
FY 2010	8,322,003	0	38,300	8,360,303	-315,186	0	-	390,586	8,750,889
FY 2011	8,360,303	0	46,000	8,406,303	-269,186	0	-	390,586	8,796,889
FY 2012	8,406,303	0	13,000	8,419,303	-256,186	0	-	390,586	8,809,889
FY 2013	8,419,303	0	205,000	8,624,303	-51,186	0	-	390,586	9,014,889
FY2014	8,624,303	-571,458	0	8,052,845	-622,644	0	-	390,586	8,443,431
FY2015	8,052,845	0	0	8,052,845	-622,644	0	-	390,586	8,443,431

ATTACHMENT E-4
RIVER GRAPH
LANL Site Space Tracking Summary - NNSA



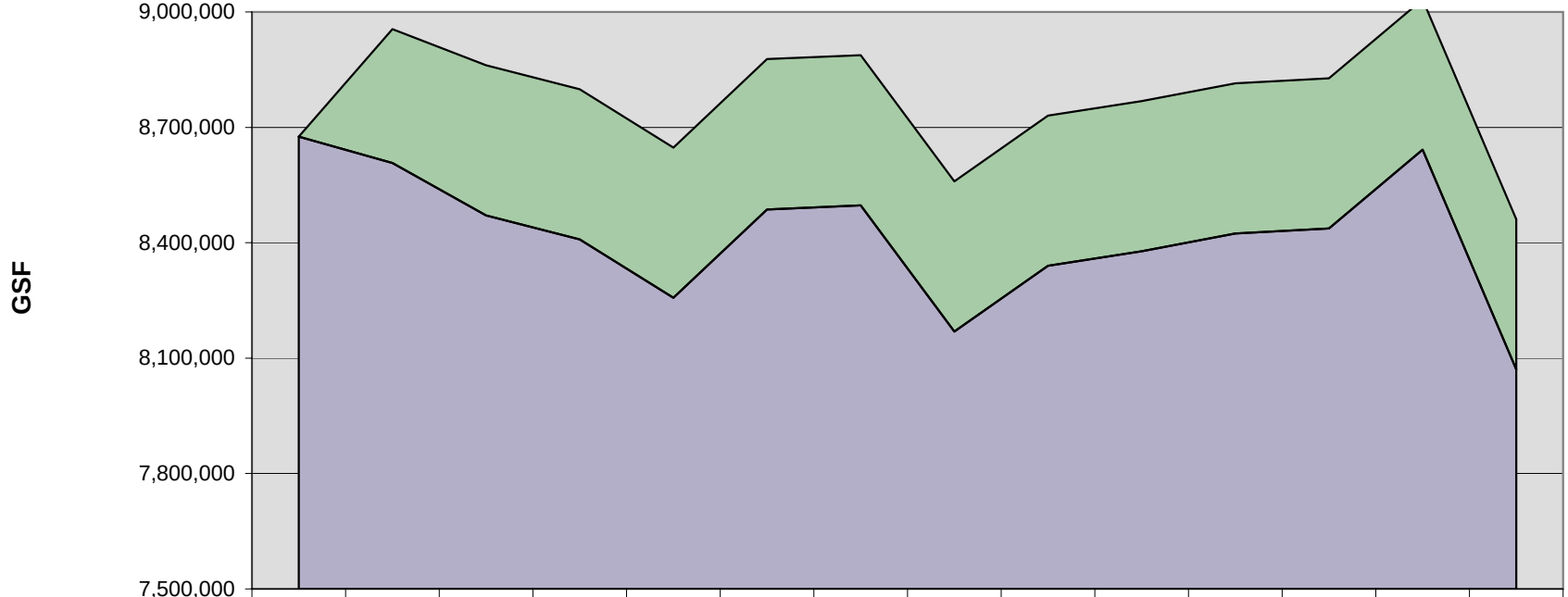
	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY2014	FY2015
Cumulative GrandFathered Footprint Added (GSF)	0	348,054	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586
Beginning Site Footprint (GSF)	8,675,489	8,607,328	8,470,912	8,408,700	8,256,787	8,450,160	8,460,543	8,132,675	8,322,003	8,360,303	8,406,303	8,419,303	8,624,303	8,052,845

Attachment E-4
FOOTPRINT SUMMARY SPREADSHEET
LANL Footprint Tracking Summary - Sitewide (Multi-Program)

Fiscal Year	Beginning Site Footprint (GSF)	Excess Facilities Footprint Elimination (GSF)	New Construction Footprint Added (GSF)	Site Footprint Reduction by FY	Footprint "Banked" (GSF)	Waiver / Transfer (GSF)	"Grandfathered" Footprint Added (GSF)	Cumulative GrandFathered Footprint Added (GSF)	Site Total Footprint (Multi-Program) (GSF)
FY 2002 Actual	8,675,489	-68,161	0	8,607,328	-68,161	0	0	0	8,607,328
FY 2003 Actual	8,607,328	-136,416	0	8,470,912	-204,577	0	348,054	348,054	8,818,966
FY 2004 Actual	8,470,912	-109,586	47,374	8,408,700	-266,789	0	42,802	390,586	8,799,286
FY 2005	8,408,700	-178,133	26,220	8,256,787	-418,702	0	-	390,586	8,647,373
FY 2006	8,256,787	-152,477	382,350	8,486,660	-188,829	0	-	390,586	8,877,246
FY 2007	8,486,660	-99,836	110,219	8,497,043	-178,446	0	-	390,586	8,887,629
FY 2008	8,497,043	-366,868	39,000	8,169,175	-506,314	0	-	390,586	8,559,761
FY 2009	8,169,175	-110,755	281,300	8,339,720	-335,769	0	-	390,586	8,730,306
FY 2010	8,339,720	0	38,300	8,378,020	-297,469	0	-	390,586	8,768,606
FY 2011	8,378,020	0	46,000	8,424,020	-251,469	0	-	390,586	8,814,606
FY 2012	8,424,020	0	13,000	8,437,020	-238,469	0	-	390,586	8,827,606
FY 2013	8,437,020	0	205,000	8,642,020	-33,469	0	-	390,586	9,032,606
FY2014	8,642,020	-571,458	0	8,070,562	-604,927	0	-	390,586	8,461,148
FY2015	8,070,562	0	0	8,070,562	-604,927	0	-	390,586	8,461,148

The only changes from the NNSA Footprint Summary Spreadsheet is the addition of the Center for Integrated Nanotechnology (36,500 sq. ft) in 2006, funded by Office of Science, and the elimination of the TSTA facility (18,783 sq. ft.) funded by EM in 2009.

ATTACHMENT E-4
RIVER GRAPH
LANL Site Space Tracking Summary - Sitewide (Multi-Program)



	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY2014	FY2015
Cumulative GrandFathered Footprint Added (GSF)	0	348,054	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586
Beginning Site Footprint (GSF)	8,675,489	8,607,328	8,470,912	8,408,700	8,256,787	8,486,660	8,497,043	8,169,175	8,339,720	8,378,020	8,424,020	8,437,020	8,642,020	8,070,562

Attachment E-5
GSF Waiver and Transfer Spreadsheet

Attachment E-5 is to manage and document approved or pending requests for waivers and transfers of banked gross square footage. Waivers are required when a site needs square footage to off-set new construction because the site does not have sufficient square footage "banked." Transfers are required when a program transfers "banked" square footage to another program at the same site. The Secretary of Energy must approve a waiver with concurrence by each Program Secretarial Officer. A transfer requires each Program Secretarial Officer approve with notifications to the Associate Administrator for Infrastructure and Environment.

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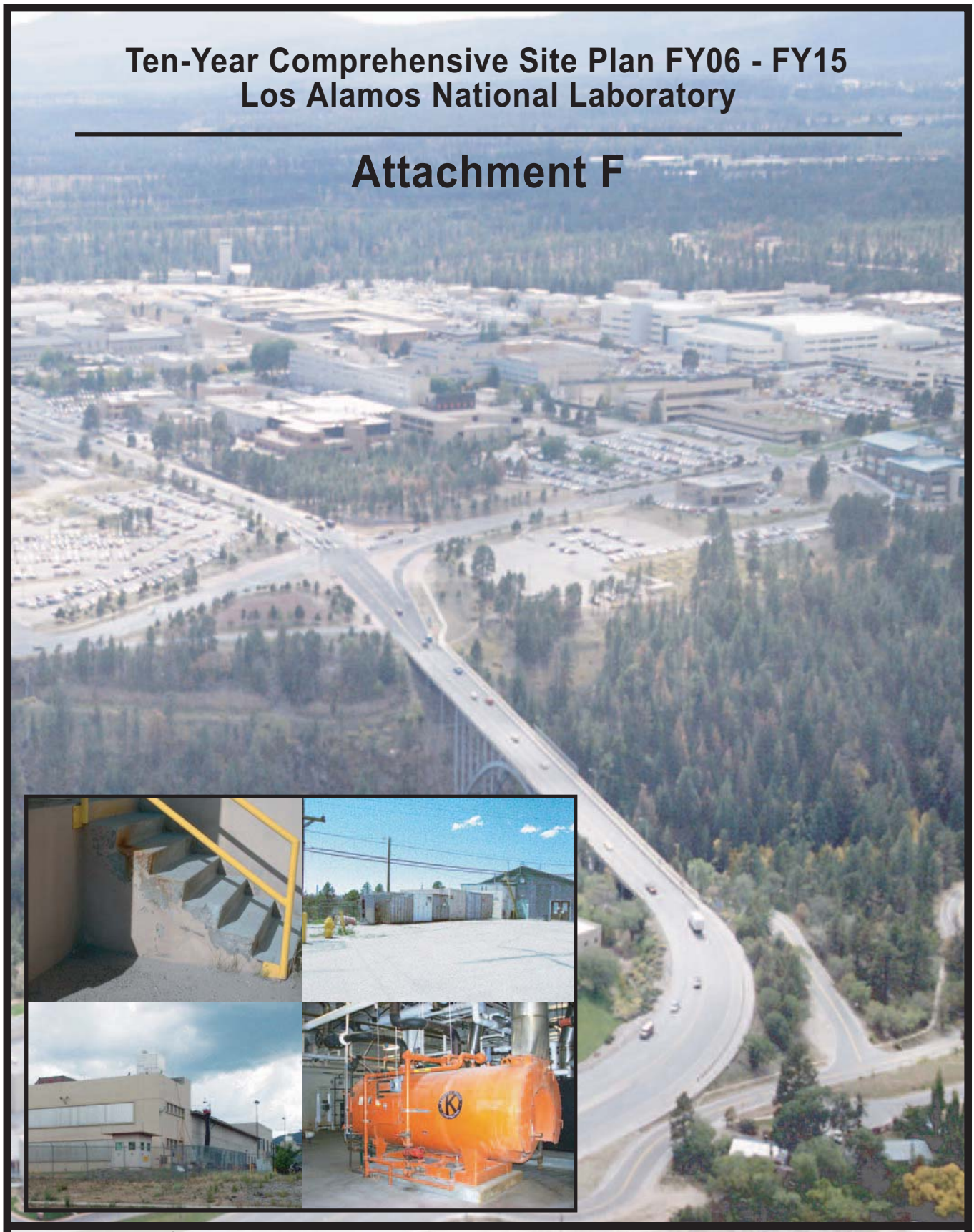
Attachment E-5
LANL Waiver/Transfer Log (Space Added or Eliminated)

Site or Program Donor	Site or Program Receiver	Waiver Banked (GSF)	Transfer Banked (GSF)	Request Submitted (Yes/No)	Request Approved (Yes/No)	Comments
						No waivers or transfers to date involving the Los Alamos National Laboratory

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment F



Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction

Attachments F-1 and F-2
Deferred Maintenance Baseline and
Projected Deferred Maintenance Reduction Spreadsheet

The data reported in Attachment F-1 will be used to report the NNSA maintenance requirements baseline and assess actual and planned progress towards reducing deferred maintenance. Attachment F-1 addresses the FY03 deferred maintenance baseline as identified in the FY04 TYCSP and reflects reductions against this baseline. New growth in deferred maintenance (i.e. deferred maintenance not identified in the FY03 baseline as presented in the FY04 TYCSP or new deferred maintenance that occurs because of funding shortfalls) is reported in Attachment F-2. A NNSA corporate roll-up of data reported in this spreadsheet will be used to trend and analyze progress towards the achievement of NNSA's Deferred Maintenance Reduction goals.

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Attachment F-1
FIRP FY2003 Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction from Baseline
Los Alamos National Laboratory
($000s)

Category of Maintenance	FY 2003 (Baseline)	FY 2004 (Actual)	FY 2005 (Actual)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011
1. **FIRP DEFERRED MAINTENANCE BASELINE (1)** **(Excludes Programmatic Real Property or Equipment) (2)**	564,243	429,439	378,949	355,207	307,141	293,820	249,863	216,825	205,922
A. Deferred Maintenance Baseline for Mission-Essential Facilities and Infrastructure ONLY	267,110	227,509	198,573	182,659	165,866	153,100	109,163	76,619	71,029
B. Deferred Maintenance Baseline for Non-Mission Essential Facilities and Infrastructure	297,133	201,930	180,376	172,548	141,275	140,720	140,700	140,206	134,892
2. **DEFERRED MAINTENANCE BASELINE REDUCTION TOTAL (3)**	24,770	134,803	50,490	23,743	48,066	13,320	43,957	33,038	10,904
A. Reduction in Deferred Maintenance Baseline for Mission-Essential Facilities and Infrastructure	20,315	39,600	28,936	15,915	16,793	12,766	43,937	32,544	5,590
1. Reduction attributed to FIRP ONLY	20,315	20,498	8,995	14,366	16,209	11,814	43,778	31,920	5,590
B. Reduction in Deferred Maintenance Baseline for Non-Mission Essential Facilities and Infrastructure	4,455	95,203	21,554	7,828	31,273	555	20	494	5,314
1. Reduction attributed to FIRP ONLY	4,455	6,927	1,706	6,041	7,538	-	-	-	5,314
3. **REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE (4)**	5,623,221								
A. RPV for NNSA Mission-Essential Facilities and Infrastructure ONLY	3,232,755								
B. RPV for NNSA Non-Mission Essential Facilities and Infrastructure	2,390,467								

Notes:
1. For FY2003 input the number reported in the Final FY04 TYCSP reported for FY 2003. Any adjustments or corrections to this number should not be reflected in this spreadsheet but in Attachment F-2. For FY2004 through FY2014 show the FY2003 baseline with any reductions to the FY2003 baseline as a result of FIRP or other funding sources. No new deferred maintenance should be added and escalation costs should not be included.
2. "Programmatic Real Property" refers to reactors, accelerators and similar devices used by programmatic personnel. "Programmatic Equipment" refers to personal property used by programmatic personnel, including the personal property meeting the threshold for the list of capital equipment.
3. For Deferred Maintenance Baseline Reduction report the amount of the deferred maintenance reduction that is associated with the deficiencies reported in the FY2003 Baseline. DO NOT report deferred maintenance reduction in the outyears (FY04-FY14) for deferred maintenance associated with any deficiency that was not part of the FY2003 Baseline amount.
4. Input the Replacement Plant Value that was reported for FY2003 from the Final FY04 TYCSP.

Attachment F-2
NNSA Total Deferred Maintenance and Projected Deferred Maintenance Reduction
Los Alamos National Laboratory
($000s)

Category of Maintenance	FY 2003 (Baseline)	FY 2004 (Actual)	FY 2005 (Actual)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
1. NNSA ANNUAL REQUIRED MAINTENANCE (1) (2)	107,124	109,313	105,092	103,581	101,188	100,281	100,295	100,164	101,446	106,442	107,944	104,073	105,492
1A. NNSA ANNUAL REQUIRED REPLACEMENT-IN-KIND		11,443	8,571	4,007	1,522	10,688	-	-	-	-	-	-	-
2. NNSA ANNUAL PLANNED MAINTENANCE TOTAL (2)	88,222	107,523	99,248	100,767	94,834	92,937	92,937	92,937	92,937	106,294	106,294	102,459	102,459
a. Direct	41,804	48,716	49,364	47,883	46,446	45,517	45,517	45,517	45,517	58,875	58,875	55,039	55,039
b. Indirect	46,418	58,807	49,884	52,884	48,387	47,420	47,420	47,420	47,420	47,420	47,420	47,420	47,420
2A. NNSA ANNUAL PLANNED REPLACEMENT-IN-KIND (3)		1,382	-	15,024	4,332	6,640	2,777	-	-	-	-	-	-
3. NNSA DEFERRED MAINTENANCE TOTAL (Excludes Programmatic Real Property or Equipment) (4) (5) (6)	564,243	546,979	485,842	463,068	415,199	384,345	380,802	357,288	357,410	366,732	376,597	347,901	357,553
A. Deferred Maintenance for Mission-Essential Facilities and Infrastructure ONLY	267,110	273,878	237,935	224,039	212,955	179,592	171,134	143,664	143,087	146,892	150,961	116,191	119,478
B. Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure	297,133	273,101	247,907	239,029	202,244	204,752	209,667	213,625	214,323	219,840	225,636	231,710	238,075
4. NNSA DEFERRED MAINTENANCE REDUCTION TOTAL (7)	24,770	28,110	72,638	35,972	61,179	43,118	15,007	34,860	10,870	-	-	22,963	-
A. Reduction in Deferred Maintenance for Mission-Essential Facilities and Infrastructure	20,315	21,010	40,397	22,298	18,680	40,740	14,931	33,682	6,091	-	-	22,961	-
1. Reduction attributed to FIRP ONLY	20,315	21,010	15,547	20,440	17,581	19,022	11,042	31,624	6,091				
B. Reduction in Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure	4,455	7,100	32,241	13,674	42,499	2,378	76	1,178	4,778	-	-	1	-
1. Reduction attributed to FIRP ONLY	4,455	7,100	348	4,452	7,787	-	-	-	4,778				
5. REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE	5,623,221	5,742,511	5,654,010	5,717,898	5,793,960	5,936,993	6,084,362	6,227,930	6,346,554	7,303,857	7,494,898	5,550,012	5,694,312
A. RPV for NNSA Mission-Essential Facilities and Infrastructure ONLY	3,232,755	3,285,848	3,275,385	3,296,557	3,353,466	3,433,643	3,513,709	3,593,528	3,643,658	4,530,685	4,648,483	2,630,608	2,699,004
B. RPV for NNSA Non-Mission-Essential Facilities and Infrastructure	2,390,467	2,456,662	2,378,625	2,421,341	2,440,493	2,503,350	2,570,654	2,634,402	2,702,896	2,773,172	2,846,415	2,919,404	2,995,308

Notes:
1. Annual Required Maintenance for FYs 2003-2015 should reflect the unconstrained forecast necessary for maintenance.
2. Beginning with the FY2004 reporting period, exclude replacement-in-kind of subsystems from Annual Required Maintenance and Annual Planned Maintenance unless it was part of the FY 2003 deferred maintenance baseline. Replacement-in-kind that is not part of the FY 2003 baseline will be captured in Attachment F-6. Also, do not include FIRP funding for deferred maintenance reduction in the maintenance amounts.
3. Do not include any FIRP funded RIK projects identified in the FY2003 Deferred Maintenance Baseline as this would skew the normal requirements case due to a large influx of FIRP funds to address legacy deferred maintenance.
4. "Programmatic Real Property" refers to reactors, accelerators and similar devices used by programmatic personnel. "Programmatic Equipment" refers to personal property used by programmatic personnel, including the personal property meeting the threshold for the list of
5. For FY2003, input the deferred maintenance amount reported for FY2003 in the Final FY04 TYCSP. For FY 2004-2015 reflect any adjustments to the FY 2003 deferred maintenance baseline, as well as any new growth in deferred maintenance.
6. Beginning with the FY2004 reporting period, NNSA is excluding replacement-in-kind from maintenance and deferred maintenance data unless it was part of the FY 2003 deferred maintenance baseline. Replacement-in-kind that is not part of the FY 2003 baseline will be captured in Attachment F-6. However, deficiencies associated with those subsystems or projects listed in Attachment F-6 that should have been replaced in a given year and were not should be reported as deferred maintenance.
7. Beginning with the FY2004 reporting period, exclude RIK costs from the reduction for projects that were executed in a given year, unless those RIK costs were part of the FY2003 Baseline reported in Attachment F-1.
8. Historical data (FY03/FY04) should be consistent with the FIMS "snapshot" data taken after that fiscal year.
9. CMR required maintenance reduced to Surveillance only in 2012 based on expected shutdown pending D&D
10. A reduction in Annual Required Maintenance was factored in to account for buildings which will receive less regorous maintenance plans due to forcasted reductions in maintenance funding efforts.

Attachment F-3 to F-6
NNSA Deferred Maintenance Projections Charts

Attachments F-3, F-4, and F-5 illustrate progress in meeting each of the quantifiable NNSA Corporate Goals. These data will help demonstrate planned progress towards meeting the NNSA corporate goals for FY05 (stabilize deferred maintenance) and for FY09 (reduce deferred maintenance to within industry standards). The data reported for Attachment F-3 through F-5 is consistent with the current actual site planning reported in Attachment F-2 and not the FY03 Deferred Maintenance Baseline reduction tracking reported in Attachment F-1. Attachment F-6 captures replacement-in-kind requirements.

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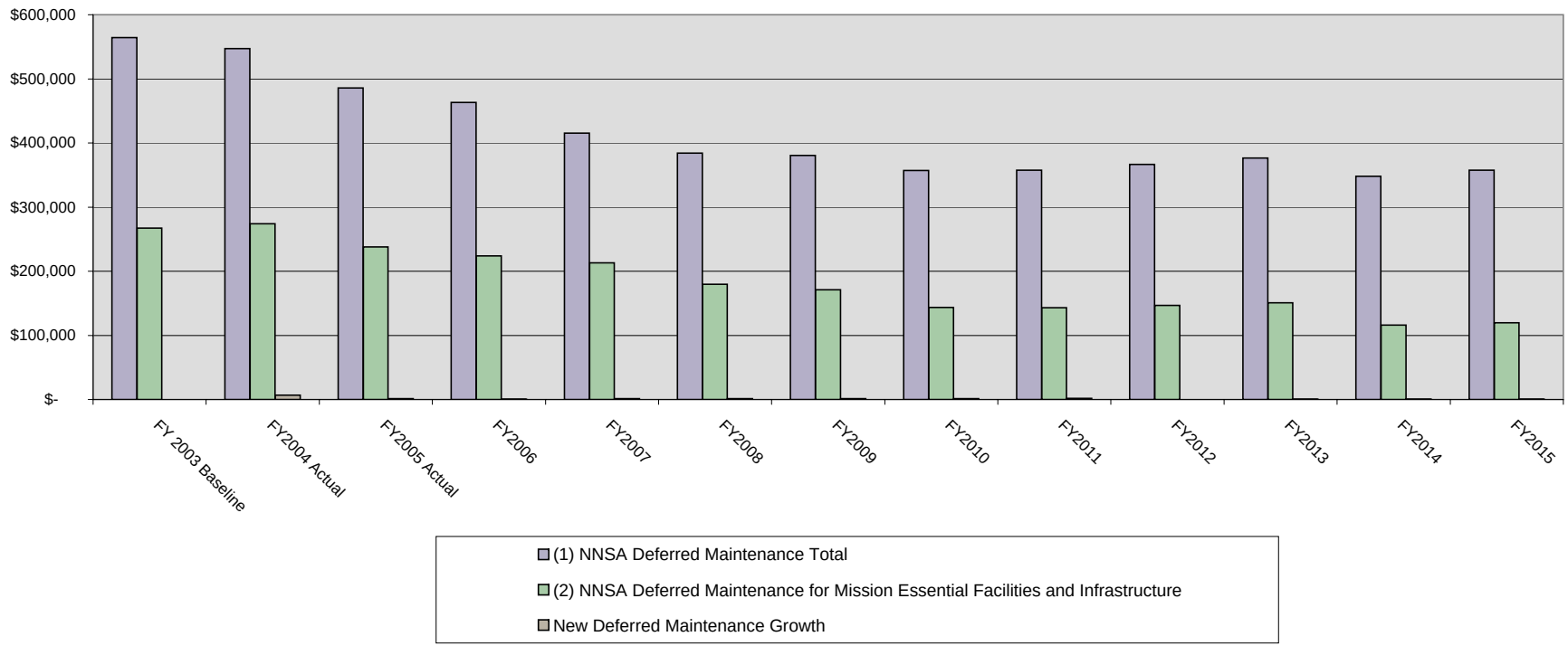
ATTACHMENT F-3
INPUT SHEET FOR CHART
Los Alamos National Laboratory's Progress towards FY05 Goal of Deferred Maintenance Stabilization,
Mission Essential Component and New Deferred Maintenance Growth

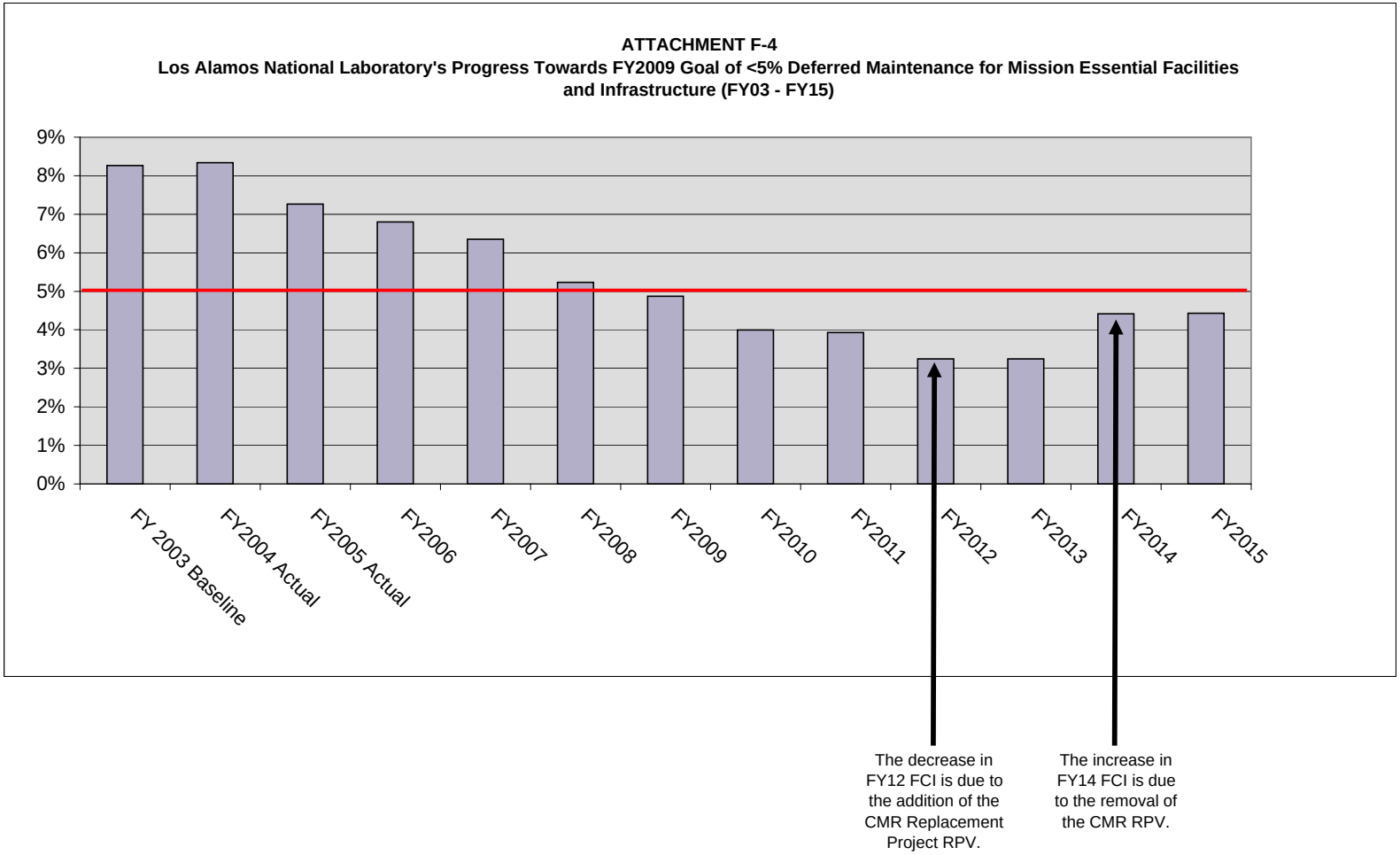
	FY 2003 Baseline	FY2004 Actual	FY2005 Actual	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
(1) NNSA DEFERRED MAINTENANCE TOTAL	$ 564,243	$ 546,979	$ 485,842	$ 463,068	$ 415,199	$ 384,345	$ 380,802	$ 357,288	$ 357,410	$ 366,732	$ 376,597	$ 347,901	$ 357,553
(2) NNSA Deferred Maintenance for Mission-Essential Facilities and Infrastructure	$ 267,110	$ 273,878	$ 237,935	$ 224,039	$ 212,955	$ 179,592	$ 171,134	$ 143,664	$ 143,087	$ 146,892	$ 150,961	$ 116,191	$ 119,478
New Deferred Maintenance Growth	$ -	$ 6,768	$ 1,169	$ 563	$ 1,271	$ 1,469	$ 1,472	$ 1,445	$ 1,702	$ 29	$ 330	$ 323	$ 607

ATTACHMENT F-3
Los Alamos National Laboratory's Progress towards FY2005 Goal of Deferred Maintenance Stabilization
Mission Essential Component and New Deferred Maintenance Growth (FY03 - FY15)



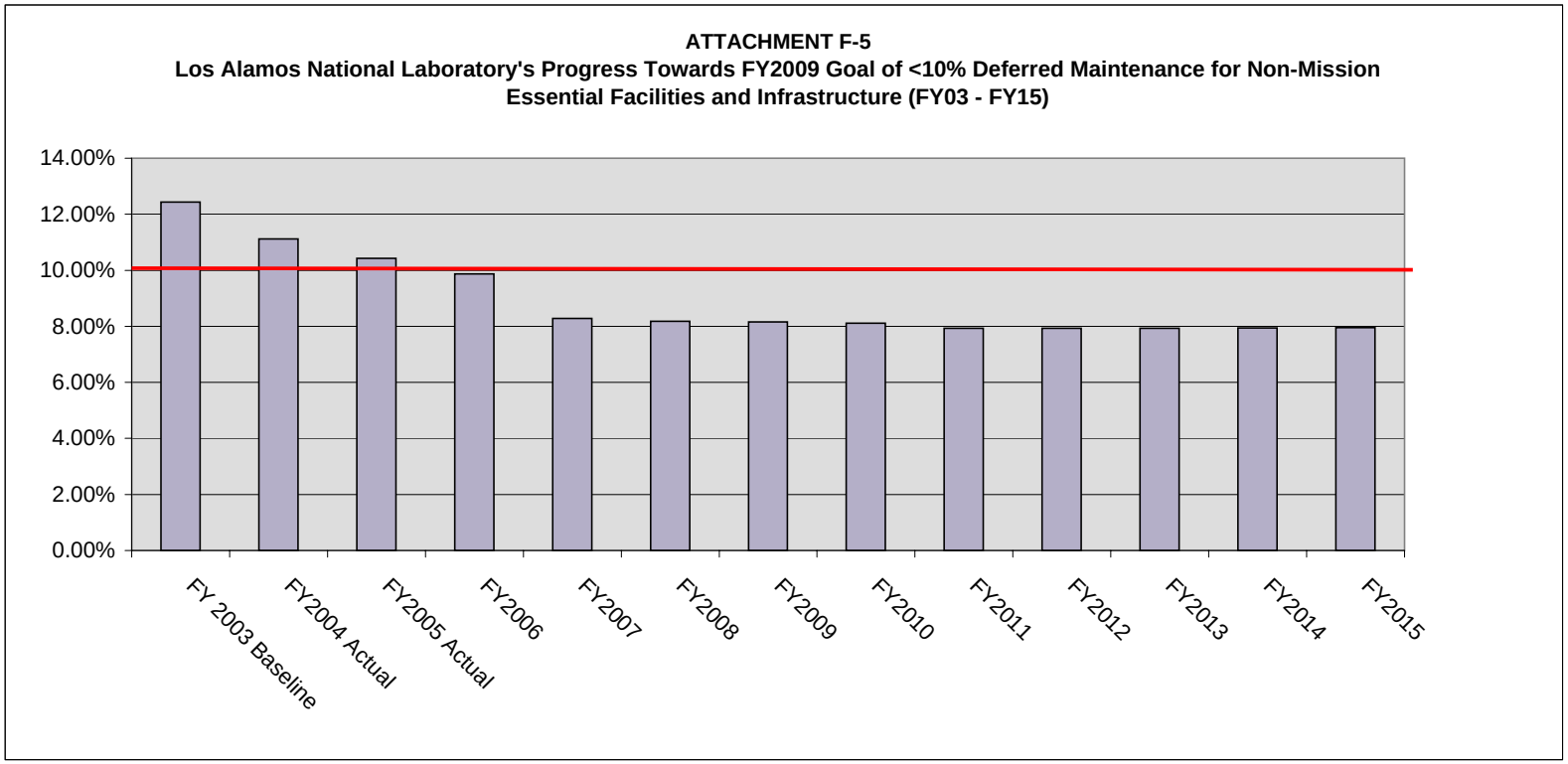
ATTACHMENT F-4
INPUT SHEET FOR Attachment F-4
Los Alamos National Laboratory's Progress Towards FY09 Goal of <5% Deferred Maintenance for Mission Essential Facilities and Infrastructure (FY03 - FY15)

	FY 2003 Baseline	FY2004 Actual	FY2005 Actual	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
(1) LANL Mission Essential FCI	8.26%	8.34%	7.26%	6.80%	6.35%	5.23%	4.87%	4.00%	3.93%	3.24%	3.25%	4.42%	4.43%



ATTACHMENT F-5
INPUT DATA SHEET FOR Attachment F-5 Los Alamos National Laboratory's Progress Towards FY2009 Goal of <10% Deferred Maintenance for Non-Mission Essential Facilities and Infrastructure (FY03 - FY15)

	FY 2003 Baseline	FY2004 Actual	FY2005 Actual	FY2006	FY2007	FY2008	FY2009	FY2010	FY2011	FY2012	FY2013	FY2014	FY2015
LANL Non-Mission Essential FCI	12.43%	11.12%	10.42%	9.87%	8.29%	8.18%	8.16%	8.11%	7.93%	7.93%	7.93%	7.94%	7.95%



Attachment F - 6
Replacement-in-Kind Projects Over $500K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2002		03-0030	Replace Damaged Roof	FIRP	2007	Y	Y	$3,502
2003		03-0034	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$580
2003		03-0034	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$510
2003		03-0035	Replace Damaged Window Subsystem	FIRP	2008	Y	Y	$1,048
2003		16-0204	Replace HVAC System at End of Useful Life	FIRP	2007	Y	Y	$733
2003	TA-16-260 RECONF PROJECT	16-0260	Replace Steam Heating System at End of Useful Life	FIRP	2005	Y	Y	$3,211
2003	TA-16 Building 300 Facility Upgrade	16-0300	Replace Lighting System at End of Useful Life	Other	2004	Y	Y	$716
2003	DEFFERRED MAINT 4 PROJECTS EJR,MSL,53,16	16-0300	Replace Roof at End of Useful Life	FIRP	2004	Y	Y	$612
2003		50-0002	Replace Constricted Effluent System at End of Useful Life	FIRP	2007	Y	Y	$3,147
2003	RLWTF WM-66 CAUSTIC TANK	50-0066	Replace Damaged Tank Storage System at End of Useful Life	FIRP	2004	Y	Y	$600
2003	RE-ROOFING 53-1, 8-21, 59-1	53-0001	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$1,049
2003		53-0002	Replace Cooling Towers at Reduced Capacity and End of Useful Life	Unfunded	TBD	Y	N	$522
2003		53-0003	Replace Cooling System at End of Useful Life	FIRP	2006	Y	Y	$658
2003	DEFFERRED MAINT 4 PROJECTS EJR,MSL,53,16	53-0003	Replace Roof at End of Useful Life	FIRP	2004	Y	Y	$3,794
2003		59-0001	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$1,563
2004		03-0030	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	Unfunded	TBD	Y	N	$517
2004		03-0038	Replace Roof at End of Useful Life	FIRP	2009	Y	Y	$3,395
2004	EISU PROJECT TA-3-40	03-0040	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$1,562
2004		03-0040	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	Unfunded	TBD	Y	N	$607
2004		03-0066	Replace Electrical System at End of Useful Life	Unfunded	TBD	Y	N	$4,683
2004		03-0066	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$565
2004		03-0132	Replace Electrical System at End of Useful Life	FIRP	2007	Y	Y	$6,000
2004		03-0132	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$835
2004		03-0207	Replace Roof at End of Useful Life	Unfunded	TBD	Y	N	$910
2004		03-0216	Replace Electrical System at End of Useful Life	FIRP	2007	N	Y	$752
2004	EISU PROJECT TA-3-261	03-0261	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$2,169
2004	RE-ROOFING 53-1, 8-21, 59-1	08-0021	Replace Damaged Roof	FIRP	2004	Y	Y	$750
2004		08-0023	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$648
2004		16-0200	Replace Damaged Roof	FIRP	2008	Y	Y	$514
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$1,737
2004	TA-16-260 RECONF PROJECT	16-0260	Replace Vacuum System at End of Useful Life	FIRP	2005	N	Y	$567
2004		16-0410	Replace HVAC System at End of Useful Life	FIRP	2005	Y	Y	$601
2004		16-0450	Replace HVAC System to Meet Current Demand	Unfunded	TBD	Y	N	$6,664
2004		35-0125	Replace Roof at End of Useful Life	FIRP	2006	Y	Y	$1,110
2004	EISU PROJECT TA-43-1	43-0001	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$2,941
2004		43-0041	Replace Degraded Structure at End of Useful Life	FIRP	2009	Y	Y	$970
2004		43-0434	Replace Road Deck at End of Useful Life	FIRP	2008	Y	Y	$5,376
2004	EISU PROJECT AT TA-46-31	46-0031	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$3,344
2004	HVERP TA-48-1	48-0001	Replace Electrical System at End of Useful Life	FIRP	2004	Y	Y	$4,586
2004		48-0001	Replace HVAC System at End of Useful Life	FIRP	2007	Y	Y	$4,314
2004		50-0002	Replace Sludge Storage System at End of Useful Life	FIRP	2007	Y	Y	$16,304
2004		50-0037	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$560
2004		50-0069	Replace Damaged Filtering System	FIRP	2006	Y	Y	$635
2004	TA-53-2 EISU PROJECT	53-0002	Replace Electrical System at End of Useful Life	FIRP	2004	N	Y	$1,382
2004		53-0002	Replace HVAC System at End of Useful Life	FIRP	2005	N	Y	$1,667
2004		53-0003	Replace Chiller System at End of Useful Life	FIRP	2005	Y	Y	$4,386
2004		53-0003	Replace Defective Emergency Lighting System	FIRP	2006	Y	Y	$560
2004		53-0003	Replace Degraded Heating Hot Water System Piping at End of Useful Life	FIRP	2005	Y	Y	$1,573
2004		53-0003	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$2,038

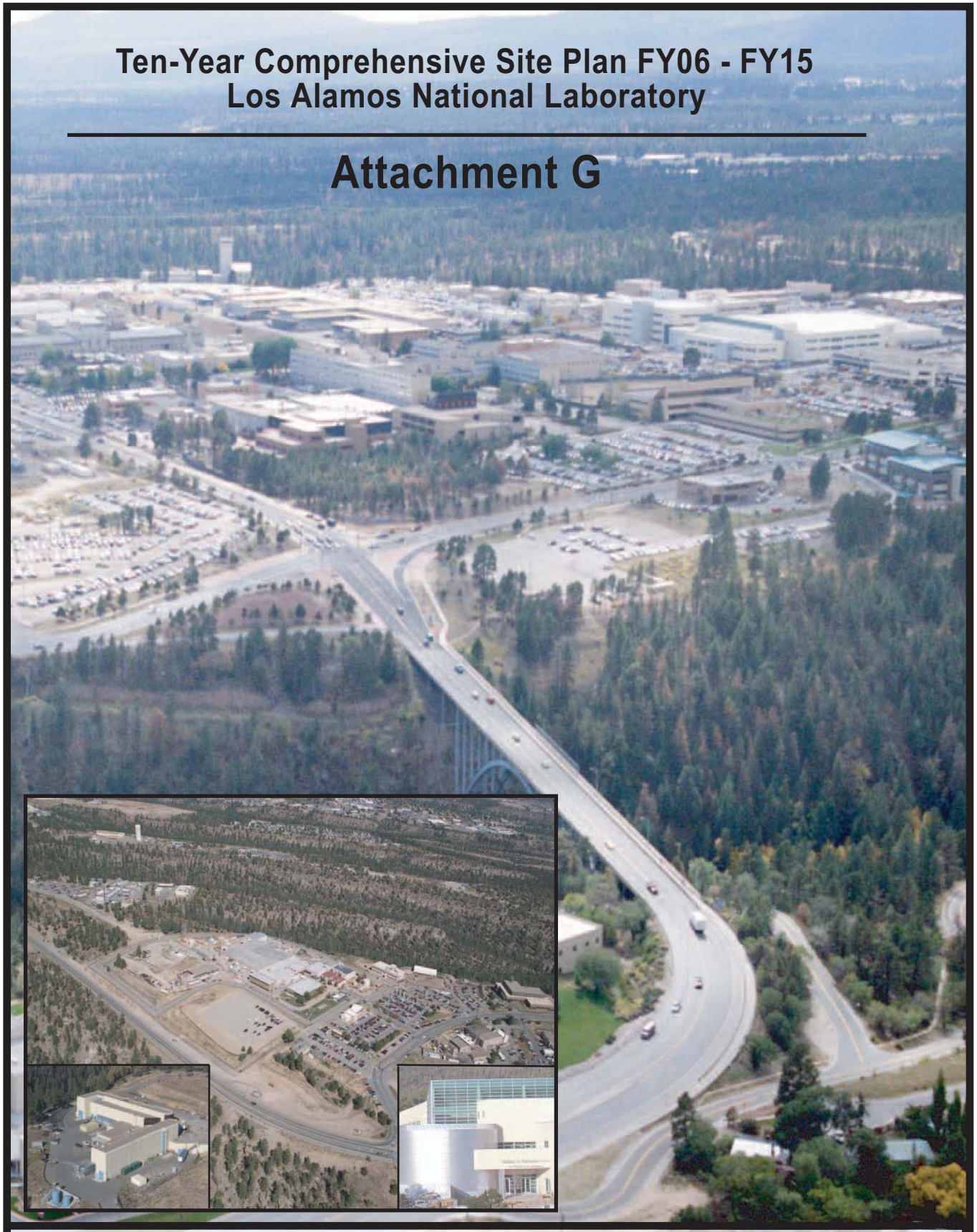
Attachment F - 6
Replacement-in-Kind Projects Over $500K (1)

Optimum Year for Funding (2)	Project Name	Facility ID (FIMS)	Description of Deficient Subsystems for Replacement-in-Kind	Funding Source (3)	Planned Fiscal Year for Funding	Identified in FY 2003 Baseline (Y or N) (4)	Within Current FYNSP Constraints (Y or N)	Projected Cost ($K)
2004		53-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2006	Y	Y	$2,485
2004		53-0006	Replace Electrical System to Meet Current Demand	FIRP	2008	Y	Y	$1,574
2004		53-0007	Replace Ventilation System to Meet Current Demand	FIRP	2005	Y	Y	$2,103
2004		53-0028	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$2,665
2004		53-0030	Replace degraded Electrical System to Supply Current Demand	FIRP	2006	Y	Y	$642
2004		53-0365	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$586
2004		55-0004	Replace Electrical System at End of Useful Life	FIRP	2005	Y	Y	$652
2004		55-0004	Replace Roof at End of Useful Life	FIRP	2005	Y	Y	$4,891
2004		55-0042	Replace Chiller Subsystem at End of Useful Life	FIRP	2005	Y	Y	$655
2004		60-0091	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	FIRP	2008	Y	Y	$565
2005		03-0132	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$3,574
2005	TA-8-21 EISU	08-0021	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$956
2005		16-0460	Replace HVAC System at End of Useful Life	FIRP	2008	N	Y	$600
2005		18-0030	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$535
2005		48-0001	Replace Rad Liquid Waste Line at End of Useful Life and to Meet Current Demand	FIRP	2008	Y	Y	$1,223
2005	TA50/TA54 WM MITIGATION - Labor	50-0001	Replace Electrical System at End of Useful Life	CGRP	2005	N	Y	$2,450
2005		50-0001	Replace Facility Windows beyond End of Useful Life	Unfunded	TBD	N	N	$599
2005		50-0001	Replace HVAC System at End of Useful Life	FIRP	2007	N	Y	$3,355
2005		50-0001	Replace Pre-Treatment System for Waste Treatment Plant at End of Useful Life	FIRP	2006	Y	Y	$6,868
2005		52-0001	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$722
2005		53-0001	Replace Electrical System at End of Useful Life	FIRP	2006	Y	Y	$2,108
2005		53-0006	Replace Cooling System to Meet Current Demand	FIRP	2008	N	Y	$611
2005		55-0004	Replace Trolley System at End of Useful Life	Unfunded	TBD	Y	N	$3,199
2005		55-0008	Replace Emergency Generator System at End of Useful Life	FIRP	2004	Y	Y	$1,019
2005		59-0001	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$1,167
2006		53-0001	Replace HVAC System at End of Useful Life	Unfunded	TBD	N	N	$3,234
2006		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	Unfunded	TBD	Y	N	$3,057
2006		55-0004	Replace Hazardous Waste Line at End of Useful Life	FIRP	2005	N	Y	$664
2007		03-0035	Replace HVAC System at End of Useful Life	FIRP	2008	Y	Y	$711
2007		03-0123	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$750
2007		53-0003	Replace Electrical System at End of Useful Life	FIRP	2006	Y	Y	$4,058
2007		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance	Unfunded	TBD	N	N	$1,443
2008		03-0030	Replace Degraded HVA Units at End of Useful Life	Unfunded	TBD	Y	N	$569
2008		03-0066	Replace Electrical System at End of Useful Life	FIRP	2009	Y	Y	$2,839
2008		03-0066	Replace HVAC System at End of Useful Life	FIRP	2008	N	Y	$4,925
2008		03-0102	Replace Cooling System at End of Useful Life	FIRP	2009	Y	Y	$679
2008		03-0141	Replace Chiller System at End of Useful Life	FIRP	2008	Y	Y	$529
2008		03-0142	Replace HVAC System to Meet Current Demand	FIRP	2009	N	Y	$1,815
2008		16-0300	Replace Electrical System at End of Useful Life	Unfunded	TBD	N	N	$617
2008		16-0302	Replace Electrical System at End of Useful Life	FIRP	2009	N	Y	$686
2008	EISU TA-35-2	35-0002	Replace Electrical System at End of Useful Life	FIRP	2005	N	Y	$1,236
2008		46-0024	Replace Electrical System at End of Useful Life	Unfunded	TBD	Y	N	$597
2008		50-0037	Replace HVAC System at End of Useful Life	Unfunded	TBD	N	N	$598
2008		53-0003	Replace Boilers at Expected End of Useful Life	FIRP	2008	Y	Y	$675
2008		55-0004	Replace Electrical System at End of Useful Life	Unfunded	TBD	Y	N	$15,905
2008		55-0006	Replace Chiller Subsystem at End of Useful Life	FIRP	2007	Y	Y	$2,354
2008		7142010800	Replacement of Degraded Natural Gas Distribution Lines at End of Useful Life	FIRP	2009	Y	Y	$7,754

1. Replacement-in-Kind is the replacement of building subsystems, which includes among other things roofs, electrical distributuion equipment, HVAC equipment (air handlers, compressors, chillers, boilers), building oontrol systems, paving and fire protection.
2. Optimum year is the year in which the replacement-in-kind subsystem should be replaced to maintain the facility and/or infrastructure functioning as required. Near-term replacements should be confirmed by condition assessments.
3. Funding type should match those in the spreadsheets in Attachment A. Use "Unfunded" if project currently has no source of funding identified.
4. Indicate whether project was identified as part of the FY2003 Deferred Maintenance Baseline as reported in the FY2004 Final TYCSP.

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment G



Mission Essential Facilities and Infrastructure

Attachment G
Mission Essential Facilities and Infrastructure

The Los Alamos National Laboratory has determined the set of NNSA Mission Essential Facilities and Infrastructure to include all facilities that are direct funded within the DP budget. Each of these facilities has a direct link to specific mission components with a NNSA/DP program sponsor. In addition, the rationale for direct funding DP facilities is consistent with the mission essential definition. Other NNSA facilities not included in this category, while still important to NNSA missions as a whole, are indirect funded. A description of activities and capabilities for each facility grouping is provided below.

Engineering Facilities

Engineering High Explosives Operations: These facilities include capabilities for HE packing and transportation; pressing; stock/material and mock HE preparation; inspection, machining, and assembly; disposal; plastics and foams, components and characterization; maintenance; radiography and burning ground; HE waste water treatment; and storage magazines.

Machine Shops Operations: The machine shops provide the capability to machine most of the components for the nuclear weapons research and development program such as components for the hydro test program, joint test assemblies, and sub-critical experiments. They also provide materials forming and joining capabilities.

Assembly and Storage Operations: These facilities are used to study all non-tritium aspects of gas transfer system technology, including materials and components, under a variety of environmental conditions.

Nondestructive and Environmental Testing Facilities Operations: These facilities provide the capability for component and subsystem environmental testing, including vibration, shock, temperature evaluation, and radiography in both destructive and nondestructive modes.

Dynamic Experimentation Facilities

DARHT Operations: DARHT, a radiographic, hydrodynamic test facility, is used to perform integrated, non-nuclear experiments designed to measure the many complex and dynamic aspects of implosion systems, shock physics, and high velocity impacts.

High Explosives Science Facilities Operations: These facilities provide the diverse experimental capabilities needed to synthesize, formulate, shape, and machine small-

scale HE components as well as the ability to characterize the fundamental materials properties and behavior, small-scale sensitivity, and performance of new, current, aged, and other high explosives formulations.

Firing Sites Operations: Firing sites host a variety of experiments to ensure the safety and surety of the enduring stockpile. The data obtained help validate the computer codes that extend detailed knowledge of materials subjected to extreme pressures and temperatures under shock to detonation transition conditions.

High Explosives Detonation Facilities Operations: These facilities provide the capability to design, develop, manufacture, and test detonator systems.

LANSCE Facilities

LINAC: The LINAC facilities include a high-intensity, 0.8 MW proton linear accelerator, which includes three stages of injector and accelerator.

WNR: At the WNR facilities, high-energy, un-moderated neutrons and protons are used for weapons-related and nuclear science basic and applied research.

Lujan Center: The Lujan Center facilities employ moderated spallation neutrons for condensed matter-science, engineering, and nuclear science research.

Waste Management Facilities

TA-50/TA-54 Operations: The RLWTF at TA-50 handles the collection of radioactive liquid waste generated at laboratories and shops across the site. The Solid Waste Management Facility at TA-54 handles al solid radioactive and hazardous/chemical waste, including low-level, mixed low-level, chemical, and TRU wastes.

WCCR/RANT Operations: The WCCR facility supports visual examination, repackaging, and size reduction activities. The RANT facility supports assembly of drums and standard waste boxes into payload assemblies for shipment to WIPP.

BTF Facility

BTF Operations: The BTF provides the only technical capability within DOE for non-nuclear component fabrication and beryllium research and development. Operations at the BTF include alloy development, foundry operations, inspections, and nondestructive testing, joining, machining, metallography, mechanical testing, and powder operations.

NMT Division Facilities

TA-55 Operations: TA-55 activities include plutonium casting, fabrication, machining, and metallurgy laboratories; plutonium recovery; metal preparation; and destructive analysis and nondestructive analysis laboratories.

CMR Operations: The CMR supports actinide analytical chemistry capabilities, including actinide, metallurgical, and materials properties testing systems.

Tritium Facilities

WETF and TSFF Facilities Operations: Tritium facilities have a primary role in the area of Stockpile Boost System Research and Development, support the long-term NTTL production, and cryogenic target research and development in support of NIF.

TA-18 Facilities

TA-18 Operations: These facilities support nuclear criticality research addressing national nuclear issues; training of various national groups in use of nuclear instrumentation for assay and safe handling, and development; and calibration of nuclear radiation measurement equipment.

ASCI Facility

Nicholas C. Metropolis Center for Modeling and Simulation (TA-3-2237): The Metropolis Center houses the Q supercomputer (with a peak speed of 20 trillion operations per second) and a theater for extremely high-resolution visualization. This facility supports the Laboratory' supercomputing capability for the ASCI program.

ICF Facilities

Target Fabrication Facility: This facility houses physical vapor deposition, chemical vapor deposition, polymer sciences, and precision manufacturing and assembly in support of inertial confinement fusion, high energy density physics experiments, and other research and development.

Trident Facilities: These facilities are used for experiments requiring high-energy laser light pulses, primarily in inertial confinement fusion, high-energy density physics, and basic research.

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Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
INCINERATOR BLDG	50-0037	20,913	GOOD	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
ADMINISTRATION BLDG	55-0001	13,446	POOR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
SUPPORT OFFICE BLDG	55-0002	18,352	FAIL	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
SUPPORT BLDG	55-0003	37,417	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
PLUTONIUM BLDG	55-0004	233,193	GOOD	FABRICATION (NUCLEAR)	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
WAREHOUSE	55-0005	16,941	POOR	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
UTILITY BLDG	55-0006	7,354	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
CALCIUM BLDG	55-0007	455	FAIL	MANUFACTURING/PRODUCTION RELATED LABORATORIES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
GENERATOR BLDG	55-0008	2,453	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
GUARD STATION #402	55-0009	1,160	ADEQUATE	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
Z PUMP HOUSE C117352	55-0010	1,147	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
Z PUMP HOUSE C117353	55-0011	1,073	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
OFFICE BLDG	55-0020	1,956	ADEQUATE	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
UTILIDOR	55-0021	341	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
MC&A SUPPORT FACILITY	55-0028	5,919	ADEQUATE	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
EDUCATIONAL SUPPORT	55-0039	8,237	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
NUCLEAR MATRLS STORAGE	55-0041	35,849	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
PROCESS SUPPORT FACILITY	55-0042	13,263	POOR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
ASSESSMENT BLDG	55-0043	163	GOOD	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
GENERATOR BLDG	55-0047	685	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
DRUM STORAGE BLDG	55-0055	112	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
FITS OFFICE BUILDING	55-0066	24,368	EXCELLENT	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
TRAILER	55-0107	720	FAIL	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
COLD SUPPORT OFC BLDG	55-0114	12,548	GOOD	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
TRAILER PO 6002R	55-0139	672	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
ASSESSMENT BUILDING #408	55-0142	5,060	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
TRAILER PO 6035R	55-0144	670	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
TRAILER PO 6035R	55-0145	672	FAIR	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
TUNNEL ACCESS	55-0148	404	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	TA-55
DRUM STORAGE BLDG	55-0185	2,427	POOR	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
STORAGE BLDG*	55-0249	592	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
PLUTONIUM FACILITY ACCESS	55-0264	4,261	FAIR	TRADITIONAL CLASSROOM BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
TENSION SUPPORT DOME*	55-0268	4,800	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
OFFICE BUILDING	55-0313	23,860	EXCELLENT	OFFICE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
STORAGE BLDG*	55-0314	3,850	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	Y	Nuclear	TA-55
RAD LIQUID TREATMENT	50-0001	42,285	FAIL	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
INDUST WASTE STAT TA-50-2	50-0002	2,719	FAIL	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
TRANSPORTABLE	50-0084	1,642	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
EMERGENCY GENERATOR BLDG	50-0188	238	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	Y	WFM	RLW
TRAILER PO8519K	50-0196	720	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
MORGAN SHED	50-0201	421	POOR	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	Y	WFM	RLW
ELECTRICAL SUBSTATION	50-0211	126	FAIL	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
LAB SUPPORT FAC AREA G	54-0002	1,617	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
CONTAMINATED DRUM STRG	54-0008	651	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
STORAGE BLDG	54-0011	1,136	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
EQUIPMENT SHELTER BLDG	54-0020	680	GOOD	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRANSPORTABLE	54-0022	1,680	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRU-WASTE DRUM PREP	54-0033	7,854	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRANSPORTABLE	54-0034	1,705	FAIR	OFFICE	DSW; All Campaigns	1; 6; 8	Y	WFM	TRU
TRAILER OFFICER	54-0037	547	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
PCB WASTE STORAGE FAC	54-0039	2,173	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0048	13,951	FAIR	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0049	25,587	GOOD	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0051	722	FAIL	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED MORGAN SHED	54-0055	288	POOR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0060	672	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRANSPORTABLE P# J4065	54-0064	1,680	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
PASSAGEWAY	54-0083	90	FAIR	OTHER	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
PASSAGEWAY	54-0084	62	FAIR	OTHER	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
TRAILER	54-0117	720	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0153	18,610	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED MORGAN SHED	54-0156	192	POOR	OTHER ENVIRONMENTAL R&D TEST BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0185	617	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0210	600	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0211	624	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0215	15,181	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0216	3,306	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0221	592	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0224	5,829	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0226	21,718	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0229	20,498	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0230	19,695	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0231	21,363	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TENSION SUPPORT DOME	54-0232	19,679	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
ROVER TRAILER	54-0240	296	POOR	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0242	510	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0244	1,422	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0245	1,434	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0246	1,420	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
DOUBLEWIDE TRAILER PO 8519K	54-0247	1,439	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TENSION SUPPORT DOME	54-0281	4,160	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRAILER PO 5927F	54-0288	673	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
UTILITY BUILDING	54-0289	240	FAIR	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRAILER	54-0290	626	POOR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODULAR BLDG	54-0296	360	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
HVAC EQUIP BLDG	54-0304	120	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRAILER	54-0306	355	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
CONTROL BLDG	54-0315	734	EXCELLENT	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRAILER	54-0324	458	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-0325	996	FAIR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODULAR BLDG	54-0367	702	FAIR	CHANGE HOUSES	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
DECON & VOLUME REDUCTION SYS BLDG	54-0412	13,284	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
TRAILER	54-0413	240	POOR	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODULAR OFFICE BLDG	54-0434	1,436	POOR	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED TRANSPORTAINER	54-0438	320	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 6; 8	N	WFM	TRU
MODIFIED TRANSPORTAINER	54-0439	240	FAIR	NUCLEAR CONTAMINATED STORAGE	DSW; All Campaigns	1; 6; 8	N	WFM	TRU
MODIFIED TRANSPORTAINER	54-0464	640	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
STORAGE BLDG	54-0473	1,835	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	Y	WFM	Solid Waste
MODIFIED TRANSPORTAINER	54-0483	160	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED TRANSPORTAINER	54-0486	384	EXCELLENT	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRANSPORTABLE	54-1050	2,036	ADEQUATE	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED MODULAR SHED	54-1051	360	EXCELLENT	OFFICE	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
MODIFIED MODULAR SHED	54-1052	360	EXCELLENT	OTHER	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
TRAILER	54-1058	360	FAIR	OTHER SERVICE BUILDINGS	DSW; All Campaigns	1; 2; 3; 5; 6; 8	N	WFM	Solid Waste
UNLOADING STATION 3-1264	03-1264	892	EXCELLENT	GENERAL STORAGE	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	Y	WFM	RLW
RAD LIQ WSTE DISPO	21-0257	4,315	POOR	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 2; 3; 5; 6; 7; 8	N	WFM	RLW
SIZE REDUCTION FACILITY	50-0069	3,760	FAIL	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 6; 8	N	WFM	TRU
TRU-WASTE NDA/NDE	54-0038	7,576	EXCELLENT	NUCLEAR WASTE PROCESSING AND/OR HANDLING BLDG	DSW; All Campaigns	1; 6; 8	Y	WFM	TRU
HE CHEMISTRY RESEARCH BUILDING	08-0021	20,731	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
LAB & OFFICE BLDG	15-0040	13,487	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
STORAGE BLDG	15-0041	328	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
MAGAZINE	15-0042	209	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
MAGAZINE	15-0043	181	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
EXERCISE FACILITY	15-0046	179	EXCELLENT	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0140	1,210	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
STORAGE BLDG	15-0182	86	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
LAB & OFFICE BLDG	15-0183	20,039	FAIR	LABORATORIES, GENERAL (NON-NUCLEAR)	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
DETECTION CHAMBER	15-0186	2,338	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
CARPENTER SHOP	15-0233	1,617	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
READY MAGAZINE	15-0241	142	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
MAKE UP BLDG	15-0242	455	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
MAIN MAGAZINE	15-0243	516	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
DETECTOR DIODE PREP LAB	15-0280	2,155	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
CONFINEMENT & TEXT FAC	15-0285	3,920	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
TRANSPORTABLE	15-0305	3,552	FAIR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
MULTIDIAGNOSTIC HYDROTEST FAC	15-0306	2,830	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
DARHT FACILITY	15-0312	62,862	EXCELLENT	OPTICS LABORATORIES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
RADIOGRAPHIC SUPPLY LAB	15-0313	24,668	EXCELLENT	OTHER PHYSICS LABORATORY	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
CDU BLAST PROTECTION	15-0319	108	EXCELLENT	OTHER SUPPORT LABS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
FIRING ACCESS CONTROL FACILITY	15-0446	3,103	FAIR	CHANGE HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
TRAILER	15-0447	720	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
TRANSPORTABLE	15-0456	1,680	FAIR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
TRAILER PO 9320D	15-0468	672	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
TRAILER	15-0476	672	FAIR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
HYDRODYMIC TEST OPERATION CENTER	15-0484	7,386	FAIR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
OFFICE BUILDING	15-0494	14,440	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
DARHT VESSEL PREPARATION FACILITY	15-0534	7,964	EXCELLENT	MATERIALS LABORATORY	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
SHOP BUILDING	15-0563	3,655	EXCELLENT	CARPENTRY SHOPS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
CALIBRATION BUILDING	15-0564	3,200	EXCELLENT	EQUIPMENT CALIBRATION SHOPS	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0603	615	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
STORAGE BUILDING	15-0604	613	EXCELLENT	GENERAL STORAGE	DSW; Science; PM&C	2; 3; 7; 8; 9;	Y	Dynamic Experimentation	DARHT
GUARD STATION	69-0001	200	EXCELLENT	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
DOUBLEWIDE TRAILER	69-0002	1,680	EXCELLENT	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
TRAILER PO 7509E	69-0005	715	POOR	OFFICE	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
GUARD HOUSE STA #431	69-0026	48	EXCELLENT	GUARD HOUSES	DSW; Science; PM&C	2; 3; 7; 8; 9;	N	Dynamic Experimentation	DARHT
BERYLLIUM TECHNOLOGY FACILITY	03-0141	32,269	GOOD	LABORATORIES, GENERAL (NUCLEAR)	DSW; Science; Engineering; ICFI&HYC; PM&C; Readiness	2; 3; 8; 9	Y	BTF	BTF
CMR LABORATORY	03-0029	566,849	GOOD	NUCLEAR PHYSICS LABORATORY	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
GUARD STATION #321	03-0503	349	FAIR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
EQUIPMENT SHELTER	03-0564	80	FAIR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
MECHANICAL BLDG	03-0586	336	POOR	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
GUARD STA #331	03-1610	288	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
GUARD STA #332	03-1614	64	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
GUARD STATION	03-1615	64	POOR	GUARD HOUSES	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
STORAGE BLDG	03-2206	3,028	FAIR	GENERAL STORAGE	DSW; Engineering; PM&C	2; 3; 6; 8; 9	N	Nuclear	CMR
PHERMEX CHAMBER/AMP	15-0184	10,144	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
POWER CONTROL BLDG	15-0185	12,698	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
POWER SUPPLY BLDG	15-0189	452	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
TUNNEL	15-0198	905	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
TUNNEL	15-0199	2,027	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
TUNNEL	15-0200	702	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
TUNNEL	15-0201	870	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
MULTIDIAG OPERATIONS	15-0310	3,194	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; PM&C	3; 8	N	Dynamic Experimentation	PHERMEX
SHOPS BLDG	16-0202	26,448	GOOD	MACHINE SHOPS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Y	Tritium	WETF
TRITIUM PROCESSING FACILITY	16-0205	9,186	GOOD	PRODUCTION/MANUFACTURING BUILDINGS (NUCLEAR)	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Y	Tritium	WETF
PROCESS BLDG	16-0450	14,460	FAIL	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	Y	Tritium	WETF
LABORATORY BLDG	21-0152	12,480	POOR	LABORATORIES, GENERAL (NUCLEAR)	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	N	Tritium	TSFF
EQUIPMENT BLDG	21-0166	1,302	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	N	Tritium	TSFF
EQUIPMENT BLDG	21-0167	1,302	FAIL	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	N	Tritium	TSFF

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
TRITIUM SCI & TECH BLDG	21-0209	34,272	GOOD	CHEMICAL LABORATORY (NUCLEAR)	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	N	Tritium	TSFF
MECHANICAL EQUIP BLDG*	21-0370	900	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Engineering; ICFI&HYC; Readiness	2; 3; 8; 9	N	Tritium	TSFF
GRINDING BLDG	16-0054	3,789	GOOD	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
CHANGE HOUSE	16-0193	13,444	FAIL	CHANGE HOUSES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
TRAILER	16-0251	500	EXCELLENT	MACHINE SHOPS	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
PROCESS BLDG	16-0260	36,072	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0261	3,945	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0263	3,956	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
HE ASSEMBLY/REST HOU	16-0265	1,248	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0267	1,128	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
EQUIPMENT STORAGE BLDG	16-0277	3,277	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
EQUIPMENT STORAGE BLDG	16-0278	3,360	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
INSPECTION BLDG	16-0280	5,918	POOR	LABORATORIES, GENERAL (NON-NUCLEAR)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0281	4,396	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MUSEUM	16-0283	4,093	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
EQUIP STORAGE BLDG	16-0285	3,742	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
COFFEE HOUSE	16-0286	355	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
PROCESS BLDG	16-0302	17,811	FAIR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
PLASTICS BLDG	16-0304	19,513	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
PLASTICS BLDG	16-0305	5,402	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
PLASTICS BLDG	16-0306	19,639	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
PLASTICS BLDG	16-0307	7,716	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
PROCESS BLDG	16-0308	322	EXCELLENT	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
PROCESS EQUIP STG	16-0332	12,000	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
STORAGE BLDG	16-0360	3,911	FAIR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
WATER TREATMENT SHED*	16-0363	141	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
CONTROL SHELTER	16-0389	231	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
TRUCK WASHING BLDG	16-0400	1,183	POOR	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
ASSEMBLY BLDG	16-0410	10,187	POOR	ASSEMBLY (NUCLEAR)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0411	2,342	POOR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
REST HOUSE	16-0413	1,247	FAIR	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
STORAGE BLDG	16-0414	8,488	FAIR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
REST HOUSE	16-0415	4,559	EXCELLENT	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
HE PRESSING	16-0430	19,168	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
REST HOUSE	16-0435	4,439	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
REST HOUSE	16-0437	4,323	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
LEAN TO STORAGE SHED	16-0453	288	EXCELLENT	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
GARAGE FACILITY	16-1507	1,200	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
WASTE WATER TREATMENT FACILITY	16-1508	928	ADEQUATE	OTHER SERVICE BUILDINGS	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
STORAGE BLDG	37-0001	188	FAIL	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0002	192	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0003	416	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0004	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0005	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0006	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0007	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0008	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0009	416	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0010	416	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0011	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0012	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0013	1,144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0014	1,144	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0015	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0016	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0017	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0018	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE

Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
MAGAZINE	37-0019	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0020	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0021	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
MAGAZINE	37-0022	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0023	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0024	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0025	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
MAGAZINE	37-0026	800	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science	2; 3; 4; 5; 8	Y	Engineering	HE
STORAGE BLDG	37-0027	800	POOR	GENERAL STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	HE
NONDESTRUCTIVE TESTING	08-0022	9,956	FAIR	LABORATORIES, GENERAL (NUCLEAR)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
BETATRON BLDG	08-0023	4,745	ADEQUATE	LABORATORIES, GENERAL (NUCLEAR)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
FLASH X-RAY R&D	08-0024	2,231	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Nondestructive Testing
UTILITY BLDG	08-0025	99	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Nondestructive Testing
STORAGE/SALVAGE BLDG	08-0026	638	EXCELLENT	PROGRAMMATIC GENERAL STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Nondestructive Testing
GUARD SHACK	08-0028	87	EXCELLENT	GENERAL STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Nondestructive Testing
MAGAZINE*	08-0032	224	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
SOURCE STORAGE BLDG	08-0065	207	FAIR	NUCLEAR WASTE STORAGE FACILITY	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
LAB/OFFICE BLDG	08-0070	8,807	POOR	LABORATORIES, GENERAL (NUCLEAR)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
ACCIDENT RESPONSE NDE FAC	08-0120	5,099	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Nondestructive Testing
STORAGE BLDG	11-0001	618	POOR	GENERAL STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Environmental Testing
CONTROL BLDG*	11-0002	831	EXCELLENT	SECURE STORAGE FACILITY	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Environmental Testing
CONTROL BUILDING	11-0003	529	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Environmental Testing
CONTROL BUILDING	11-0004	706	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Environmental Testing
SHOP/OFFICE BLDG	11-0024	3,685	POOR	MACHINE SHOPS	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Environmental Testing
VIBRATION TEST BLDG	11-0030	2,001	FAIR	LABORATORIES, GENERAL (NUCLEAR)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Environmental Testing
EQUIPMENT SHELTER	11-0033	66	FAIL	GENERAL STORAGE	DSW; Engineering; PM&C	1; 3; 5; 6; 8	N	Engineering	Environmental Testing
MAGAZINE	11-0036	82	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Environmental Testing
WEAPONS COMPONENT TEST FACILITY	16-0207	22,075	GOOD	NUCLEAR PHYSICS LABORATORY	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Environmental Testing
REST HOUSE	16-0301	6,795	EXCELLENT	NUCLEAR CHEMICAL PROCESS FACILITIES	DSW; Engineering; PM&C	1; 3; 5; 6; 8	Y	Engineering	Environmental Testing
STORAGE FACILITY	06-0124	7,057	EXCELLENT	ENVIRONMENTAL CONTROLLED STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
ENVIRONMENTAL TEST	09-0051	2,122	EXCELLENT	MATERIALS LABORATORY	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
WAREHOUSE & PLASTIC SHOP	22-0005	6,152	FAIL	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0007	51	ADEQUATE	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
PROCESS BLDG	22-0008	52	GOOD	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0009	10	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0010	10	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0011	10	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0012	10	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0014	51	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
STORAGE MAGAZINE	22-0015	52	ADEQUATE	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0016	101	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0017	99	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0018	103	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0019	98	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0020	102	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
MAGAZINE	22-0021	51	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0022	98	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0023	52	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0024	52	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
GUARD HOUSE	22-0032	188	FAIL	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
LABORATORY BLDG	22-0034	5,008	FAIR	OTHER SUPPORT LABS	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	22-0035	176	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
SHOPS BLDG	22-0052	7,264	POOR	MACHINE SHOPS	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0066	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0067	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0068	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
STORAGE BLDG	22-0069	480	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
OFFICE BLDG	22-0090	13,506	POOR	OFFICE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
DETONATOR FACILITY	22-0091	22,774	POOR	OTHER SUPPORT LABS	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
HIGH EXPLOSIVE WING	22-0093	7,615	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
SOLVENT STORAGE SHED	22-0095	285	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
DAY MAGAZINE	22-0096	283	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
STORAGE BUILDING	22-0110	5,000	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
BUNKER	39-0175	506	EXCELLENT	OTHER	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
FIRING POINT	40-0005	1,533	FAIL	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
PREPARATION BLDG	40-0006	168	EXCELLENT	ASSEMBLY FACILITIES	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
MAGAZINE	40-0007	73	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering; Readiness	3; 7; 8	Y	Dynamic Experimentation	HE Detonator
TRANSPORTABLE	40-0090	1,587	ADEQUATE	OFFICE	DSW; Science; Engineering; Readiness	3; 7; 8	N	Dynamic Experimentation	HE Detonator
OFFICE	09-0020	189	POOR	GUARD HOUSES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
LAB & OFFICE BLDG	09-0021	25,476	FAIL	LABORATORIES, GENERAL (NUCLEAR)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0022	9	POOR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0023	9	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0024	9	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0025	10	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0026	9	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0027	9	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
SHOP BUILDING	09-0028	2,822	POOR	MACHINE SHOPS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
STOCK & EQUIP BLDG	09-0029	4,675	FAIL	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
GAS STORAGE	09-0030	242	FAIR	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
SOLVENT STORAGE	09-0031	330	FAIR	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
LAB/OFFICE BLDG	09-0032	2,549	FAIL	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
LAB BLDG	09-0033	949	FAIL	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
PROCESS LAB	09-0034	1,771	POOR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
PROCESS LAB	09-0035	1,911	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0036	210	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
PROCESS LAB	09-0037	1,591	FAIR	CHEMISTRY LABORATORY (NON-NUCLEAR)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
PROCESS LAB	09-0038	1,594	EXCELLENT	CHEMISTRY LABORATORY (NON-NUCLEAR)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MAGAZINE	09-0039	214	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
ENVIRONMENTAL CHAMBERS	09-0040	1,237	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PROCESS LAB	09-0042	1,906	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PROCESS LAB	09-0043	1,768	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0044	210	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PROCESS LAB	09-0045	1,589	EXCELLENT	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
STORAGE BLDG	09-0046	1,771	FAIR	MANUFACTURING INSPECTION BUILDING	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MAGAZINE	09-0047	210	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MACHINING BLDG	09-0048	3,557	POOR	MACHINE SHOPS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MAGAZINE	09-0049	210	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
RECEIVING & SHIPPING BLDG	09-0050	576	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0052	207	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0053	208	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0054	400	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	09-0055	876	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
REFRIGERATOR SHELTER	09-0204	39	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
DAY MAGAZINE	09-0208	50	FAIL	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
SHOP BLDG	09-0214	2,468	FAIL	CARPENTRY SHOPS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
BOILER BLDG	09-0265	131	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
TRANSPORTABLE	09-0272	1,698	FAIL	OFFICE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
TRANSPORTABLE	09-0273	1,701	FAIR	OFFICE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
STEAM PLANT BOILER #13	09-0282	1,200	EXCELLENT	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
STORAGE BUILDING	14-0006	669	FAIL	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	14-0022	98	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
CONTROL BUILDING	14-0023	563	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MAGAZINE	14-0024	33	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
EXPLOSIVE PREP BLDG	14-0030	246	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
CONTROL BLDG	14-0034	342	POOR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
INSTRUMENTATION BLDG	14-0040	80	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
ASSEMBLY & STORAGE BLDG	14-0043	1,000	EXCELLENT	ASSEMBLY FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
PREPARATION BLDG	36-0011	688	POOR	ASSEMBLY FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
CONTROL BUNKER	36-0012	2,186	FAIR	COMMUNICATIONS/CONTROL CENTERS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
INSTRUMENT CHAMBER	36-0013	110	POOR	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
ATAC BALLISTICS TEST FACILITY	36-0086	3,012	FAIR	OTHER SUPPORT LABS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
TRAILER	36-0127	96	EXCELLENT	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
LABORATORY & OFFICE BLDG	40-0001	6,095	FAIR	OFFICE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0002	73	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PREPARATION BLDG	40-0003	168	ADEQUATE	GENERAL STORAGE	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
FIRING POINT	40-0004	572	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
FIRING POINT	40-0008	2,200	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
FIRING POINT	40-0009	4,520	GOOD	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
MAGAZINE	40-0010	66	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PREPARATION & UTILITY BLD	40-0011	909	POOR	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
FIRING POINT	40-0012	1,342	POOR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0013	124	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
PREPARATION BLDG	40-0014	168	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
FIRING POINT	40-0015	605	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	Y	Dynamic Experimentation	HE Science
UTILITY BLDG	40-0016	224	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
UTILITY BLDG	40-0018	224	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MACHINE SHOP	40-0023	8,204	ADEQUATE	MATERIALS HANDLING OR PROCESSING FACILITIES	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0036	67	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0037	67	GOOD	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0038	118	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
MAGAZINE	40-0039	118	EXCELLENT	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
MAGAZINE	40-0040	417	FAIR	MAGAZINE (AMMUNITION STORAGE)	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
LABORATORY BLDG	40-0041	417	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
SOLVENT SHED	40-0045	99	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
EQUIPMENT BLDG	40-0058	91	FAIL	OTHER SERVICE BUILDINGS	DSW; Science; Engineering	2; 3; 7; 8	N	Dynamic Experimentation	HE Science
CONTROL BLDG	36-0003	1,239	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0004	624	FAIL	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0005	624	POOR	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0006	658	FAIL	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
PREPARATION BLDG	36-0007	624	FAIR	ASSEMBLY FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0008	676	POOR	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0009	67	FAIR	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0010	416	FAIR	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
INSTRUMENT CHAMBER	36-0019	110	ADEQUATE	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
INSTRUMENT CHAMBER	36-0020	110	ADEQUATE	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
LAB/EXERCISE FACILITY	36-0048	399	POOR	CALIBRATION LABORATORY	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
CONTROL BLDG	36-0055	732	FAIR	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
TRAILER	36-0082	665	POOR	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
MAGAZINE	36-0083	1,040	FAIR	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
SHOP	36-0104	600	FAIR	WELDING SHOPS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
CONTROL BUNKER	36-0107	1,017	GOOD	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
SHRAPNEL PROTECTION	36-0120	78	EXCELLENT	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
LAB OFFICE BLDG	39-0002	13,238	FAIL	LABORATORIES, GENERAL (NON-NUCLEAR)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
MAGAZINE	39-0003	400	GOOD	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
TRIM BLDG	39-0004	839	FAIR	MATERIALS HANDLING OR PROCESSING FACILITIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
READY MAGAZINE	39-0005	144	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
FIRING CHAMBER #1	39-0006	561	ADEQUATE	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
GUN BLDG	39-0056	276	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
FIRING CHAMBER	39-0057	578	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
STORAGE BLDG	39-0062	1,536	GOOD	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
EQUIPMENT SHELTER	39-0063	262	FAIR	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
EQUIPMENT SHELTER	39-0064	262	EXCELLENT	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
CAPACITOR BANK ENCLOSURE	39-0067	280	ADEQUATE	OTHER SERVICE BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
STORAGE BLDG	39-0068	252	EXCELLENT	GENERAL STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites

Mission Essential Facilities and Infrastructure

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
GUN BLDG	39-0069	2,613	FAIR	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
MAGAZINE	39-0077	205	ADEQUATE	MAGAZINE (AMMUNITION STORAGE)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
FIRING CHAMBER	39-0088	1,386	POOR	OTHER SUPPORT LABS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
GUN GAS SUPPORT BLDG	39-0089	1,800	EXCELLENT	LABORATORIES, GENERAL (NUCLEAR)	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
BUNKER	39-0095	1,099	EXCELLENT	OTHER ELECTRICAL/ELECTRONICS LABORATORY	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
BUNKER	39-0097	2,072	EXCELLENT	OTHER MATERIALS R&D TEST BUILDINGS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
BRANCH SHOPS BLDG	39-0098	5,214	FAIR	MACHINE SHOPS	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
TRAILER	39-0101	300	FAIR	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
TRANSPORTABLE	39-0103	1,680	EXCELLENT	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
TRANSPORTABLE	39-0107	1,680	EXCELLENT	OFFICE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
PULSED POWER BLDG	39-0111	1,215	EXCELLENT	PHYSICS LABORATORIES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
NEUTRON FLUX STORAGE	39-0138	96	EXCELLENT	HAZARDOUS/FLAMMABLE STORAGE	Science; Engineering; ICFI&HYC	2; 3; 8; 9	N	Dynamic Experimentation	Firing Sites
GUARD STATION #468	39-0183	108	EXCELLENT	GUARD HOUSES	Science; Engineering; ICFI&HYC	2; 3; 8; 9	Y	Dynamic Experimentation	Firing Sites
TECH SHOP	03-0039	152,567	GOOD	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	Shops
TECH SHOPS ADDITION	03-0102	29,365	ADEQUATE	NUCLEAR CONTAMINATED STORAGE	DSW; Science	2; 3; 4; 5; 8	N	Engineering	Shops
SHOPS BLDG‡	16-0202	26,448	GOOD	MACHINE SHOPS	DSW; PM&C	3; 4; 5; 8	Y	Engineering	Assembly & Storage
LAB OFFICE BLDG	53-0001	81,939	FAIL	OFFICE	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
EQUIPMENT TEST LAB	53-0002	25,611	POOR	OTHER BUILDINGS TRADE SHOPS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
LANSCE ACCELERATOR BLDG	53-0003	337,730	POOR	ACCELERATOR BUILDING	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
OPERATIONS BLDG	53-0004	16,445	POOR	COMMUNICATIONS/CONTROL CENTERS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
SERVICE CORRIDOR	53-0005	1,751	ADEQUATE	OTHER	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
LANSCE/WNR BUILDING	53-0007	33,463	POOR	ACCELERATOR BUILDING	Science; Engineering	2; 8	Y	LANSCE	WNR
PROTON STG. RING FACILITY	53-0008	12,828	FAIR	ACCELERATOR BUILDING	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
HIGH RES BEAM FACILITY	53-0010	1,736	EXCELLENT	APPLIED PHYSICS LABORATORY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
WNR LAB SUPPORT BLDG	53-0015	3,422	EXCELLENT	CHEMICAL LABORATORY (NUCLEAR)	Science; Engineering	2; 8	Y	LANSCE	Lujan
WAREHOUSE	53-0016	1,618	EXCELLENT	GENERAL STORAGE	Science; Engineering	2; 8	Y	LANSCE	Lujan
DEVELOPMENT AND TESTING	53-0022	4,136	FAIR	APPLIED SCIENCE LABORATORY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
DATA ANALYSIS CTR	53-0024	13,761	ADEQUATE	COMPUTER BUILDINGS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
ACCELERATOR MAINT BLDG	53-0025	4,511	ADEQUATE	MACHINE SHOPS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
EXPERIMENTAL AREA BUILDING	53-0029	2,133	POOR	PHYSICS LABORATORIES	Science; Engineering	2; 8	Y	LANSCE	WNR
NEUTRON SCATTERING EXPER	53-0030	20,526	FAIL	ACCELERATOR BUILDING	Science; Engineering	2; 8	Y	LANSCE	Lujan
DETECTOR BLDG	53-0034	300	FAIR	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR SHED	53-0035	300	FAIR	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR SHED	53-0036	300	ADEQUATE	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	N	LANSCE	WNR
GUARD STATION	53-0037	126	FAIL	GENERAL STORAGE	Science; Engineering	2; 8	N	LANSCE	WNR
SHOP & STORARG BLDG	53-0039	2,416	POOR	MACHINE SHOPS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
MED RESOLUTION SPECT	53-0315	1,830	GOOD	OTHER PHYSICS LABORATORY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
NEUTRINO EXPER SERVI	53-0364	1,600	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
PUMP SHED	53-0368	315	POOR	OTHER SERVICE BUILDINGS	Science; Engineering	2; 8	Y	LANSCE	WNR
WNR TARGET CELL #4	53-0369	1,694	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR BLDG	53-0370	150	FAIR	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR BLDG	53-0371	160	GOOD	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR BLDG	53-0372	317	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
METAL DETECTOR SHED	53-0374	80	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
METAL DETECTOR SHED	53-0382	105	POOR	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
TRAILER	53-0387	744	FAIR	ELECTRICAL/ELECTRONICS LABORATORY	Science; Engineering	2; 8	N	LANSCE	WNR
TRAILER	53-0505	312	EXCELLENT	CHANGE HOUSES	Science; Engineering	2; 7; 8	N	LANSCE	LINAC

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	Gross Square Feet	Current Condition	Current Use	Linkage to Stockpile Stewardship Program	Linkage to Defense Programs Priorities	Enduring?	RTBF Mission	RTBF Mission Component
TRAILER	53-0510	320	EXCELLENT	CHANGE HOUSES	Science; Engineering	2; 7; 8	N	LANSCE	LINAC
TRAILER	53-0541	523	POOR	OFFICE	Science; Engineering	2; 8	N	LANSCE	WNR
TRAILER	53-0573	233	FAIL	OFFICE	Science; Engineering	2; 8	N	LANSCE	WNR
ML NEUTRON SCATTERING FAC	53-0622	27,697	FAIR	OFFICE	Science; Engineering	2; 8	Y	LANSCE	Lujan
METAL DETECTOR SHED	53-0679	288	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	2; 7; 8	N	LANSCE	LINAC
TRAILER	53-0773	320	FAIL	GENERAL STORAGE	Science; Engineering	2; 7; 8	N	LANSCE	LINAC
WNR BLDG #7	53-0823	109	POOR	OTHER PHYSICS LABORATORY	Science; Engineering	2; 8	Y	LANSCE	WNR
TRANSPORTABLE	53-0898	1,690	EXCELLENT	OFFICE	Science; Engineering	2; 7; 8	N	LANSCE	LINAC
PROCESS EQUIPMENT BUILDING	53-0945	4,677	EXCELLENT	NUCLEAR WASTE STORAGE FACILITY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
PUMP HOUSE	53-0954	172	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
EQUIPMENT BLDG	53-0964	1,551	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
EQUIPMENT BLDG	53-0979	2,651	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	2; 8	Y	LANSCE	Lujan
STORAGE BLDG	53-1031	528	GOOD	GENERAL STORAGE	Science; Engineering	2; 8	Y	LANSCE	WNR
METAL BLDG	53-1090	300	EXCELLENT	NUCLEAR CONTAMINATED STORAGE	Science; Engineering	2; 8	Y	LANSCE	WNR
DETECTOR SHED	53-1138	96	EXCELLENT	OTHER PHYSICS LABORATORY	Science; Engineering	2; 7; 8	Y	LANSCE	LINAC
SEMI-TRAILER	53-1199	500	FAIR	PHYSICS LABORATORIES	Science; Engineering	2; 7; 8	N	LANSCE	LINAC
EXPERIMENTAL BLDG	53-1265	1,027	EXCELLENT	OTHER SERVICE BUILDINGS	Science; Engineering	2; 8	Y	LANSCE	WNR
STAGING AREA	18-0001	1,051	FAIL	FABRICATION FACILITY	Engineering	2; 8	N	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0023	2,681	ADEQUATE	LABORATORIES, GENERAL	Engineering	2; 8	N	TA-18	TA-18
VAULT	18-0026	287	GOOD	NUCLEAR CONTAMINATED STORAGE	Engineering	2; 8	N	TA-18	TA-18
WAREHOUSE	18-0028	4,782	FAIL	PROGRAMMATIC GENERAL STORAGE	Engineering	2; 8	N	TA-18	TA-18
MAIN BLDG	18-0030	23,367	FAIL	OFFICE	Engineering	2; 8	N	TA-18	TA-18
UTILITY BLDG	18-0031	2,093	FAIL	OTHER SERVICE BUILDINGS	Engineering	2; 8	N	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0032	3,267	GOOD	LABORATORIES, GENERAL (NUCLEAR)	Engineering	2; 8	N	TA-18	TA-18
CRITICAL ASSEMBLY BLDG	18-0116	5,783	ADEQUATE	LABORATORIES, GENERAL (NUCLEAR)	Engineering	2; 8	N	TA-18	TA-18
STORAGE BLDG	18-0119	1,242	FAIL	NUCLEAR CONTAMINATED STORAGE	Engineering	2; 8	N	TA-18	TA-18
STORAGE BLDG	18-0122	1,372	FAIL	GENERAL STORAGE	Engineering	2; 8	N	TA-18	TA-18
PULSED ACCELERATOR BLDG	18-0127	9,537	POOR	NUCLEAR PHYSICS LABORATORY	Engineering	2; 8	N	TA-18	TA-18
REACTOR SUB-ASSY BLDG	18-0129	6,570	FAIL	NUCLEAR PHYSICS LABORATORY	Engineering	2; 8	N	TA-18	TA-18
WAREHOUSE	18-0138	1,344	FAIL	NUCLEAR CONTAMINATED STORAGE	Engineering	2; 8	N	TA-18	TA-18
ULTRA-SONIC CLEANING BLDG	18-0141	963	FAIL	NUCLEAR PHYSICS LABORATORY	Engineering	2; 8	N	TA-18	TA-18
OFFICE BLDG	18-0147	1,298	FAIL	OFFICE	Engineering	2; 8	N	TA-18	TA-18
SHEBA CRITICAL BLDG	18-0168	400	FAIR	NUCLEAR PHYSICS LABORATORY	Engineering	2; 8	N	TA-18	TA-18
ACCELERATOR DEV LAB	18-0227	2,838	ADEQUATE	ACCELERATOR BUILDING	Engineering	2; 8	N	TA-18	TA-18
BUTLER BLDG	18-0256	920	ADEQUATE	APPLIED PHYSICS LABORATORY	Engineering	2; 8	N	TA-18	TA-18
TRAILER PO 9288Z	18-0257	1,440	FAIR	OFFICE	Engineering	2; 8	N	TA-18	TA-18
TRAILER PO 8797R	18-0258	1,440	POOR	OFFICE	Engineering	2; 8	N	TA-18	TA-18
TRAILER	18-0288	840	FAIR	OFFICE	Engineering	2; 8	N	TA-18	TA-18
STORAGE BLDG	18-0297	874	EXCELLENT	GENERAL STORAGE	Engineering	2; 8	N	TA-18	TA-18
STRATEGIC COMPUTER COMPLEX	03-2327	368,900	EXCELLENT	COMPUTER BUILDINGS	ASCC	2; 3; 8	Y	ASCI	ASCI
LASER BLDG	35-0125	59,334	GOOD	OPTICS LABORATORIES	ICFI&HYC	2; 3; 8	Y	ICF	ICF
LAB OPTICS EVALUATION	35-0189	13,048	EXCELLENT	OPTICS LABORATORIES	ICFI&HYC	2; 3; 8	Y	ICF	ICF
TARGET FABRICATION BLDG	35-0213	84,818	ADEQUATE	NUCLEAR PHYSICS LABORATORY	ICFI&HYC	2; 3; 8	Y	ICF	ICF
POLYMER LABORATORY	35-0455	4,493	ADEQUATE	OTHER CHEMISTRY LABORATORY	ICFI&HYC	2; 3; 8	Y	ICF	ICF

Attachment G
Mission Essential Facilities and Infrastructure
Deletions from FY04 Mission Essential List

NNSA Mission Essential Facilities & Infrastructure Name	Facility Identification Number	RTBF Mission	RTBF Mission Component	Reason for Deletion
GUARD STATION	08-0020	Engineering	Engineering Testing	No specific link to a DP program sponsor
BADGE READER	16-0973	Tritium	Tritium	No specific link to a DP program sponsor
MODULAR OFFICE BLDG	16-0329	Tritium	Tritium	No specific link to a DP program sponsor
ROVER TRAILER	16-0367	Engineering	Assembly & Storage	No specific link to a DP program sponsor
UNDERGROUND VAULT	41-0001	Engineering	Assembly & Storage	No specific link to a DP program sponsor
TRAILER PO 9765X	36-0210	Dynamic Experimentation	Firing Sites	Temporary Structure; D&D'ed
TRAILER PO 9765X	36-0211	Dynamic Experimentation	Firing Sites	Temporary Structure; D&D'ed
TRAILER	50-0215	WFM	RLW	Roving trailer; Removed from FIMS
SHOWER TRAILER	54-0277	WFM	Solid Waste	Roving trailer; Relocated for reuse; No specific link to a DP program sponsor
MODIFIED TRANSPORTAINER	54-0452	WFM	TRU	Physically connected to another structure; No longer carried in FIMS as a separate structure

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Attachment G
Mission Essential Facilities and Infrastructure
Notes

Additions to FY06 list are denoted in blue text and with an * after the facility name.

Stockpile Stewardship Program Linkages
DSW - Directed Stockpile Work: Includes all work associated with weapon system as detailed in the MTEs for DSW in the FY05 budget.
Science - Science Campaigns: Includes Primary Assessment Technologies; Dynamic Material Properties; Advanced Radiography; and Secondary Assessment Technologies.
Engineering - Engineering Campaigns: Includes Enhanced Surety; Weapons Systems Engineering Assessment Technology; Nuclear Survivability; Enhanced Surveillance; Advanced Design and Production Technologies (ADAPT); and Microsystems and Engineering Sciences Application (MESA).
ICFI&HYC - Inertial Confinement Fusion Ignition and High Yield Campaign.
ASCC - Advanced Simulation and Computing Campaign.
PM&C - Pit Manufacturing and Certification Campaign.
Readiness - Readiness Campaigns: Includes Tritium Readiness; Stockpile Readiness; HE/Assembly Readiness; and Nonnuclear Readiness.
STA - Secure Transportation Asset.

Defense Program Priorities
1. Meet the immediate needs of the stockpile including replacement of limited-life components (LLCs), repairing warheads as directed by the Production and Planning Directive (P&PD)
2. Sustain the long-term leadership and vitality in science and engineering to support national security. Develop and apply comprehensive methodologies, plans, and tools for qualification, assessment, and certification including hydrodynamic testing, simulation, engineering, materials science, and high-energy-density physics experiments (HEDP).
3. Conduct surveillance of the stockpile to assess the safety, security, and reliability of the warheads including disassembly and inspection of warheads, conducting flight and laboratory tests, enhancing surveillance techniques, and supporting annual assessment of certification.
4. Working with the DoD, develop options and requirements for the future nuclear deterrent to transform the cold war stockpile to meet the needs of the twenty first century.
5. Extend the lifetimes of warheads currently in the stockpile, incorporate modern technologies, and enhanced surety features where necessary in accordance with Nuclear Weapons Council (NWC) planning.
6. Restore pit-manufacturing capability with priority to the W88.
7. Plan, complete, and operate NIF (National Ignition Facility), MESA, TEF (Tritium Extraction Facility), and all capital projects within the Integrated Construction Program Plan (ICPP) on schedule and within budget.
8. Maintain a responsive, robust nuclear weapons complex infrastructure, emphasizing the importance of Integrated Safeguards and Security Management (ISSM). Store and dismantle retired warheads and dispose of weapon components removed from the stockpile. Working with NA-50, create a smooth transition plan from FIRP to RTBF maintenance in FY 2009.
9. Develop an enhanced readiness to conduct nuclear tests.
10. Continue to renew the workforce by attracting, training, and retaining the next generation of personnel to serve the nation's nuclear security needs.

Mission Essential Facilities Sorting Hierarchy
Structures in Attachment G have been sorted based on the following prioritization of RTBF operations of facilities :
1. TA-55 Operations
2. TA-50/TA-54 Operations
3. WCCR/RANT Operations
4. DARHT Operations
5. BTF Operations
6. CMR Operations
7. PHERMEX Operations (will be closing in FY04)
8. Tritium Facilities Operations
9. Engineering High Explosives Operations
10. Nondestructive and Environmental Testing Facilities Operations
11. High Explosives Detonation Facilities Operations
12. High Explosives Science Facilities Operations
13. Firing Sites Operations
14. Machine Shops Operations
15. Assembly and Storage Operations
16. LANSCE Operations
17. TA-18 Operations

The following Mission Essential Facilities are not RTBF funded but supported by individual Campaigns:
ASCI (Advanced Simulation and Computing Campaign)
ICF (Inertial Confinement Fusion Ignition and High Yield Campaign)

Although mission related activities ceased in PHERMEX facilities during FY04, RTBF direct funding is currently supporting work to safely and securely shut down the structures.

‡TA-16-0302 supports both Tritium and Engineering Assembly and Storage functions.

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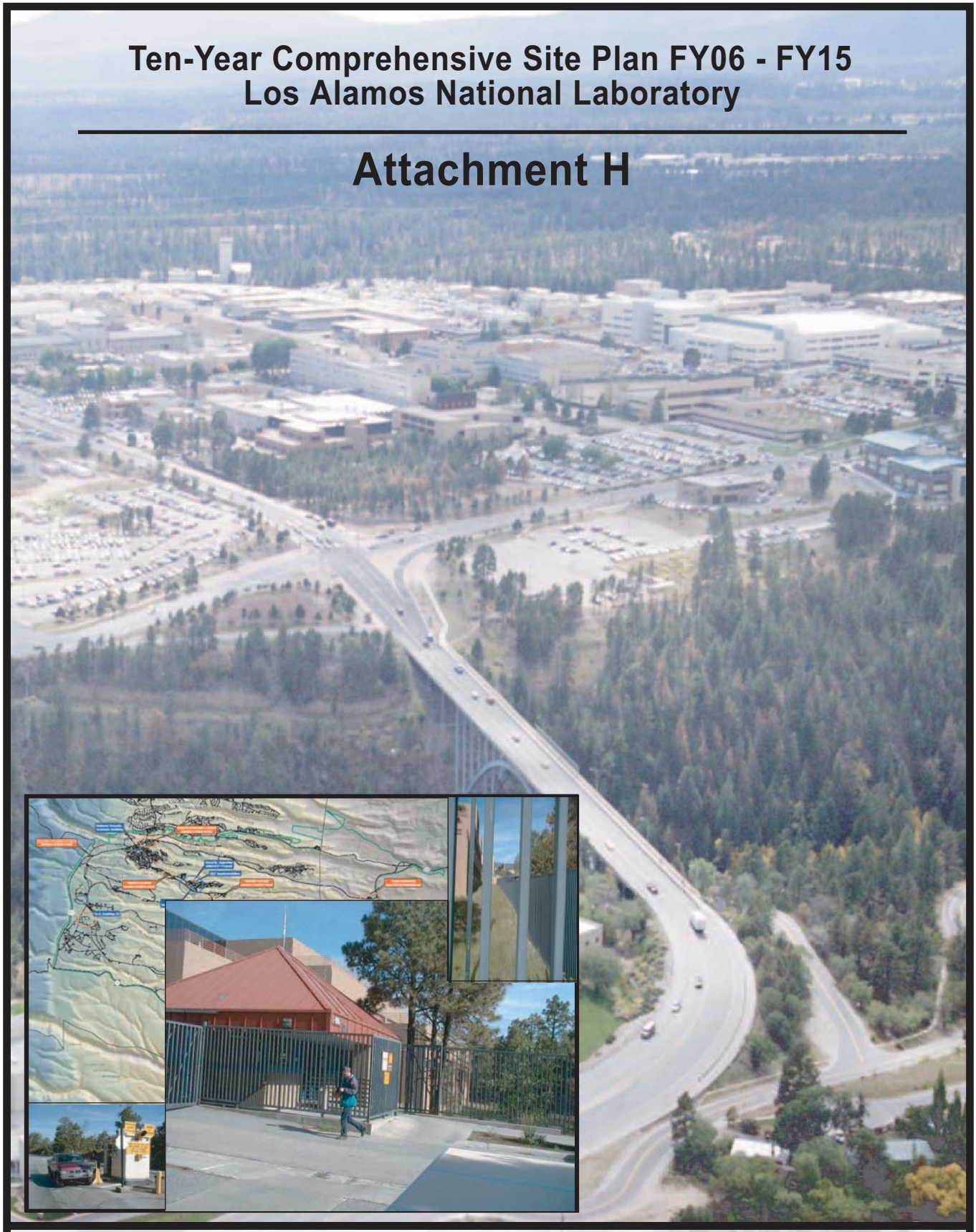
Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment H



Security Infrastructure Portfolio

Attachment H
Security Infrastructure Portfolio

Attachment H contains the Laboratory's Security Infrastructure portfolio, or facilities that are critical to the safeguards and security mission. This list contains only real property (i.e., bricks and mortar) and excludes related real property (e.g., alarm systems) and programmatic real property (e.g., PIDAS). This section is intended to focus exclusively on facilities related issues rather than detailed security program needs.

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Attachment H
Security Infrastructure Portfolio

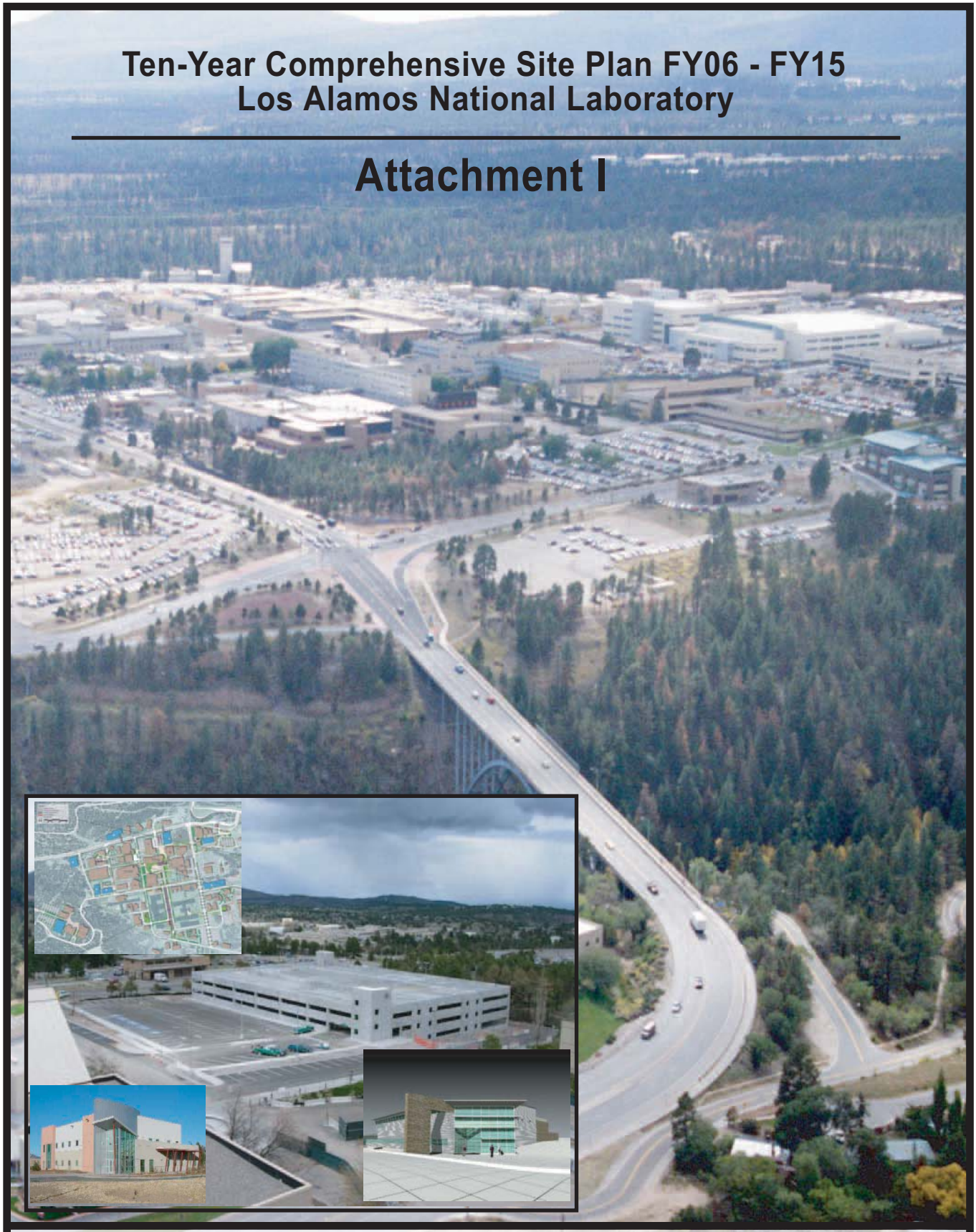
Real Property Asset Description	Building Usage Code	Facility Identification Number (FIMS)	Security Mission Usage	Current Building Condition	Mission Essential?
Shannon Bldg 1	101	00-0548	PTLA Office and Training Center (Townsite)		No
Shannon Bldg 2	101	00-0549	PTLA Office and Training Center (Townsite)		No
Office and Training Center	101	00-0771	PTLA Office and Training Center (White Rock)		No
Tech Shop	541	03-0039	S-1 Joint Conflict and Tactical Simulation Lab	Good	Yes
Administration Bldg	101	03-0043	S-7 Office	Fail	No
Guard House Sta #317	641	03-0067	PTLA Guard House	Fail	No
Guard Station #411	641	03-0097	PTLA Guard House	Fail	No
Warehouse	400	03-0142	S-3 General Storage	Fail	No
Shop Storage Bldg	400	03-0164	S-3 General Warehouse Storage	Adequate	No
Otowi Bldg	101	03-0261	S-6 Badge Office	Poor	No
Guard Station #411	641	03-0373	PTLA Guard House	Excellent	No
Secondary Alarm Station Bldg.	641	03-0440	S-3 Alarm Station	Fair	No
Transportable	101	03-0468	S-DO Office	Adequate	No
Transportable	101	03-0470	S-DO Office	Adequate	No
Transportable	101	03-0474	S-5 Office	Fair	No
Transportable	101	03-0495	S-1 Office	Fair	No
Transportable	101	03-0496	S-1 Office	Adequate	No
Guard Station #321	641	03-0503	PTLA Guard House	Fair	Yes
Transportable	101	03-0512	S-4 Office	Fair	No
Transportable	101	03-0513	S-4 Office	Fair	No
Transportable	101	03-0514	S-4 Office	Fair	No
Trailer	101	03-0782	S-3 ARGUS Test Trailer (Toas Trailer)	Excellent	No
Transportable	641	03-1353	PTLA Guard House	Excellent	No
Transportable	101	03-1353	S-5 Office	Excellent	No
Office Building	101	03-1409	S-3 Office	Excellent	No
Security Station	641	03-1414	PTLA Guard House	Excellent	No
Badge Reader Bldg	694	03-1446	PTLA Guard Station	Excellent	No
Guard Sta #331	641	03-1610	PTLA Guard House	Poor	Yes
Guard Sta #332	641	03-1614	PTLA Guard House	Poor	Yes
Guard Station	641	03-1615	PTLA Guard House	Poor	Yes
Guard Station #414	641	03-1806	PTLA Guard House	Excellent	No
Guard Tower Sta #334	694	03-1814	PTLA Guard House	Fail	No
Palm/Badge Reader Bldg	694	03-2260	S-3 Alarm Station	Fair	No
Guard Station	641	08-0020	PTLA Guard House	Fail	No
Exercise Facility	641	15-0046	PTLA Guard House	Excellent	Yes
Guard Sta #560	641	16-0201	PTLA Guard House	Excellent	No
Guard House Sta #562	641	16-0210	PTLA Guard House	Fail	No
Process Equip Stg	400	16-0332	S-DO Office	Excellent	Yes
He 'Power' Inspection	591	16-0380	S-DO Storage "HE Power Inspection"	Excellent	No
Guard Station	641	16-1451	PTLA Guard House	Excellent	No
Utility Bldg	N/A	18-0031	S-3 Mechanical Room	Fail	Yes
Guard Station	641	18-0037	PTLA Guard House	Fail	No
Guard Tower	641	18-0186	PTLA Guard House	Excellent	No
Guard Tower	694	18-0187	PTLA Guard House	Excellent	No
Guard Tower	641	18-0188	PTLA Guard House	Excellent	No
Secur Enhanc Assessm	642	18-0189	S-DO (PTLA ARO)	Poor	No
Guard Station	641	18-0190	PTLA Guard House	Fail	No
Guard Station	641	18-0270	PTLA Guard House	Poor	No
Trailer	101	18-0313	PTLA Break Room	Excellent	No
Trailer	694	18-0314	PTLA Break Room	Excellent	No
Trailer	694	18-0315	PTLA Break Room	Excellent	No

Attachment H
Security Infrastructure Portfolio

Real Property Asset Description	Building Usage Code	Facility Identification Number (FIMS)	Security Mission Usage	Current Building Condition	Mission Essential?
Guard House	801	22-0032	PTLA Guard House	Fail	Yes
Guard Station	641	33-0027	PTLA Guard House	Poor	No
Guard House	641	33-0314	PTLA Guard House	Excellent	No
Guard House	641	35-0218	PTLA Guard House	Excellent	No
Guard Station #410	641	35-0257	PTLA Guard House	Fail	No
Guard Station	641	36-0237	PTLA Guard House	Excellent	No
Guard Station	400	36-0238	PTLA Guard House	Excellent	No
Guard Station	641	36-0239	PTLA Guard House	Excellent	No
Guard Station	641	36-0240	PTLA Guard House	Excellent	No
Guard Station	641	36-0241	PTLA Guard House	Excellent	No
Lab Office Bldg	791	39-0002	PTLA Guard Station	Fail	Yes
Guard Station #468	641	39-0183	PTLA Guard House	Excellent	Yes
Office And Lab	641	40-0019	PTLA Guard House	Excellent	No
Guard House #318	641	41-0002	PTLA Guard House	Excellent	No
Guard Station #415	641	46-0002	PTLA Guard House	Fair	No
Guard Station #416	641	48-0002	PTLA Guard House	Fail	No
Marlex Booth Bldg	641	48-0143	PTLA Guard House	Fail	No
Guard Station	641	48-0220	PTLA Guard House	Excellent	No
Guard Station	641	48-0221	PTLA Guard House	Excellent	No
Guard Station	641	48-0222	PTLA Guard House	Excellent	No
Guard Station	641	48-0223	PTLA Guard House	Excellent	No
Guard Station	641	48-0224	PTLA Guard House	Excellent	No
Lab/Office	721	52-0001	S-2 Office	Fair	No
Mechanical Assy Bldg	694	52-0011	S-5 Mechanical Assay Bldg	Good	No
Guard Station #417	641	52-0105	PTLA Guard House	Excellent	No
Guard Station	641	52-0123	PTLA Guard House	Poor	No
Guard Station	641	53-0037	PTLA Guard House	Fail	Yes
Guard Station #457	641	53-0385	PTLA Guard House	Fair	No
Guard Station #458	641	53-0676	PTLA Guard House	Good	No
Guard Station	641	53-1145	PTLA Guard House	Fail	No
Support Bldg	101	55-0003	PTLA Guard Station	Good	Yes
Plutonium Bldg	765	55-0004	S-DO Health and Safety	Good	Yes
Guard Station #402	641	55-0009	PTLA Guard House	Adequate	Yes
Assessment Bldg	641	55-0043	PTLA Guard House	Good	Yes
Generator Bldg	694	55-0047	S-3 Mechanical Room	Adequate	Yes
Guard Tower Sta #407	641	55-0048	PTLA Guard House	Adequate	No
Guard Tower Sta #406	641	55-0125	PTLA Guard House	Excellent	No
Assessment Building #408	642	55-0142	S-DO Office/Supply	Excellent	Yes
Guard Tower Sta #420	694	55-0162	PTLA Guard House	Adequate	No
Occupational Health Lab	769	59-0001	PTLA Office	Fair	No
Central Guard Facility	641	64-0001	PTLA Guard House	Poor	No
Guard Station	641	69-0001	PTLA Guard House	Excellent	Yes
Trailer	101	69-0005	PTLA Guard Station	Poor	Yes
Guard House Sta #431	641	69-0026	PTLA Guard House	Excellent	Yes
Office Bldg	801	72-0008	PTLA Carpentry Shop	Fail	No
Firing Range	N/A	72-0011	PTLA Fire Range	Excellent	No
Storage Bldg	400	72-0013	PTLA Storage	Fail	No
Low Skeet House	694	72-0015	PTLA Skeet House	Fail	No
High Skeet House	694	72-0016	PTLA Skeet House	Fail	No
Firing Range Admin Bldg	101	72-0039	PTLA Office	Fair	No
Training Tower	231	72-0041	PTLA Specialized Training Buildings	Fail	No

Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment I



Facility Planning

Attachment I
Facility Planning

The Laboratory's continuing development of a facility planning program aligns with and supports the TYCSP. The facility planning program provides a consistent planning process for consolidation efforts across Laboratory divisions and responds to a need for increased long-range planning. The facility planning process is organization-oriented and incorporates a business approach to strategies for improving facility efficiency and effectiveness. Proposed construction and infrastructure projects are validated, and new projects are conceptualized in support of institutional goals.

Other Laboratory planning activities coordinate with the facility planning process, including the following:

- NEPA—Requirements for alternative analysis, proposed projects, and inter-relationships,
- Space Management—Provides current space information and identifies issues and needs of organizations,
- Security Planning—Coordinates with physical requirements of facilities and sites for organizations,
- Project launch and development activities, and
- Maintenance prioritization.

Projects defined through facility planning are based on an organization's vision and needs. Project proposals are prioritized by the directorate and institution through the TYCSP project call process. Those projects *approved* for institutional prioritization are presented in the TYCSP project lists.

Weapons Physics (WP) Directorate

Dynamic Experimentation (DX) Division

DX Division is chartered to manage, maintain, operate, and provide other facility and science services for research, development and testing in support of the Department of Energy Stockpile Stewardship program. The majority of facilities that sustain the work of DX Division are currently located at TAs-8, -9, -15, -22, -36, -39, -40, -46, and -69. Division facility goals and objectives are:

- Decrease space requirements,
- Replace failing buildings with modern, cost efficient ones,
- Provide an appropriate quality of life for the workforce,
- Improve safety and,
- Where possible, incorporate energy conservation and sustainable design concepts.

To accomplish these goals, DX Division has proposed several new construction projects for TA-22. Drivers for division consolidation in TA-22 include a desire to reduce operating and maintenance costs associated with 50-year old structures, a requirement to locate HE R&D capabilities near the Detonator Production Facility, and a desire to co-locate HE, shock wave physics, and HE systems researchers. The plan includes several projects for infrastructure, and safety upgrades; TA-22 Office and laboratory buildings; recovery from the Cerro Grande fire; and new or upgraded experimental facilities. The end-state will provide significant programmatic benefits related to capability enhancements and facility modernization at TA-22 and economic benefits from facility consolidation.

Physics (P) Division

The mission of P Division is to further understanding of the physical world, generate new technology in experimental physics, and establish a physics foundation for current and future Los Alamos programs. P Division undertakes research using multidisciplinary approaches and pursues its goals by establishing and maintaining a scientific environment that promotes creativity, innovation, and excellence. The Division fosters communication, both within the Division and with the external scientific and industrial communities, to realize fully the implications and benefits of physics research. P Division is currently located in TAs-3, -35, and -53. Division facility goals are the following:

- Modernize scientific space to attract and retain the finest scientific talent available, and
- Co-locate as much of the P Division staff and operations as possible at TA-3 to gain synergies among the division's groups and be near most collaborators.

In short, P Division believes that drawing the staff and the majority of its laboratories together at TA-3 will increase scientific productivity and improve cost-effectiveness for the Laboratory. To accomplish these goals, the P Division plan envisions constructing two GPP buildings and a line-item project. The first GPP would contain unclassified office space, and the other would contain classified office space. The line-item project, the Center for Weapons Program Research, would be approximately 300,000 gross square feet and contain office space and laboratories.

These new facilities would be located in the central TA-3 area, allowing P Division to consolidate all of the division in one area and excess current space and substandard buildings. Forty-one buildings (46,000 GSF) are currently proposed for excess.

Computer and Computational Sciences (CCS) Division

The Computer and Computational Sciences Division conducts basic and applied research to develop multi-disciplinary computational techniques that support the Laboratory's core missions as well as novel computer-science solutions to advance hardware and software technology. The division is currently housed in some 10 facilities, some of which are located in technical areas distant from their primary location (TA-3), such as the town-site. The dispersion of staff significantly impacts collaboration and inhibits the pace of development. In addition, limitations because of the lack of available space in TA-3 require that people must be housed in space constructed for other purposes such as warehouses or security vaults.

The division anticipates five years of steady growth and increasingly more appropriate space that provides flexibility for computing capabilities. Goals of the division's facility plan include:

- Create quality work environments that enhance collaboration to include foreign national participation,
- Decrease facility costs, operations and maintenance,
- Co-locate capabilities, and
- Eliminate temporary structures (trailers and transportables).

Currently two options to satisfy the division’s facility needs have been considered. One option is to be included in the Los Alamos Science Complex alternative financing initiative. Another option is the construction of two additional GPP-level projects.

Weapons Engineering and Manufacturing (WEM) Directorate

Engineering Sciences and Applications (ESA) Division

ESA Division provides stewardship of nuclear weapons and enabling engineering technologies to ensure the safety and reliability of the nuclear weapons stockpile; preserve and advance warhead and subsystem design capability; enhance the ability to manufacture and process weapon components and materials; and nurture engineering technologies that enhance the ability to accomplish the mission and to seek out programs that complement this mission. ESA Division facility related goals include the following:

- Divide the Weapons Engineering Complex into two primary functional areas, labs or technical facilities and administrative offices,
- Locate future lab buildings contiguous with existing labs and provide close proximity office buildings that support lab operations, and
- Create a pedestrian-oriented campus.

ESA's planning efforts will achieve the following vision:

- An infrastructure that will support the weapons engineering missions for the next 20 years,
- Create weapons engineering clusters,
- Decrease overall footprint by more than 30%,
- Replace aging technology with more robust, flexible capabilities,
- Increase engineering synergy — co-locate sponsors, designers, modelers, fabricators, testers, and analysts, and
- Eliminate transportable buildings and improve the quality of engineering workspace.

ESA has developed a list of nearly 100 buildings as proposed excess space and new projects that supports the achievement of goals and vision.

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Strategic Research (SR) Directorate

The Strategic Research (SR) Directorate creates and develops science and technology in support of the Laboratory. The SR mission is to advance knowledge across a broad range of scientific disciplines. In collaboration with Nuclear Weapons and Threat Reduction directorates, SR promotes basic and applied research directed toward solving complex scientific and technological problems in support of the Laboratory's national security and threat reduction missions. SR leads the Laboratory's broad national security mission in energy security, environmental security, and critical infrastructure. As a broker of scientific knowledge and understanding, SR supports the mission of the Laboratory by fostering innovation and creativity by the staff, by supporting and enhancing the scientific reputation of the Laboratory through a vigorous basic research program and by serving as a gateway from the scientific world to industry and academia through collaborations with government laboratories, universities, and industry.

SR has approximately 1,800 employees; including more than 1,200 scientists, engineers, post-doctoral fellow and graduate students. It originates most of the Laboratory's collaborations with universities, industrial firms, other government laboratories and international research centers. The Directorate has the largest share of Laboratory Fellows, long-term visiting scientists, post-doctoral researchers and graduate students.

SR operates a number of science and engineering facilities including the Laboratory's National High Magnetic Field Laboratory, the High-Temperature Superconductivity Technology Center and the Stable Isotope Resource. Access to the facilities is available to qualified members of the national and international science and engineering community.

SR has four technical divisions: the Chemistry Division, the Earth and Environmental Science Division, the Materials Science and Technology Division and the Theoretical Division. The Directorate has five program offices; The Office of Energy and Environment Initiatives, the Nuclear Technology Applications office, the Office of Science Program Office, the Science and Technology Base Office and the Technology Transfer office.

In support of the SR mission, the Directorate will make cost effective investments in the infrastructure, workforce, facilities, and technologies that will enable effective program management of activities. Goals and objectives for SR facilities are derived through coordination with the Strategic Research Directorate Laboratory Plan -2002-2005 and through the Facility Strategic Plans that have been completed by each SR Division.

SR Facility Goals and Objectives include:

- Deliver and maintain safe and secure facilities,
- Provide attractive and comfortable office and laboratory space for staff,
- Enhance the productivity and interaction of the staff, and
- Replace failing facilities with modern cost efficient ones focusing attention on the environment, safety, security, and consolidation of capabilities.
- Continue to champion the 3rd party development of the Los Alamos Science Complex at TA-58 North, as a way to accelerate upgrades of facilities in addition to traditional Line-Item or GPP funding sources.

SR Division Facility Goals and Objectives:

- Chemistry Division:
  - Remain in the CMRR Project.
  - Focus on TA-53-964 (IPF), TA-48-28, 45, 107, and TA-35, 85 as priority for facility upgrades, renovation for long-term investment.
  - Construct a new dedicated secure facility for Dissolving and Radiochemistry at TA-48.
  - Develop and construct a consolidated radiological complex (office & lab) at TA-48 to replace ~200,000 GSF of aging facilities at TA-46, 48, and 59.
  - Consolidate remaining non-radiological capabilities in the Los Alamos Science Complex, TA-58 North.
- Earth and Environmental Science Division:
  - Relocate entire division to the Los Alamos Science Complex at TA-58 North.
- Materials Science and Technology Division:
  - Develop a consolidated Materials Science Complex at TA-3, including renovation, upgrades, and new construction.
    - Create a new Center for Materials Synthesis and Fabrication.
    - Develop the infill of the MSL TA-3-1698) to provide office and possible light laboratory space and meet current office space needs.
    - Complete CINT, planned for FY06.
    - Re-locate NHMFL from TA-35, and
    - Renovate and refurbish the Superconductivity Tech Center and Cryogenics Building “B” at TA-3-32 and 34.
  - Weapons Materials Engineering Complex:
    - Consolidation of SNM Materials R&D at TA-3, or within the proposed Radiological Sciences Institute at TA-48.
  - Upgrade/renovate, as required, other TA-3 and 35 facilities.
- Theoretical Division:
  - Relocate entire division to the Los Alamos Science Complex at TA-58 North.

Chemistry (C) Division

Chemistry Division is a vital component of the Laboratory and a charter member of the Strategic Research Directorate. Current activities in the division cover a wide range of areas, including actinide, fission product, environmental, analytical, physical, and nuclear chemistry; inorganic and organometallic chemistry, catalysis, radioisotope production and distribution, chemical engineering, proliferation detection technologies, nanoscience and nanotechnology; radiochemistry; chemical and nuclear physics; mass spectrometry; and optical and vibrational spectroscopy. C Division is currently located in nine TAs and dispersed in 64 buildings. Division goals include the following:

- Enhance national security, nonproliferation and Laboratory mission support chemistry facilities at the Los Alamos Science Complex and TA-48,
- Decrease overall building footprint through collocation and consolidation,
- Replace 1950s facilities and technology with robust and flexible capabilities,
- Invest through renovation and upgrades for long-term facilities, e.g., Clean Chemistry/Mass Spec (TA-48-45), SuperScrub (TA-35-85), and IPF (TA-53-964).

C Division must maintain its current mission with small to moderate growth for counter and nonproliferation, homeland security, and DP projects. New, modern, energy-efficient facilities are needed to reduce the cost of retrofitting, decontaminating, and repairing aged and failing infrastructure, and to reduce the loss of non-productive time due to numerous infrastructure problems. C Division needs to increase centralized activities and location of non-secure division workers in adequate space (roughly 2/3 of the work force). The remainder of the Division needs offices and lab space in a classified environment.

Approximately 25% of C Division will be accommodated through the CMRR Project. A few modern existing facilities will be priority for refurbishment and renovation as long-term investments, ~ 5%. To support a currently missing capability, a new dedicated secure facility for Dissolving and Radiochemistry at TA-48 is proposed to be constructed with programmatic funds. A multi-Divisional proposal is being developed to construct a consolidated radiological complex (office and labs) at TA-48 to replace aging facilities, which will accommodate ~40% of Division (see Section 4.7.10). The remainder, ~30%, of non-radiological capabilities will be consolidated in the Los Alamos Science Complex, TA-58.

Earth and Environmental Sciences (EES) Division

Using capabilities in earth and environmental science, EES Division provides outstanding scientific and engineering leadership and conducts basic applied research and development for solutions to complex problems of importance in environmental, energy, and national security. Current major capabilities include atmospheric and climate sciences; computational science and modeling simulation; data acquisition and analysis; ecology; field measurements; geochemistry/geomaterials; geographic information systems; geology; geophysics and seismology; hydrology; environmental science; and geotechnical engineering. EES is currently located in TA-3 and TA-51. Division facility goals include the following:

- Support the Laboratory's continuing development and acquisition of the Los Alamos Science Complex, located at Two Mile Mesa North, where all of EES Division will be co-located.
- Increase overall productivity, collaborative and inter / intra-divisional activities and decrease travel time to decentralized sites;
- Find efficient solutions to improve operations and related costs through coordination of activities, capabilities, equipment, and infrastructures;
- Eliminate occupancy of substandard "temporary" structures that reduce worker productivity, creativity, ergonomic, safety and recruitment/ strategic hiring opportunities;
- Vacate or excess temporary and aged structures that have been used well beyond their life expectancy;
- Replace temporary and failing structures with modern, energy efficient and sustainable designed structures.
- Decrease practice of using high quality space for storage;
- Decrease the cost of ergonomic modifications to office space by using adjustable system furniture;
- Decrease costly maintenance, retrofitting, and major modifications to temporary and aged structures;

It is vital that EES Division execute plans to relocate to the Los Alamos Science Complex, located at Two Mile Mesa North, to eliminate the high cost of maintenance and modifications to aged, failed, and temporary structures. EES will consolidate and co-locate division personnel from TA-3 and TA-51. Consolidation and co-location will greatly increase efficiency, productivity, and collaborations with CCS, B, and T Divisions.

Failure to successfully and timely relocate to the Los Alamos Science Complex will result in EES becoming increasingly non-productive and unable to meet its deliverables during the next 10 years due to temporary failed structures and the loss of equipment and

productive time; the cost to maintain or modify vulnerable structures and laboratories will not be met because of the lack of a dedicated budget to fund new structures or modifications. In addition, the division will continue to lose highly qualified scientists and will be unable to attract new scientists due to the poor work environment. Customers will be lost because of aged and failing facilities that cannot be updated to accommodate new equipment and instruments.

Theoretical (T) Division

T Division performs theoretical research in theory to further scientific understanding of the physical world; to establish a technical foundation for current and future defense, civilian, and industrial needs; and to explore interdisciplinary frontiers of scientific endeavors. In addition to participating in large Laboratory projects, T Division nurtures small projects for their intrinsic scientific and technical interest to the Laboratory and the Nation. Approximately one-third of T Division's total space is located in transportables in TA-3. Some of T Division facility goals include the following:

- Demonstrate cost-effective operational excellence,
- Decompress overcrowded offices and labs and improve the functional capabilities of work spaces to accommodate modern work environments and equipment,
- Improve the quality and aesthetic appearance of workspaces to inspire, retain, and attract top-quality talent. Create spaces and places that foster interaction, and
- Integrate operations with other SR Directorate functions.

T Division strives to maintain current mission with slow growth to support the National Institute of Health and Department of Homeland Security (30% increased growth anticipated over the next 10 years). Modern facilities that accommodate the functions of T Division are needed to reduce costs of retrofitting and repair and reduce the loss of nonproductive time from HVAC and roofing problems. Increased centralized activities and improved location of non-cleared T Division workers in appropriate space (two-thirds of the workforce) are needed. Approximately one-third of the Division will need work space in a classified environment. Due to severe overcrowding, decompression will require additional space to maintain the current population.

It is a top priority to replace temporary structures, which is about one-third of T Division's total space. T Division will consolidate and co-locate division personnel at the Los Alamos Science Complex at TA-58. T Division has developed a list of 20 buildings (almost 60,000 net square feet) as proposed excess space that supports the achievement of T Division goals and vision.

Materials Science and Technology (MST) Division

MST Division serves the nation by providing the core materials science and technology base needed to maintain confidence in the safety and reliability of the Nation's nuclear weapons; applying technical expertise to address a broad range of national needs in energy, environment, infrastructure, and conventional defense; and researching materials, materials processing, and materials characterization technologies to create new knowledge and lay the foundations for new technologies. MST Division consists of ~550 staff in TAs-3, 35, and 46. MST Division facility goals include the following:

- Maintain responsiveness to programmatic needs and deliverables,
- Continuously improve existing facility functionality, appearance, and desirability while decreasing facility maintenance, operational, and energy costs,
- Develop space to meet current and projected programmatic requirements while working to replace transportable buildings with permanent structures, and
- Consolidate capabilities to the greatest extent possible to minimize costs and further staff interaction, innovation, and the continuing pursuit of scientific excellence.

The key locations for MST Division will remain consolidated within the TA-3 Material Science Complex (MSC) -- including the Sigma/Beryllium Technology Facility and the soon to be completed CINT -- and at the TA-35 Target Fabrication Facility, with future development and renovation including proposals for:

- Movement of NHMFL from TA35 to the MSC at TA3
- Creation of a Center for Materials Synthesis and Fabrication at the MSC
- Materials Science Laboratory infill
- Renovation/upgrades for TA-3, 35, and 46,
- Relocation of National Fuel Cell Resource Center,
- TA-3-66, Sigma Building replacement, TA-3 or part of proposed Radiological Sciences Institute (See Section 4.7.10):
  - 125 staff will be impacted
  - Diverse ~$30M/yr DP programs:
    - Life Extension Programs (LEPs)
    - PIT manufacturing
    - Joint Test Assemblies (JTAs)
    - Significant Finding Investigation (SFI)
    - Directed and Basic Research

Threat Reduction (TR) Directorate

The threat reduction mission at the Laboratory is organized around four principal thrust areas: nonproliferation, defense transformation, international technology, and homeland security. Work in these thrust areas occurs across the Laboratory, but is focused in TR's four divisions: Biosciences (B), Decision Applications (D), International, Space, and Response (ISR), and Nuclear Nonproliferation (N). The foundation of the threat reduction strategy is broad and encompasses the science and technology (S&T) base of the Laboratory. Capabilities include biology, systems analysis, modeling and simulation, nuclear physics, foreign nuclear weapons assessments, materials science, information science, engineering, chemistry, statistics, earth science, space science, nanotechnology, as well as radiofrequency-, beam-, accelerator-, and pulsed-power science and technology. The TR programs make significant contributions to national security by both maintaining and expanding scientific and technical capabilities and activities. Furthermore, TR and homeland security are becoming increasingly important parts of the Laboratory's mission, as recognized in two of the Laboratory's National Security Goals (Goals C and D). Nationally, threat reduction and homeland security are receiving increasing priority and funding, making clear the importance of a considered, strategic institutional investment in a strong infrastructure to support this mission area.

A new strategic planning process was recently initiated to develop and implement strategies to achieve short- and long-term mission requirements and better manage the TR Directorate. Several steps in the process have been accomplished to date, including developing a directorate strategic plan and well-defined and well-articulated vision, mission, values, and goals.

The next challenge is to balance the near-term programmatic requirements with the long-term strategic need to sustain and strengthen the scientific and engineering base that underpins the programs. Three efforts will help TR achieve this balance: 1) making program and project management more effective, 2) planning effectively for facility and infrastructure needs, and 3) providing a cohesive succession management program, including mentoring and training of the next generation of technical staff. The key to success in maintaining an integrated portfolio of science, technology, and national security activities lies in more effectively managing programs and activities. The TR Directorate must often respond to short-term demands on time and resources for urgent programmatic needs, but it must also anticipate and integrate the short-term demands with long-term goals. The directorate's success will ultimately be determined by balancing appropriate funding levels for conducting cutting-edge research while delivering on programmatic requirements and assuring our staff has both the relevant scientific skills and the ability to interact with multiple field users, sponsors and other external stakeholders. Developing a modern workplace of safe and secure facilities tied to the national security needs of the future also is an important part of this strategy.

In order to accomplish the challenges facing the TR Directorate, each division in the directorate is developing a business plan to assist in investments and other decision-making to implement the directorate's strategic plan. Funding forecasts for TR and homeland security programs in continue to trend positively, with anticipated annual growth of approximately 8% in available revenue.

Based upon these considerations, the TR Facilities Strategic Plan includes the following elements:

- Aggressively support initiatives to reduce the site footprint.
  - Optimize space reserved for retirees, affiliates, visitors, and contractors.
  - Help develop institutional solution for student and uncleared new employee space.
- Transition out of TA-18 by 2010.
  - Move most operations and nuclear materials to the Device Assembly Facility (DAF) in Nevada.
  - Move remaining operations and materials to existing and new facilities in TA-55 and an adjacent, proposed Radiological Sciences Institute.
- Transition out of TA-35
  - Structural issues with Building 27
  - Upgrade in place option for Building 27; approximately $60M
- Consolidate major operations in new Los Alamos Science Complex.
  - Consolidate several B Division operations including those in Health Research Laboratory (HRL).
- Secure programmatic or institutional funding to acquire other needed facilities.
  - Space research laboratory.
  - Radiochemistry laboratory (supporting C Division).
  - BSL-2 facility.
  - SCIF expansion (would require relocation of N, ISR and TRO personnel from the third floor of the NISC).

Bioscience (B) Division

Bioscience Division exists to serve the National Security community. In turn, our science supports the needs of our sponsors including DOE, DHS, HHS and the intelligence community. In order to enable this mission, we are committed to creating an environment where distinguished capabilities in biological, physical, computational and computer science can come together to enable the next revolution in bioscience. B Division facility goals to support this work include the following:

- Provide adequate office and laboratory space to accommodate a growing mission–focused on meeting the needs of the Nation Security community,
- Preclude lost opportunities due to lack of space and appropriate facilities,
- Replace failing structures with modern, cost-efficient ones that are suitable for today's bioscience and that eliminate costly corrective maintenance,
- Mitigate security and safety concerns due to the location of HRL within the townsite and the vulnerability of transportable buildings to fire and break-ins, and
- Consolidate operations in a new laboratory/office complex that will enable NNSA's future role in the biosciences.

B Division plans to move into a 138,000 gross square foot office/laboratory facility in the Science Complex in 2008 that will allow for co-location of approximately two thirds of its staff. Expansion and consolidation of office and laboratory space will allow for much needed program growth. In the interim, the division is working to identify office and laboratory space or opportunities to expand current space, such as TA-35-85, to allow the expansion of existing projects and new work. Additional elements of the B Division facility plan include the following:

- Construct new $5M BSL-2 Select Agent Facility to be used for work with DHS, FBI, and other organizations in the intelligence community,
- Construct new $54M, 108,000 GSF Genomes to Life Facility as an integral part of the DOE's Facilities for the Future of Science initiative.
- Develop additional projects in classified environments, and
- Maintain the National Magnetic Resonance Facility (TA-03-562) and bring the BSL-3 facility online.

Consolidation of operations in a new laboratory and office complex will enhance B Division's mission, improve safety and security, facilitate collaboration, improve opportunities to grow programs, enhance communication and staff integration, minimize support function redundancies, and eliminate lost productivity due to commute time. A new facility designed specifically for modern functions will be less expensive to maintain than old buildings in poor condition, or trailers that are geographically dispersed. Furthermore, the DBT will force the relocation of the HRL onto a more secure site by September 2006.

Decision Applications (D) Division

Decision Applications (D) Division, through science-based, multidisciplinary assessments, enables important national security decisions pertaining to the safety and reliability of the Unites States nuclear deterrent; national critical infrastructure protection and homeland security; national defense transformation; and nuclear energy and environment. D Division directly supports the Laboratory's mission in nuclear weapons (28%), homeland security (36%), Department of Defense (8%), and energy and environment (13%).

D Division personnel currently occupy 12 buildings in TA-3 (66%) and TA-52 (34%). A 10% increase in staff over the next 10 years is forecasted to support growth. Given the anticipated growth in staff and need for modeling and simulations facilities, an increase in space of 10,000 to 13,000 square feet within the next five to 10 years is anticipated. Achievement of the following goals will enhance operational capabilities and productivity:

D Division's facility strategic plan includes four primary elements:

- Consolidate division staff in existing facilities as space becomes available,
- Decommission and demolish substandard buildings (transportables and/or trailers) located in TA-52,
- Upgrade existing facilities to improve performance and capability if cost effective, and
- Construct new facilities to accommodate expected near- and long-term mission needs.

D Division's near-term strategy is to move staff from the existing Administration Building (TA-3-43) to the NSSB. For a complete consolidation of the division in TA-3, two GPP-level office buildings are needed; one secure facility and another unsecured facility that would include space for other students, visitors, and expansion.

A TA-52 division-wide consolidation is an alternative. Because the majority of facilities at TA-52 are temporary transportables and trailers, this option proposes the construction of three new GPP-level buildings and the removal of all facilities with exception of an office building accommodating approximately 55 people.

International, Space, and Response (ISR)

ISR Division's mission is to make the world more secure by applying world-class science and engineering to national security challenges through the creation, delivery, and support of innovative detection and energy-projection systems for remote applications in space and around the world. The Division engages in a wide spectrum of activities, from unclassified space science research through classified programs that support federal efforts for collection and analysis of information indicative of WMD proliferation, interdiction and defense against the use of such weapons, and compliance with international treaties and agreements. Major sponsors of ISR activities include NNSA/NA-22, DoD, NASA, and other U.S. Government agencies. The strong interest in ISR-like activities in these agencies is expected to continue for the long-term and is likely to grow with changes in the national and international environments.

To support current and future customers and attain our programmatic mission, ISR Division facility goals include the following:

- Provide workspaces appropriate to our technical activities and classification requirements, including office, light laboratory, and other needs,
- Provide the requisite resources and adequate facilities to conduct all work safely, securely, and responsibly,
- Consolidate personnel into fewer structures and thereby increase the effectiveness of their collaborative efforts, and
- Support related goals of attracting, developing, and retaining a diverse, talented workforce,

ISR Division has outgrown its present facilities and, to accomplish our mission, has a critical need to co-locate and separate by classification level a number of project teams. The growth in ISR is reflected in both employee count and budgets; Division FTEs have grown from 323 in FY03 to 360 in FY04 and an estimated 481 by end of FY05 (an increase of almost 50%), and total ISR costs have grown from $84 million in FY03 to $137m in FY04 and an estimated $153m in FY05 (an increase of 80%). This growth is reflected in both DOE programs and work-for-others programs directly related to national security. Without a concerted effort to provide additional laboratory and office space for ISR activities, the Division will be unable to support further expansion of activities and will be unable to fulfill existing and future programmatic commitments to our sponsors.

Based on current projections, ISR Division needs two 24,000 square foot buildings for employees of ISR and other Divisions supported by ISR programs. One building would co-locate ISR groups and house uncleared personnel, and the second would co-locate additional ISR groups and provide space for light labs and classified work/computing. Priority should be given to a facility for classified work.

Nuclear Nonproliferation (N) Division

N Division's mission is to conduct basic science research, develop new technologies, conduct information analysis for nonproliferation policy, provide training to threat reduction personnel and responders, and integrate Laboratory-wide capabilities to accomplish the following:

- Ensure global control of nuclear and radiological materials, including domestic and international safeguards,
- Generate integrated system approaches for multipronged threat prevention and detection,
- Provide worldwide threat indications and warnings,
- Enable interdiction of nuclear and radiological threats,
- Provide tools and approaches for nuclear and radiological event consequence management, and
- Anticipate and apply expertise to future national security challenges.

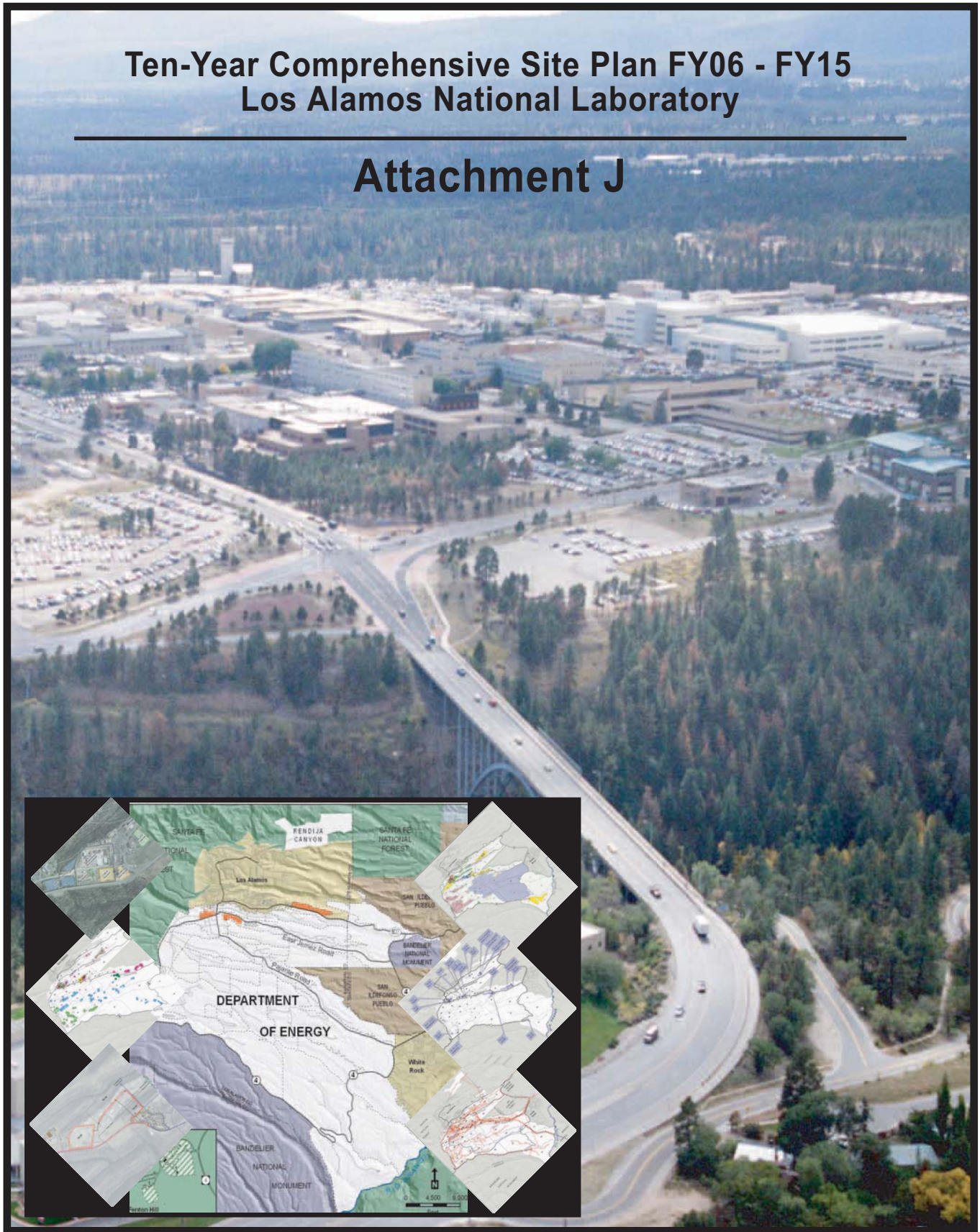
The mission requirements of N Division sponsors are driving infrastructure strategy through DOE direction to relocate mission activities from sites slated for closure and continued programmatic growth. Relocation needs are further driven by continued deterioration of existing facilities. A number of facilities will be vacated and/or demolished in the associated transitions, including the closure of TA-18 and the CMR Building. Currently, all IAEA training and a significant fraction of domestic safeguards training occurs in the CMR Building. Both closures are slated to occur by 2010.

In the context of these NNSA closure plans, security drivers, and programmatic mission requirements, an institutional approach for maintaining essential capabilities is required. Key components of the institutional response include executing the relocation of certain capabilities to the DAF at NTS and immediately initiating a line-item project design for the *Institute for Nuclear Nonproliferation Science & Technology (INNST)*. The proposed INNST will consolidate and co-locate multiple activities, thereby providing greater synergistic benefit to all mission areas and creating a sustainable infrastructure for the long-term needs of the N Division mission.

Non-radiological operations associated with N Division's international technology and Work for Others activities are growing dramatically and suggest the need for a cost-effective enlargement of the SCIF into the third floor of the NISC, which was designed and constructed to operate as a SCIF. However, this would require reassigning space on the third floor. The INNST is planned to accommodate this transition, but depending on construction phasing, GPP funding may be needed for an office building to support the SCIF expansion in a timely manner. N Division also foresees a long-term need for space in the TA-3 area to house uncleared employees, such as students, post-docs, and new staff awaiting clearances.

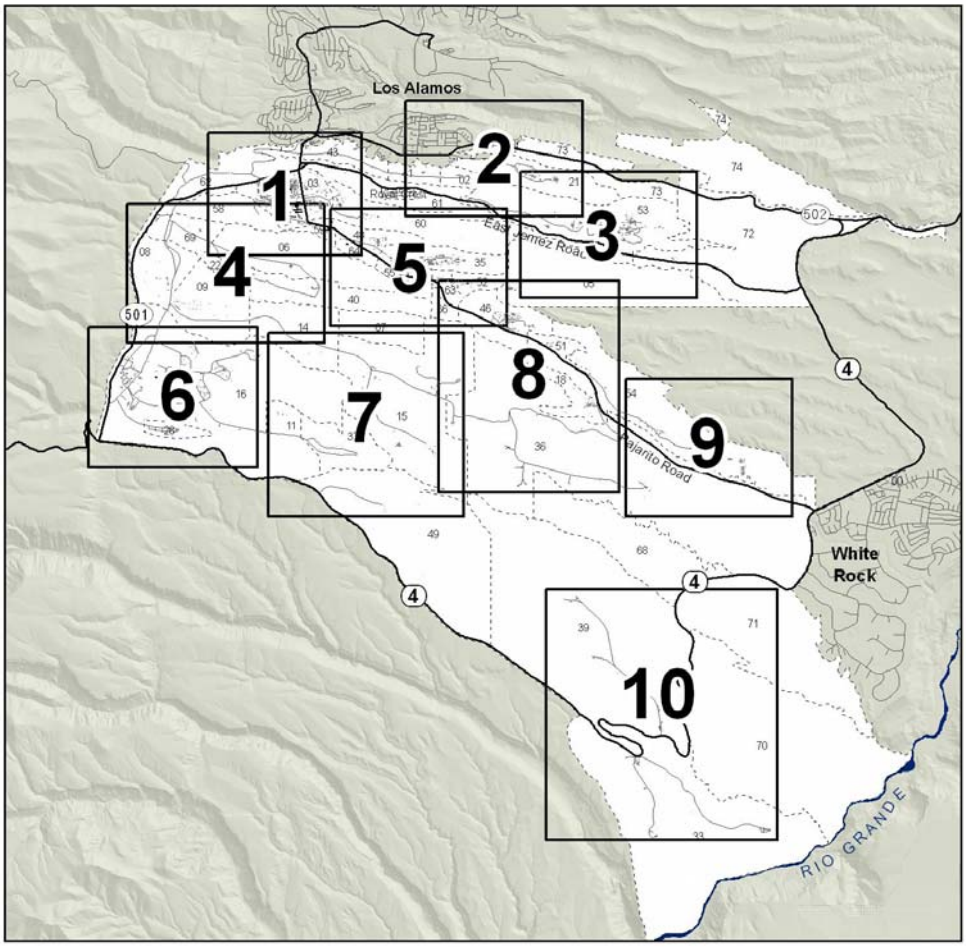
Ten-Year Comprehensive Site Plan FY06 - FY15
Los Alamos National Laboratory

Attachment J



Sitewide Maps

Attachment J
Sitewide Maps



Index Map

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Technical Area Boundary

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Current and Future Facility Status

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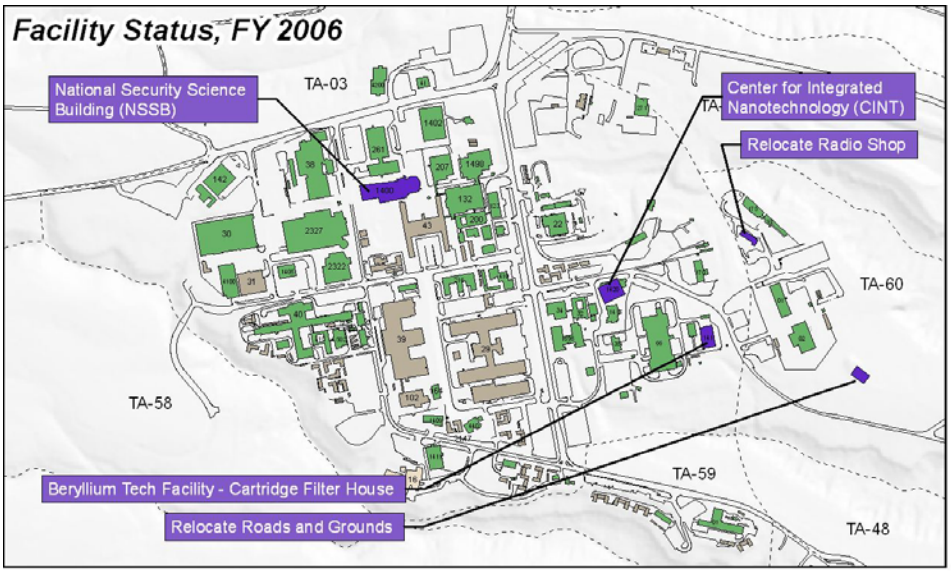

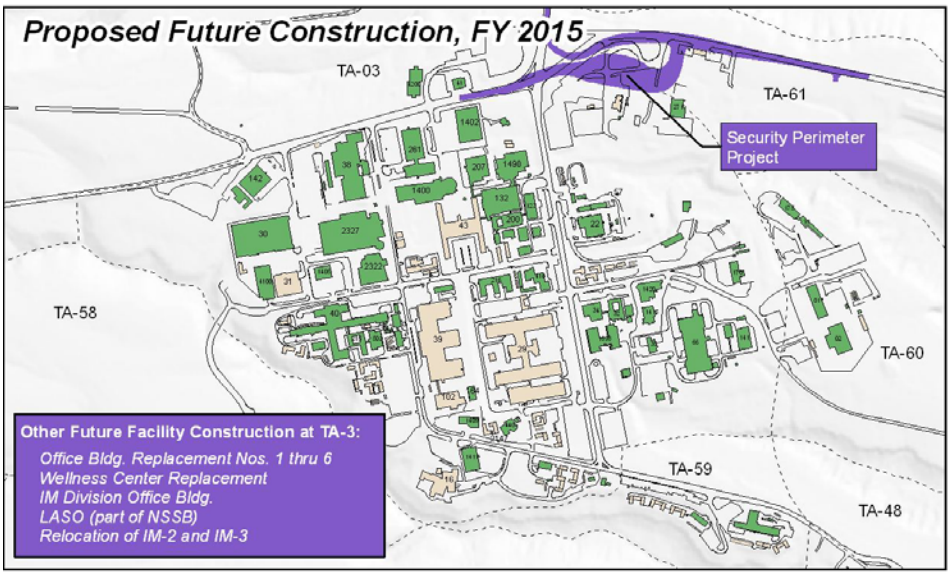

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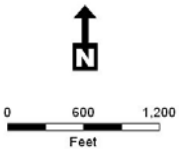

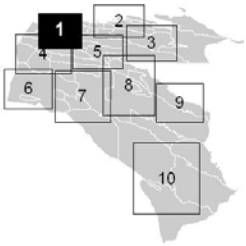

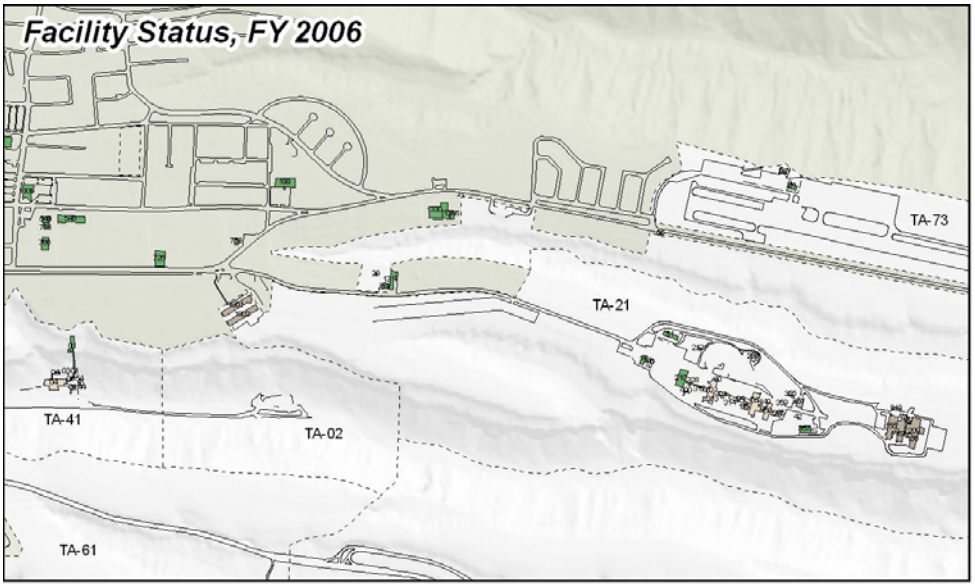

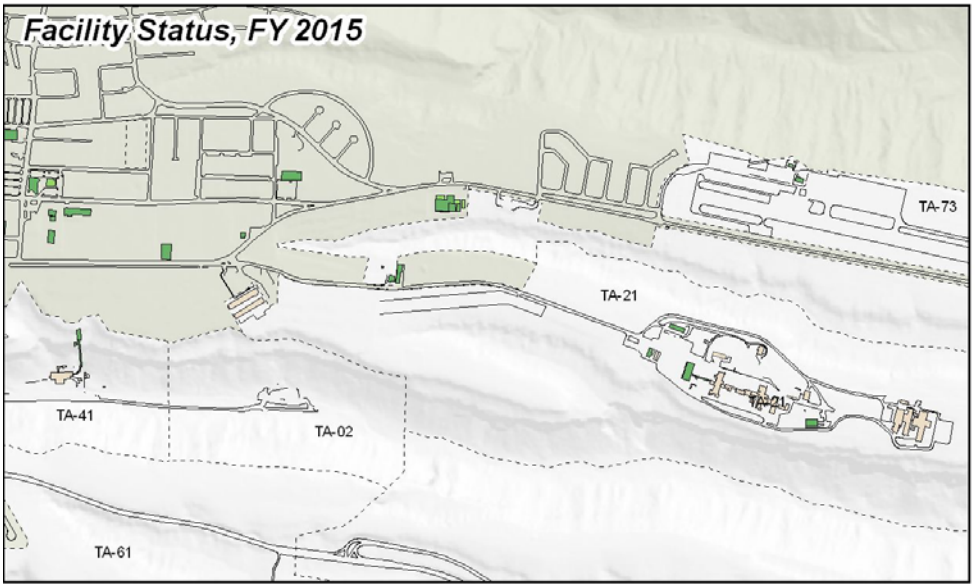

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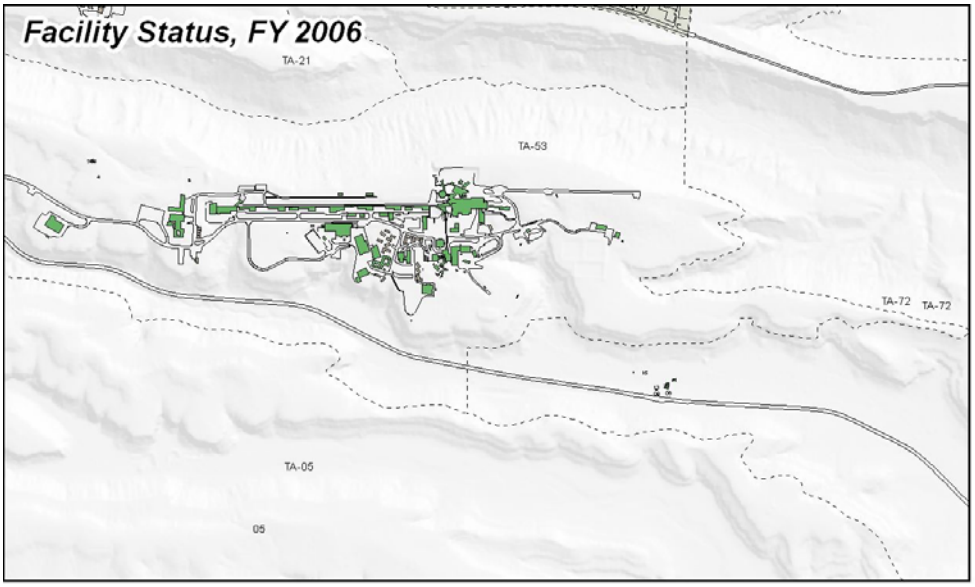

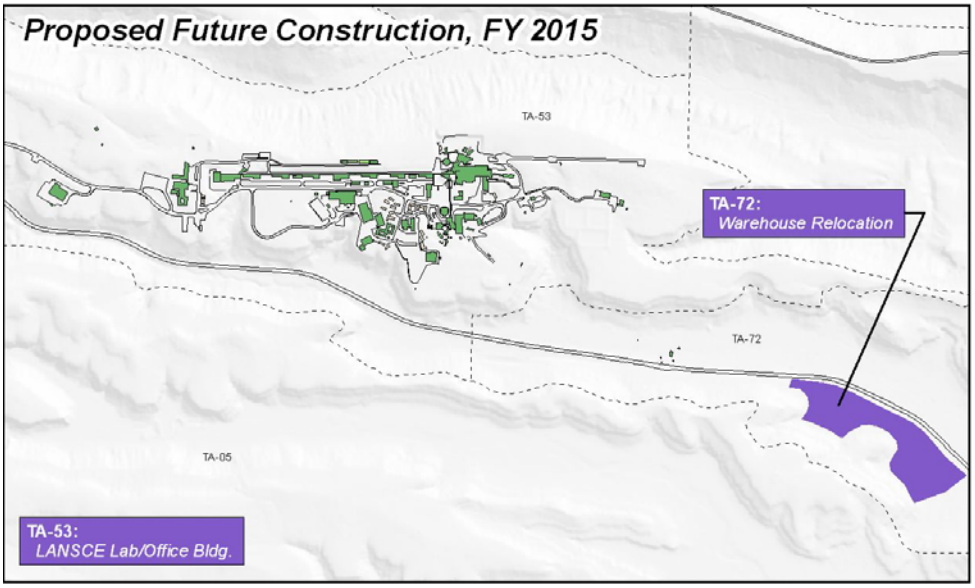

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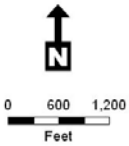

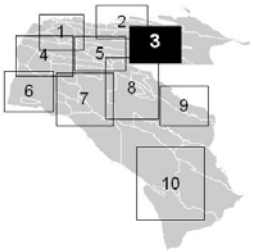

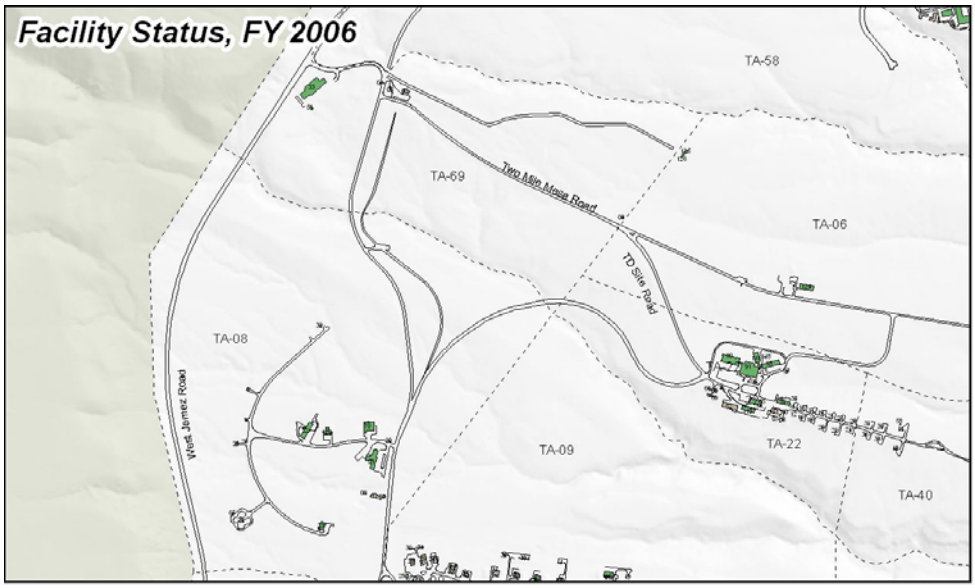

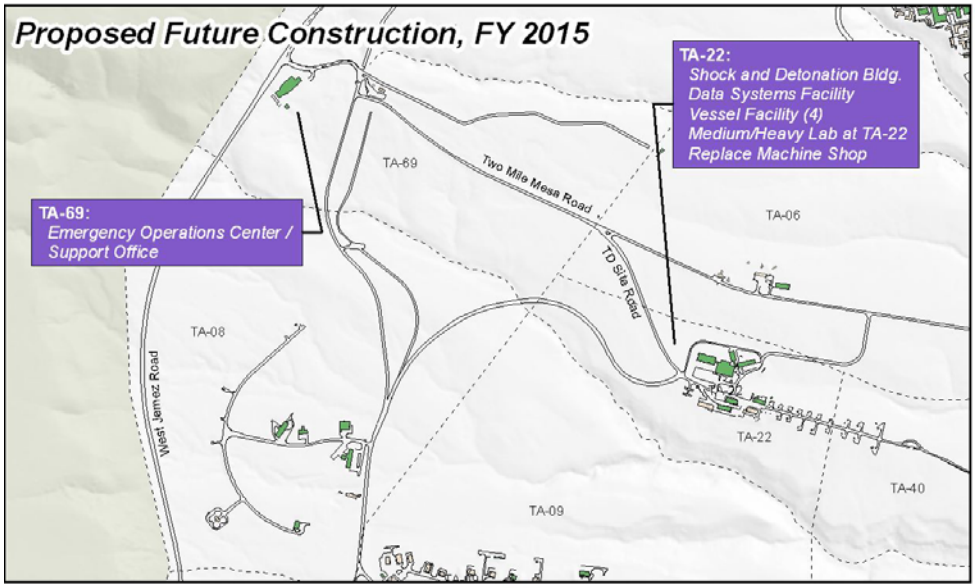

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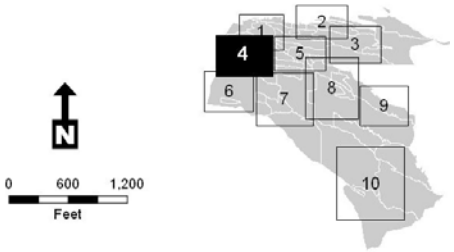

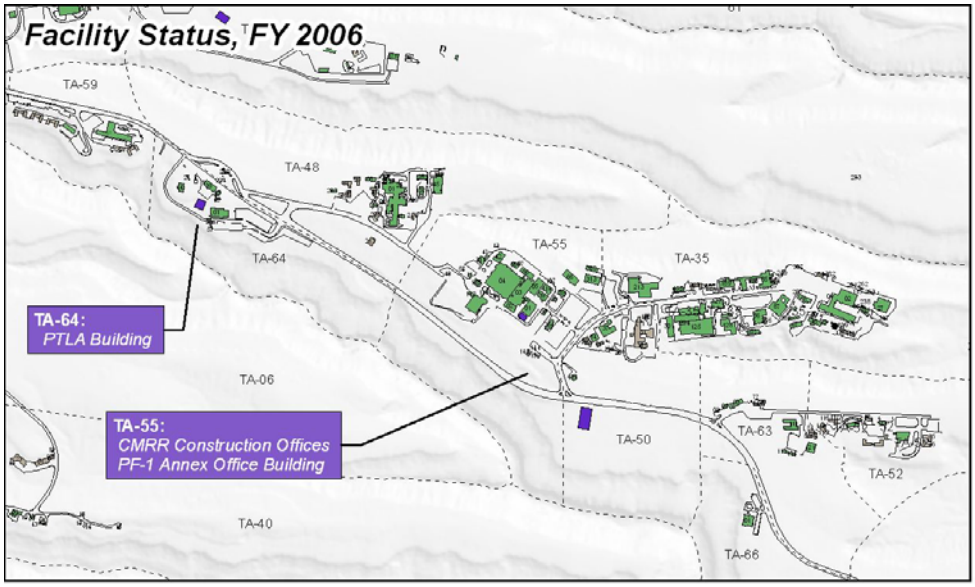

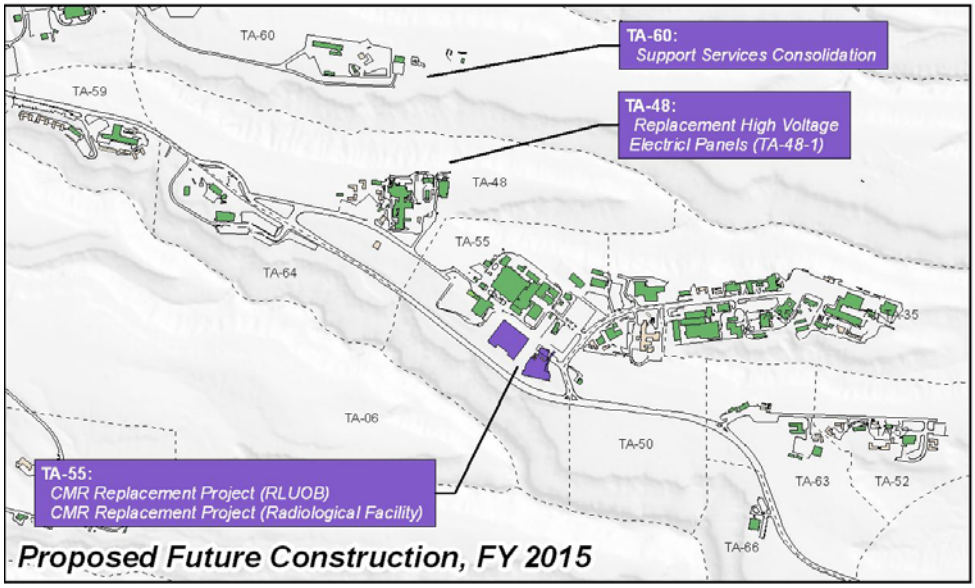

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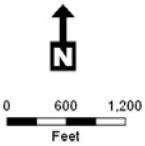

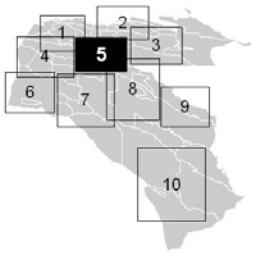

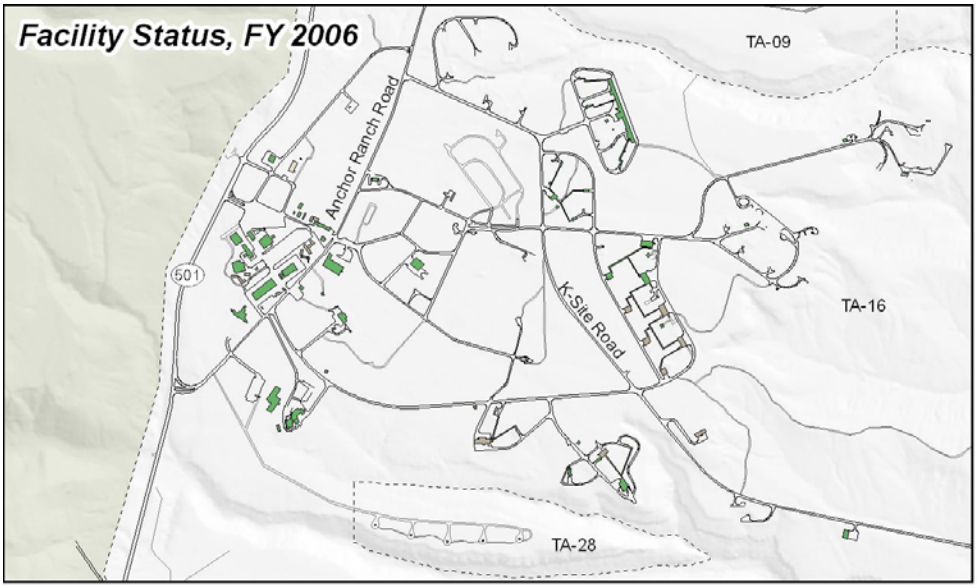

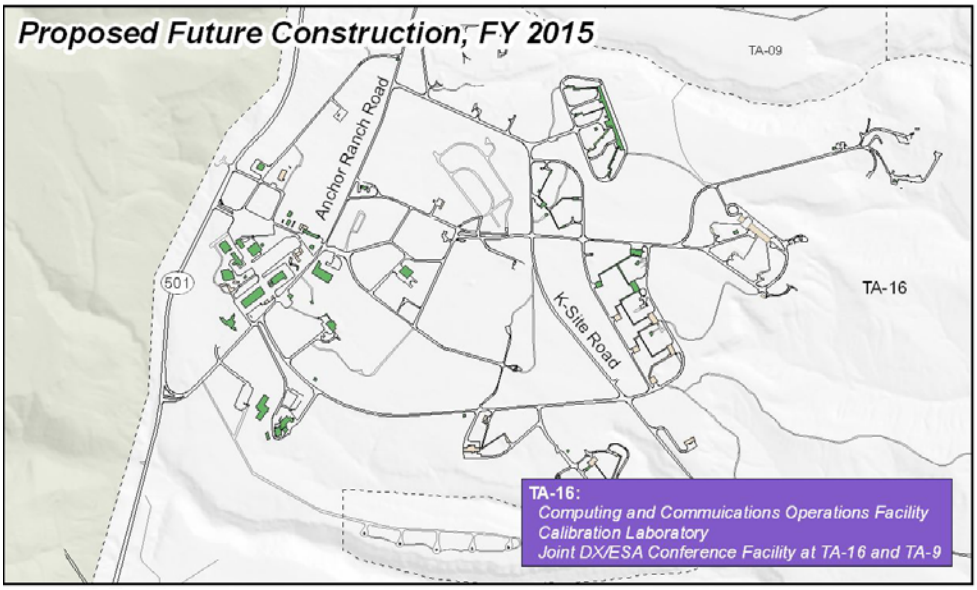

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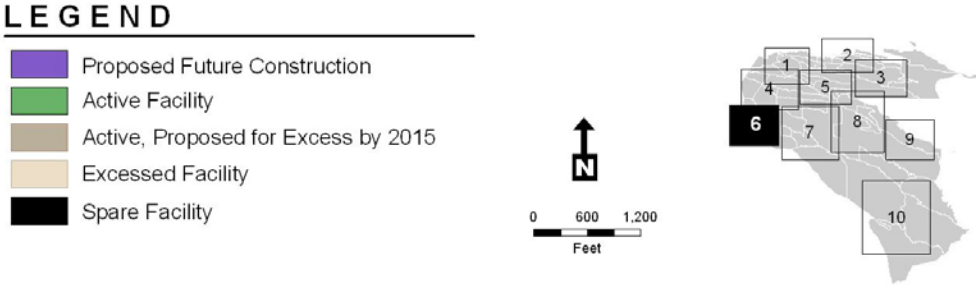

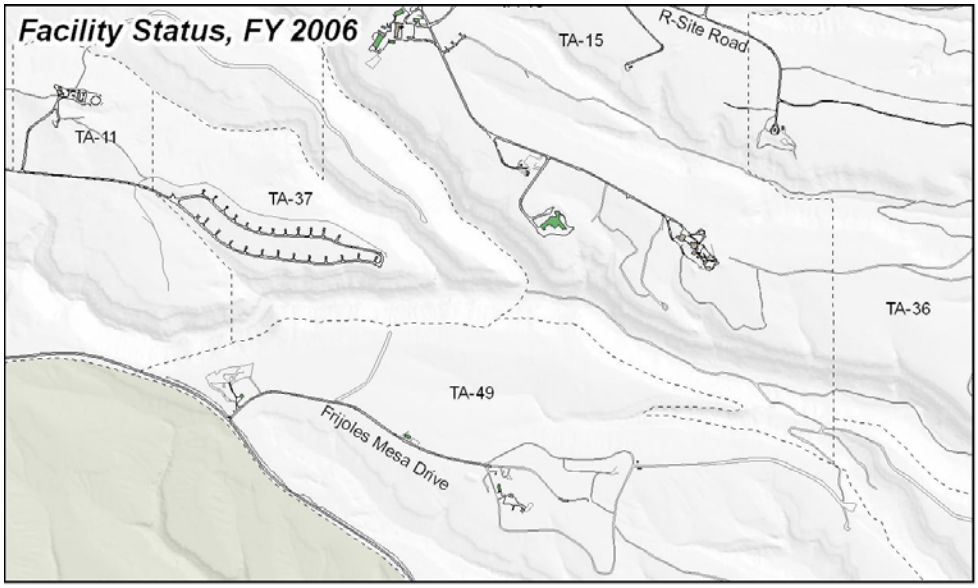

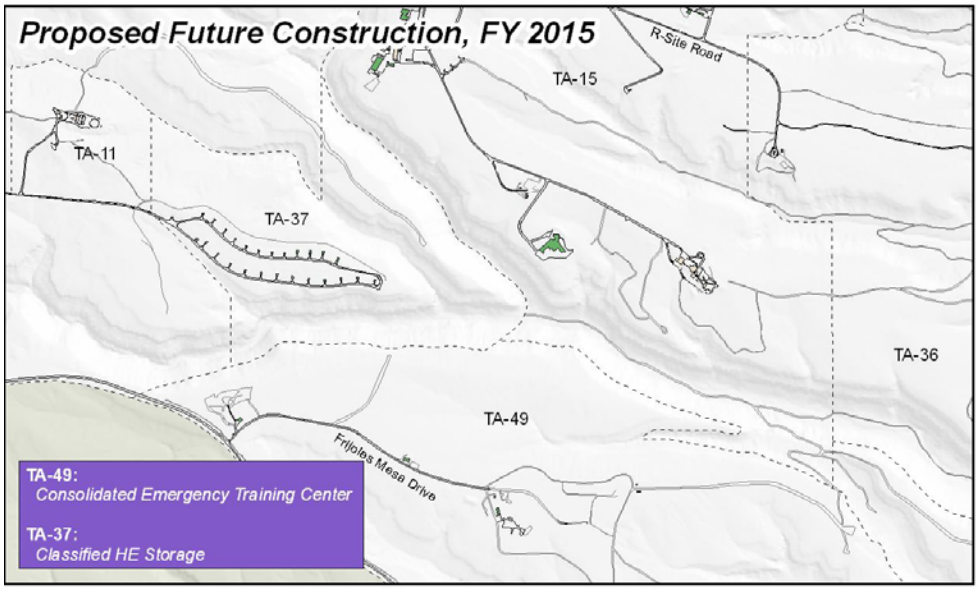

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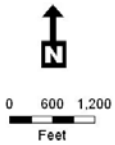

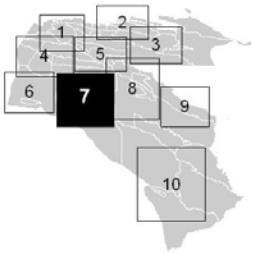

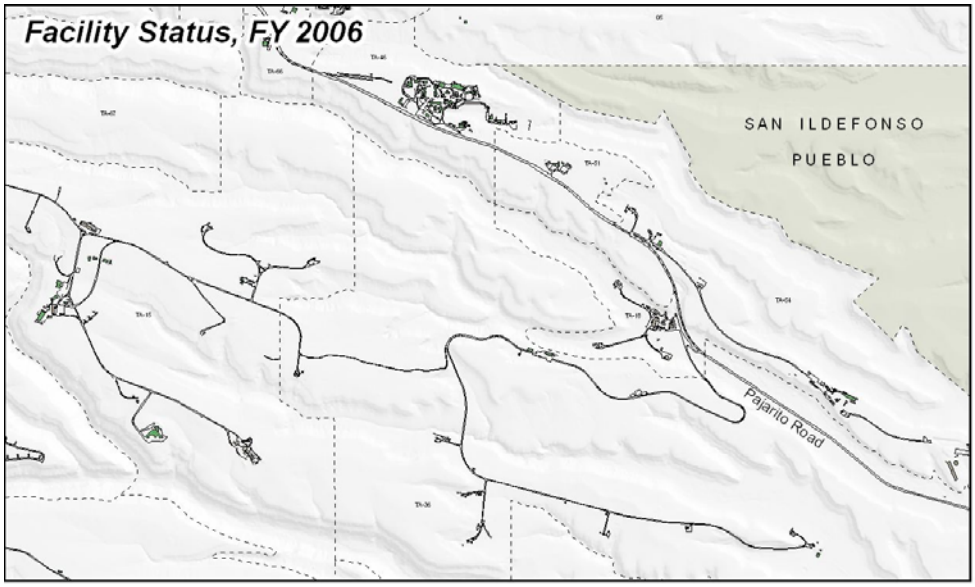

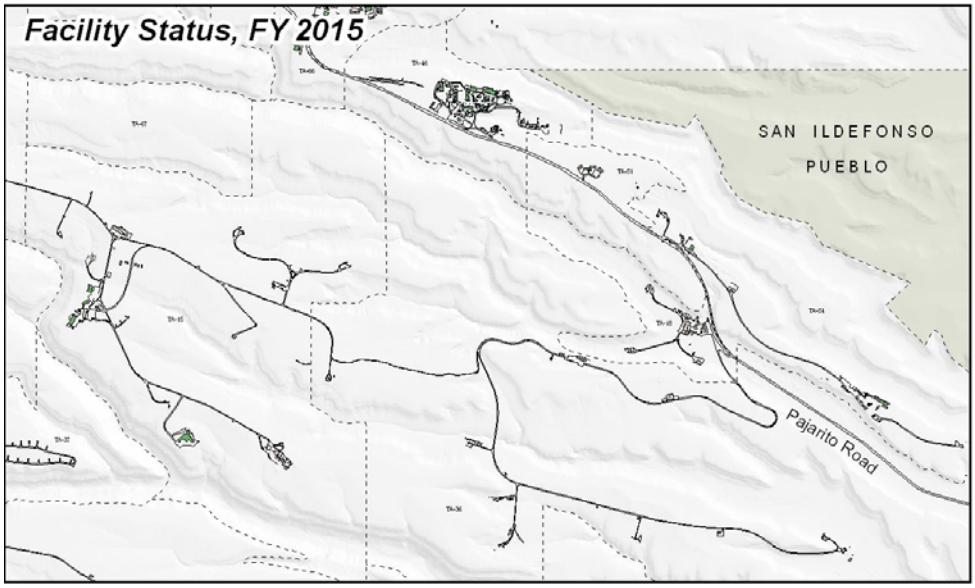

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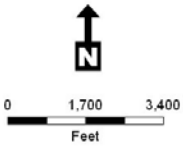

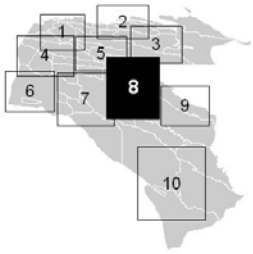

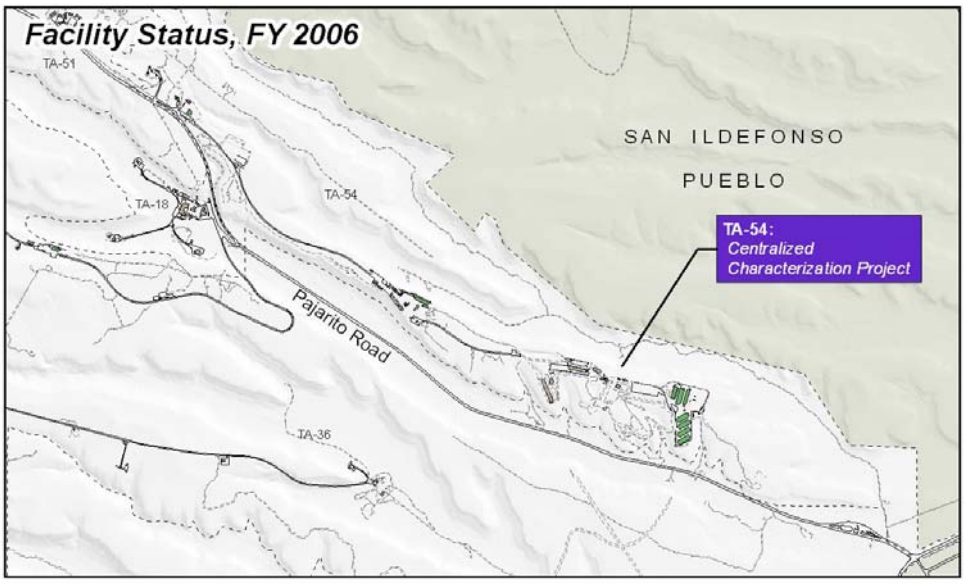

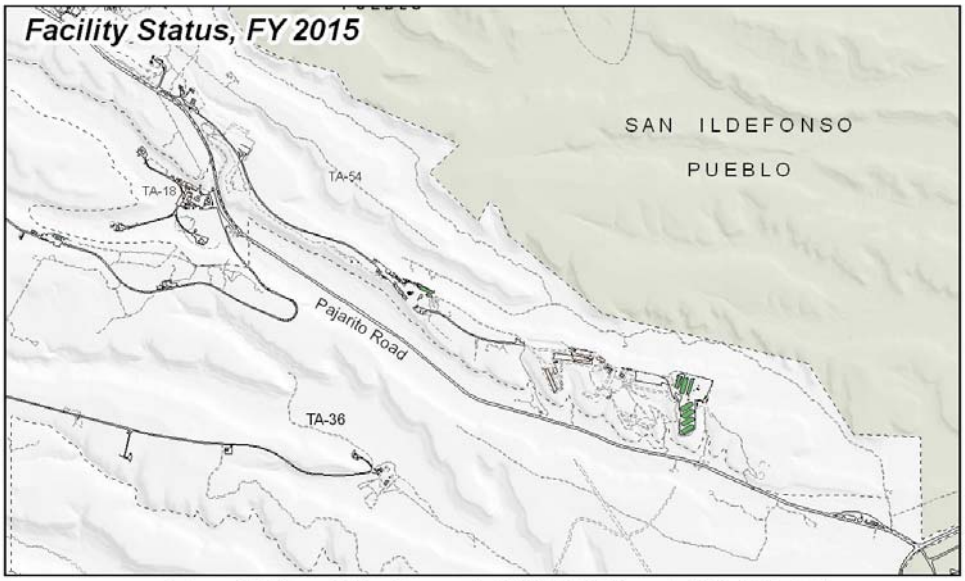

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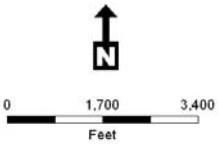

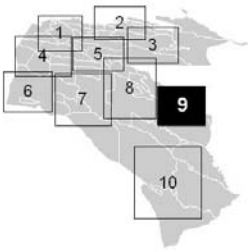

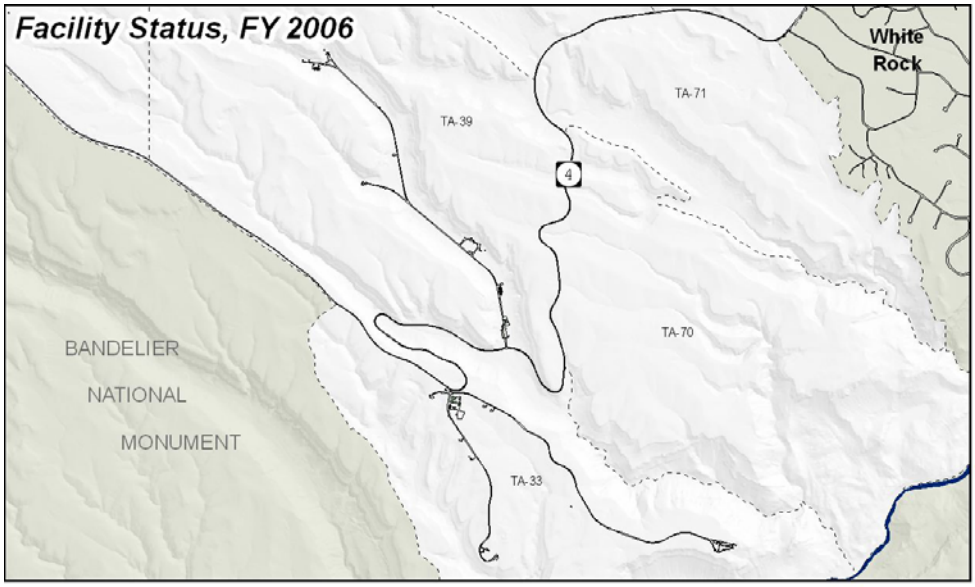

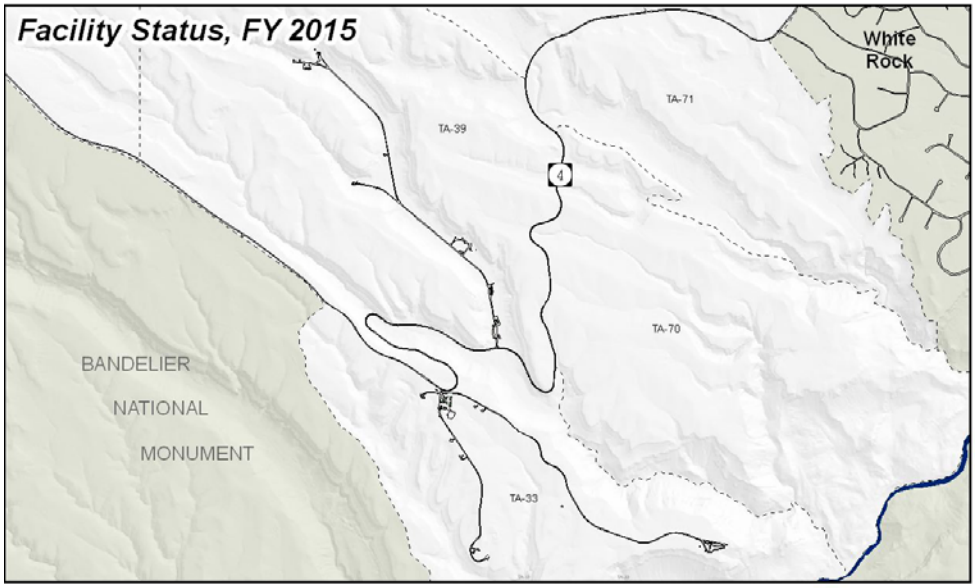

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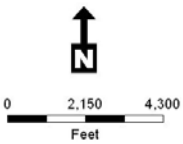
- Active Facility
- Active, Proposed for Excess by 2015
- Excessed Facility
- Spare Facility



Utility Maps

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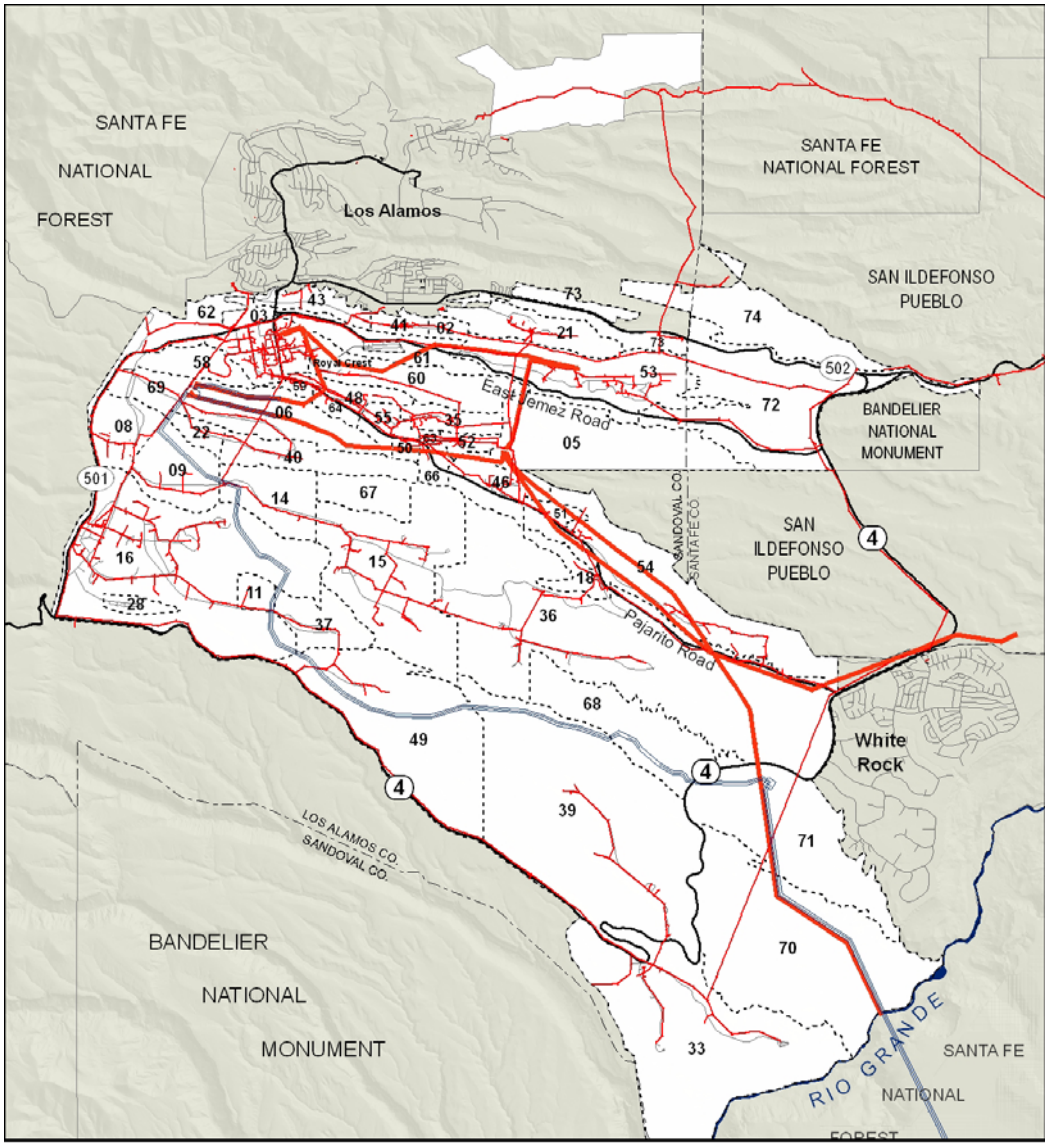


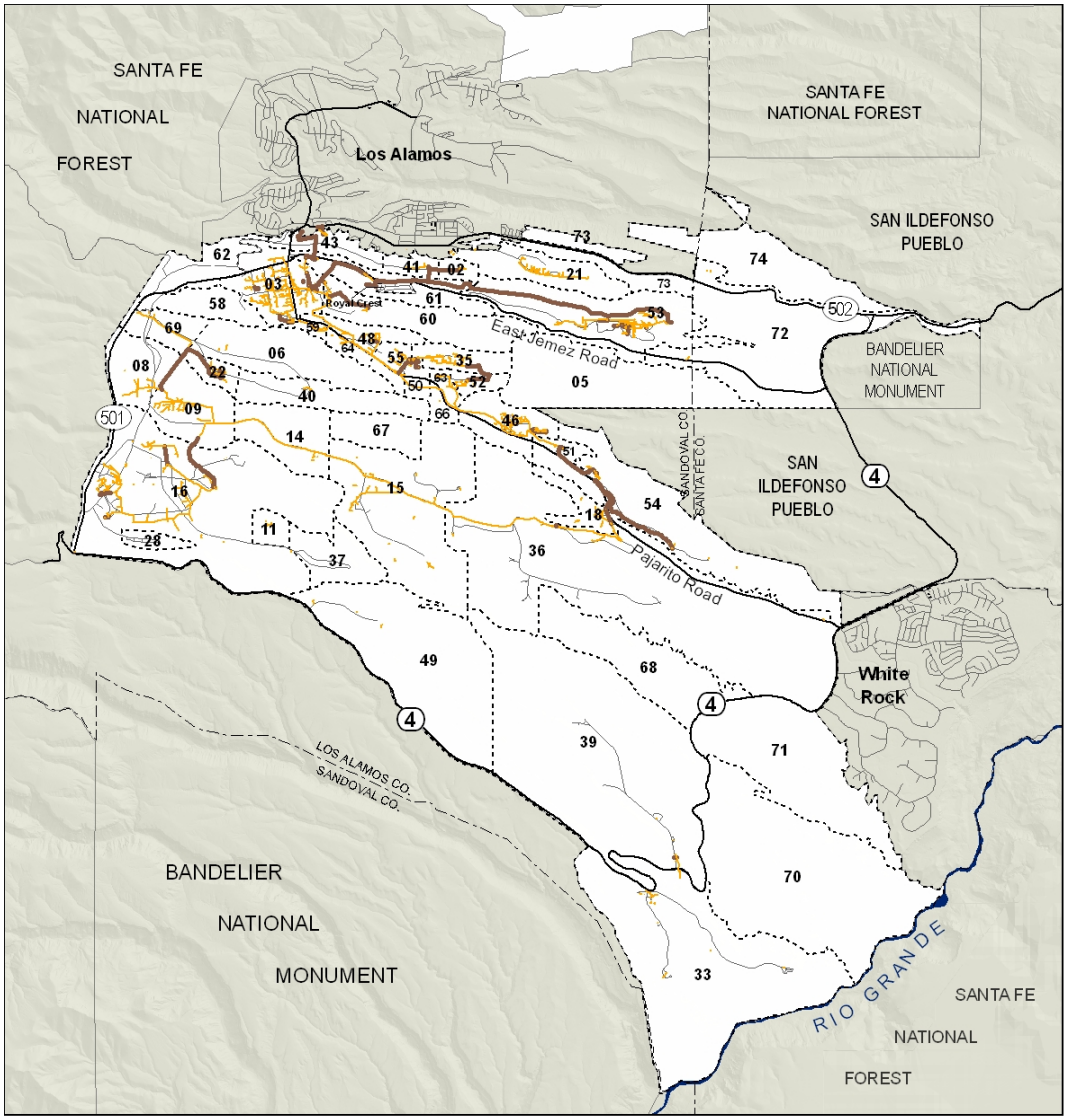
Electric Utilities

LEGEND

- Electric Transmission
- Electric Distribution
- Proposed 115kv Transmission Line

N

0 4,000 8,000
Feet



Sanitary Sewer Utilities

LEGEND

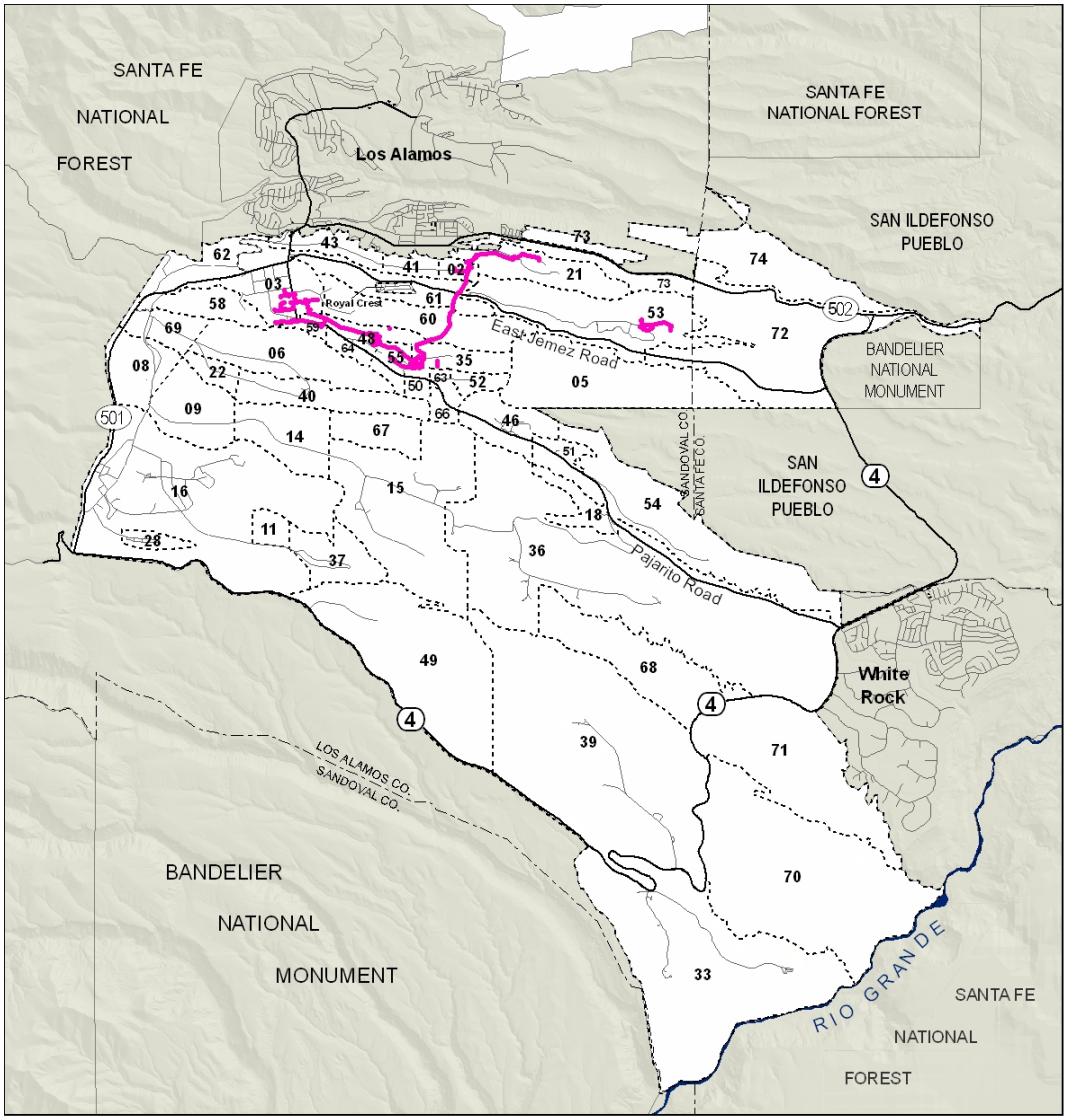
Gravity

Force Main

N

0 4,000 8,000 16,000

Feet



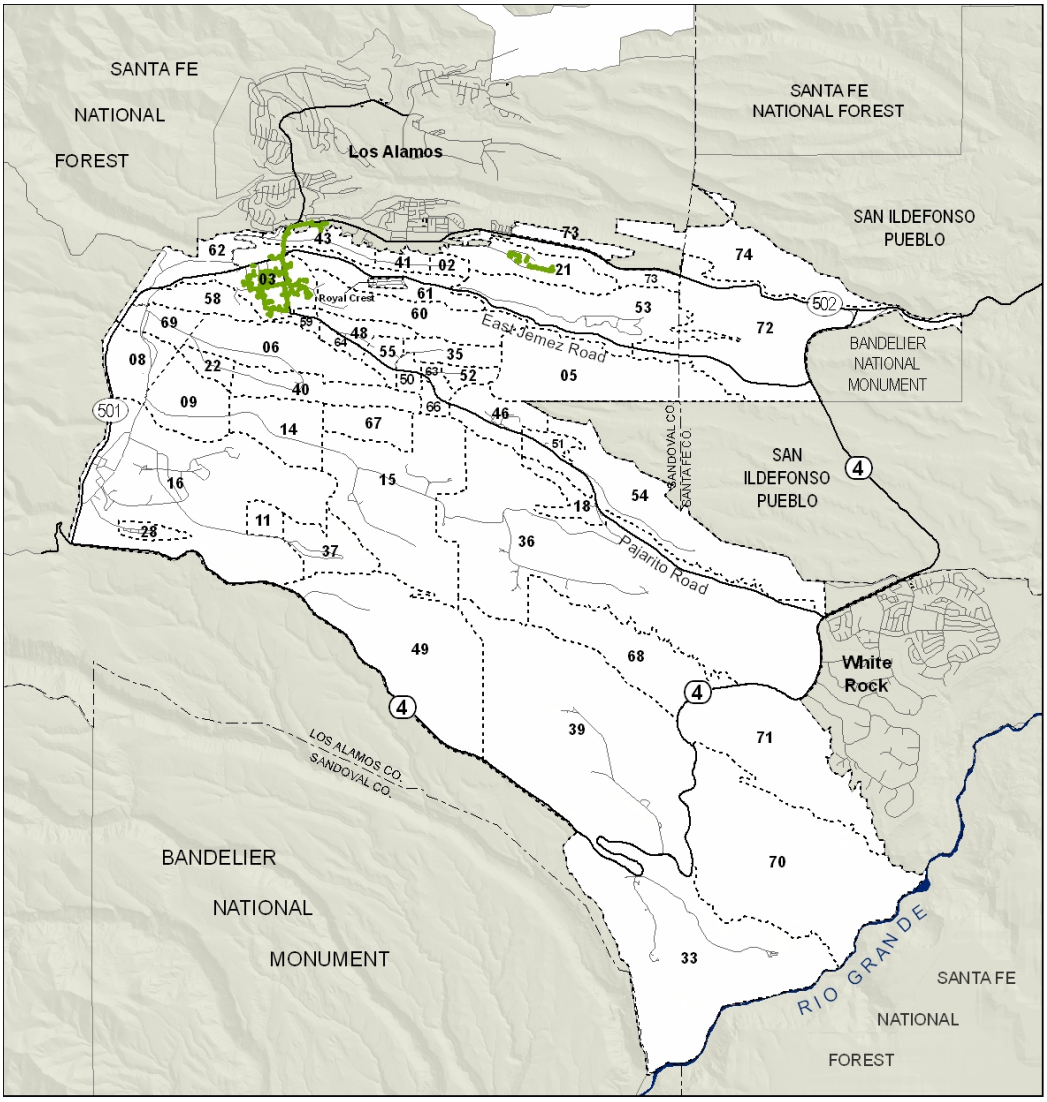
Radioactive Liquid Waste

LEGEND

Radioactive Liquid Waste Line

N

0 4,000 8,000 16,000
Feet



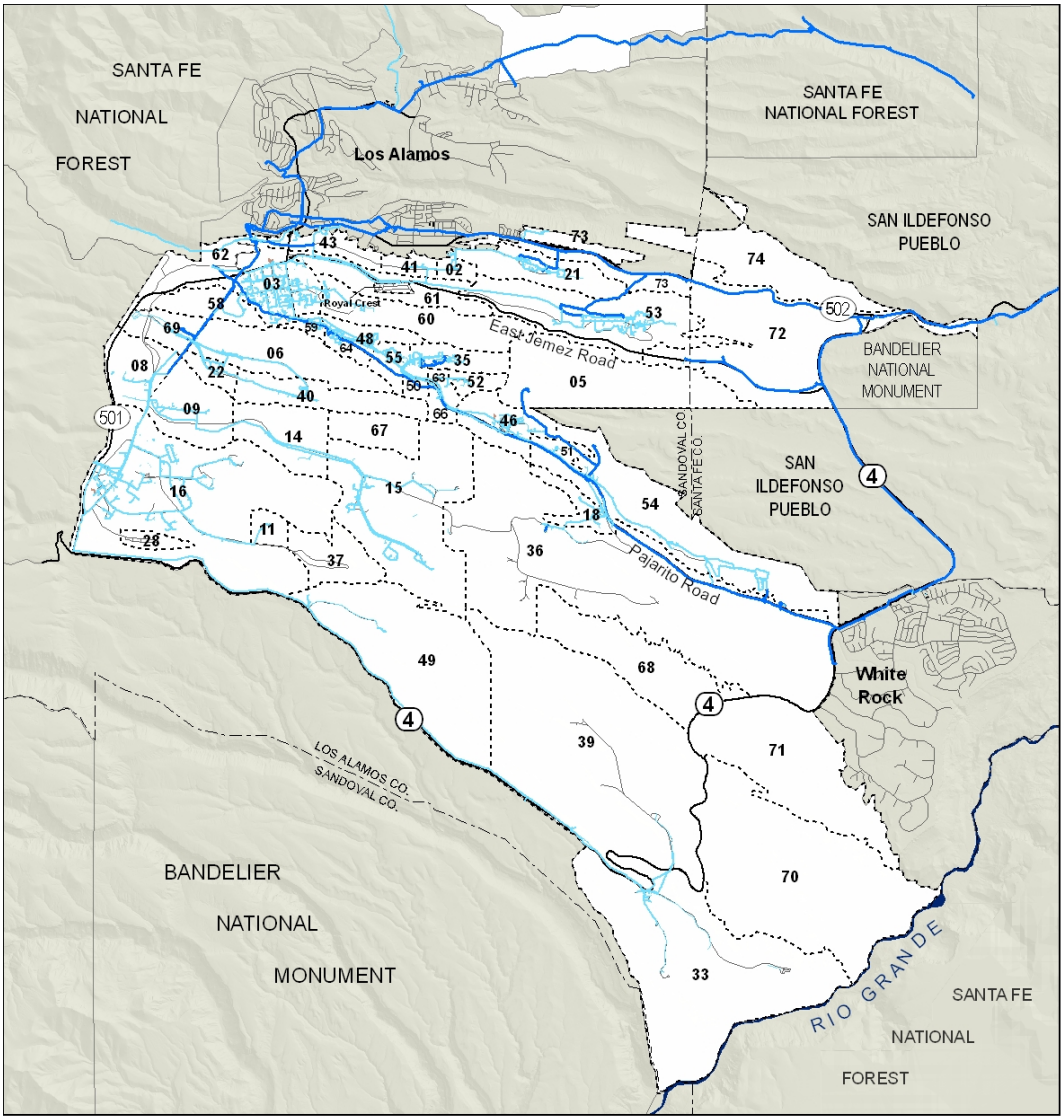
Steam Utilities

LEGEND

Steam Distribution Line

N

0 4,000 8,000 16,000
Feet



Water Utilities

LEGEND

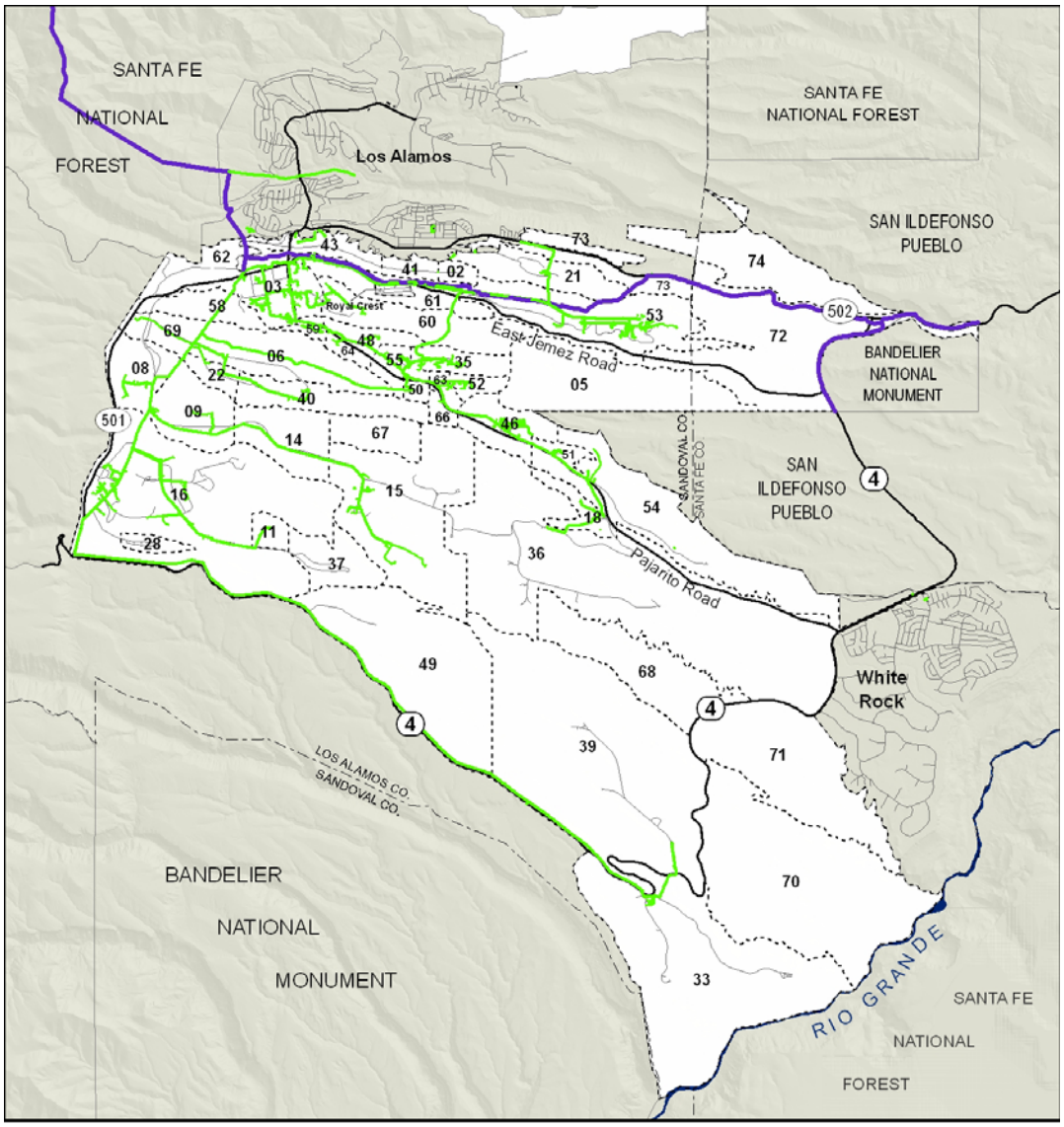
Water Transmission

Water Distribution

N

0 4,000 8,000 16,000

Feet



Natural Gas Utilities

LEGEND

Gas Transmission

Gas Distribution

N

0 4,000 8,000

Feet

Ten-Year Site Plan
FY 2007 – FY 2016

March 24, 2006
LA-CP-06-0309

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Name/Org: William H. Jones, Site Planning and Project Initiation Group (SPPI)
Date: March 15, 2006
Guidance (if applicable): N/A

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Prepared by:
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Cover Photo: The National Security Sciences Building (NSSB) currently under construction in TA-3. Photograph taken February 3, 2006.

UNITED STATES GOVERNMENT

DEPARTMENT OF ENERGY

memorandum

National Nuclear Security Administration
Los Alamos Site Office
Los Alamos, New Mexico 87544

DATE: March 28, 2006
REPLY TO ATTN OF: OPM: 6IV-004
SUBJECT: FY 2007 – FY 2016 Ten-Year Site Plan Limited Update

TO: Thad Konopnicki, Acting Associate Administrator for Infrastructure and Security, NA-50, HQ/FORS

This letter transmits the FY 2007 Ten-Year Site Plan (TYSP) Limited Update for the Los Alamos National Laboratory (LANL). The FY 2007 TYSP Limited Update was prepared by LANL in coordination with the Los Alamos Site Office, per requirements of the National Nuclear Security Administration (NNSA) FY 2007-2016 Ten-Year Site Plan Guidance, December 2004.

Please direct any questions to Isaac Valdez (505) 664-0285 or Adrienne Nash (505) 665-5026.

Edwin L. Wilmot
Manager

Attachment:

cc w/o attachment:
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Los Alamos
NATIONAL LABORATORY
EST. 1943

Office of the Director

March 24, 2006

Mr. Edwin Wilmot
U.S Department of Energy/NNSA
Los Alamos Site Office
Mail Stop: A316
Los Alamos, NM 87544

Subject: SUBMITTAL OF THE TEN-YEAR SITE PLAN, FY07-FY16

Ed

Dear ~~Mr. Wilmot~~:

With this submittal of the Ten-Year Site Plan, FY07-FY16, we respectfully request your concurrence in forwarding the document to headquarters. This document has been prepared in accordance with the guidance received February 23, 2006. This document is being submitted past the required date for two reasons: LANL wanted to ensure that information in this plan was consistent with the discussions and guidance received coming out of the Defense Programs FY 2008-12 Programming Meeting in Albuquerque, March 21 – 23; and, that LANS was aware of the major changes from the FY06 TYCSP.

Below we have highlighted areas of change with respect to the FY06 TYCSP submitted in September 2005:

- Consistent with Executive Order 13327, Federal Real Property Asset Management, the Laboratory redefined its facility categorization from Mission Essential and Balance of Plant to Mission Critical, Mission Dependent Not Critical and Non-Mission Dependent. These changes were uploaded to FIMS at the end of FY05, prior to receipt of the FY07 TYSP guidance. Further discussion of these changes is provided within the document as well as a crosswalk to show how this TYSP is consistent with the guidance.

- The FY06 budgets in RTBF and FIRP were significantly reduced,$79M and $25M, respectively, over the planning targets (FYNSP) used in the development of the FY06 TYCSP. In both cases, these cuts resulted in the deferment of some scope to later years and this is reflected in the Attachment A tables and our ability to reduce deferred maintenance as effectively in FY06.

  These cuts impacted maintenance funding as well. The planned maintenance funding of $100M has been reduced by $6M. The $94M maintenance investment represents 1.6% of the Replacement Plant Value (RPV), well below the 2% of RPV required by NNSA guidance. As discussed in previous versions of the TYCSP, maintenance at the existing CMR building is deliberately held low because construction of a replacement facility is underway. The impact of funding maintenance at CMR, which has an RPV of greater than $1.7B, at a very low level has a significant impact on the total maintenance funding at the site. When CMR is removed from this evaluation, maintenance funding at the rest of the site is slightly greater than 2%.

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- Despite reduced FIRP funding in FY06, the Laboratory projects that the FCI for Mission Critical facilities, as defined in the guidance for this TYSP, will be below 5% at the end of FY09. While the FIRP funding shortfall in FY06 slows progress towards this goal, the reduction of deferred maintenance in FY05 was substantially greater than planned through corrective maintenance actions that addressed deferred maintenance items.

- The facilities and infrastructure supporting the Nuclear Weapons Program and the Laboratory must ensure that we can meet near-term program deliverables and transform for long-term viability. The 2016 vision of the Laboratory is exemplified by the following:

  - Reduced overall footprint and consolidated nuclear infrastructure,
  - Protection strategy that is largely insensitive to DBT changes,
  - Infrastructure maintained within projected resources,
  - Best business practices implemented in the management of facilities, projects and programs,
  - Continuous strategic investment, and
  - Flexibility/responsiveness to support dynamic program needs.

  This vision is consistent with that provided in the FY06 TYCSP and, with one exception, no new line item construction projects have been proposed. The exception is the Fire Station Replacement Project in consultation with LASO.

- In accordance with guidance from HQ, disposition funds within FIRP are to be discontinued following FY09. LANL still has significant square footage associated with non-process contaminated facilities that we will work with the FIRP Office at Headquarters within these constraints. However, to continue decreasing the Laboratory's total square footage past FY09, an alternative funding source for D&D must be identified.

- On June 1, 2006, the Laboratory's maintenance and operating contract will transition from the University of California (UC) to the Los Alamos National Security, LLC (LANS). Therefore, this will be the last Ten Year Site Plan produced by UC. While we believe that this plan provides the basic strategy to transform the Laboratory for the future, we expect that LANS will propose a robust, outyear construction program that addresses infrastructure needs and supports future program requirements. Therefore, we have limited the outyear construction project proposals to facilitate transition.

With respect to the budget cuts discussed above, it should be noted that despite the funding shortfall of $79M in RTBF, LANL was able to minimize the impacts to the maintenance program and to maintain, albeit at a reduced level, a strategic investment and footprint reduction portfolio that does address operational efficiencies and deferred maintenance. While we were able to make these budget adjustments with relatively minor impacts to these programs in FY06, similar cuts in future years will result in more dramatic impacts.

Should you have any questions concerning this document, please contact Joel Leeman at 606-0800 or Craig Leasure at 606-0000.

Sincerely,

Bob

Robert Kuckuck
Director

Enclosure a/s

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DIR-06-094 File, MS A100
IM-9, MS A150

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Attachment A — Facilities and Infrastructure Cost Projection Spreadsheets

Attachment E — Excess Facilities, New Construction, and Leased Space

Attachment F — Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction Spreadsheet

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Acronyms

ADTR	Associate Director for Threat Reduction
ADA	Americans with Disabilities Act
BOP	Balance of Plant
BSL	Bio-Science Laboratory
BTF	Beryllium Technology Facility
CAIS	Condition Assessment Information System
CD	Critical Decision
CINT	Center for Integrated Nanotechnologies
CMR	Chemistry and Metallurgy Research
DARHT	Dual Axis Radiographic Hydrodynamic Facility
DBTIP	Design Basis Treat Integration Project
D&D	Demolition and Disposal
DHS	Department of Homeland Security
DM	Deferred Maintenance
DOE	Department of Energy
DP	Defense Programs
DSW	Directed Stockpile Work
DX	Dynamic Experimentation Division
EM	Environmental Management
E.O.	Executive Order
EOC	Emergency Operation Center
ESA	Engineering Sciences and Applications Division
F&I	Facilities and Infrastructure
FCI	Facility Condition Index
FIMS	Facility Information Management System
FIRP	Facilities and Infrastructure Recapitalization Program
FIRRS	Facility and Infrastructure Recapitalization Rating Score
FMS	Facility Management System
FRPC	Federal Real Property Council
FY	Fiscal Year

FYNSP	Future Years Nuclear Security Program
GPP	General Plant Project
GSF	Gross Square Footage
HE	High Explosive
HVAC	Heating, Ventilation, and Air Conditioning
IAEA	International Atomic Energy Agency
ICPP	Integrated Construction Program Plan
IGPP	Institutional General Plant Project
IIU	Individual Inspection Units
IM	Information Management Division
JNETF	Joint Nuclear Explosives Training Facility
LANL	Los Alamos National Laboratory
LANS	Los Alamos National Security, LLC.
LANSCE	Los Alamos Neutron Science Center
LASO	Los Alamos Site Office
LI	Line Item
LLW	Low-Level Waste
MC	Mission Critical
MD	Mission Dependent
ME	Mission Essential
MPF	Meson Physics Facility
MST	Materials Science and Technology Division
NE	Office of Nuclear Engineering
NISC	Nonproliferation and International Security Center
NMD	Not Mission Dependent
NMSSUP	Nuclear Materials Safeguard and Security Upgrade Project
NNLR	Nuclear Nonproliferation Laboratory Replacement
NNSA	National Nuclear Security Administration
OPC	Other Project Costs
OS	Office of Science
PED	Preliminary Engineering Design

PEG	Program Execution Guidance
PF	Plutonium Facility
PTLA	Protection Technology Los Alamos
R&D	Research and Development
RAMP	Regulatory Assessment and Management Process Facility
RANT	Radioactive Assay Nondestructive Testing Facility
RC	Radiological Chemistry
RH	Remote Handled
RIK	Replacement-in-kind
RLUOB	Radiological Utility Office Building
RLW	Radioactive Liquid Waste
RPV	Replacement Plant Value
RTBF	Readiness in Technical Base and Facilities
S	Security
S&S	Safeguards and Security
SNM	Special Nuclear Material
TA	Technical Area
TBD	To B e Determined
TEC	Total Estimated Cost
The Laboratory	Los Alamos National Laboratory
TPC	Total Project Cost
TRU	Transuranic
TYCSP	Ten -Year Comprehensive site Plan
TYSP	Ten-Year Site Plan
VTR	Vault Type Room
WETF	Weapons Engineering Tritium Facility
WIPP	Waste Isolation Pilot Plant

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1 INTRODUCTION

The Los Alamos National Laboratory (the Laboratory) submits herein the Fiscal Year 2007 – 2016 Ten-Year Site Plan (FY07 TYSP). This plan is submitted in response to the National Nuclear Security Administration (NNSA) guidance, "Ten-Year Site Plan Guidance," dated February 2006.

The NNSA considers site TYSPs to be the foundation for complex-wide facilities and infrastructure strategic planning and the cornerstone of ongoing efforts to restore, rebuild and revitalize the complex. For NNSA, the TYSP focuses management attention on current and future real property needs at the Laboratory.

This plan is based on fiscal constraints that are tied to the Future Years Nuclear Security Program (FYNSP) and supports the program deliverables identified in FYNSP. It provides a basis for (1) describing facility and infrastructure needs and requirements; (2) describing how site management perform with the resources allocated, and (3) the rationale for prioritizing facility and infrastructure needs within the constraints imposed by available budgets. This plan also provides an update to selected key data presented in the FY06-15 Ten-Year Comprehensive Site Plan (TYCSP) in support of the programming phase of the NNSA's FY08 – FY12 Planning, Programming, Budgeting, and Evaluation cycle.

This year's TYSP marks a departure from previous submittals of this type. NNSA is currently transitioning to a single, annual site TYSP submission that aligns with the President's Budget submission and eliminates the requirement for a Limited Update. During the 2006 transition year, this plan provides the abbreviated TYSP that will align with the FY07-11 President's Budget.

This plan focuses solely on the deliverables required to support the Laboratory's abbreviated FY07-16 TYSP.

Included in this document are the following major elements as required by the guidance.

a. **Cost Projection Spreadsheets (Attachments A-1 through A-7).** These provide insight to budget realities and consider all funding sources to include Readiness in Technical Base and Facilities (RTBF), Line Item, Indirect, and Facilities and Infrastructure Recapitalization Program (FIRP). The Laboratory has also included a summary of projects that are Campaign/Directed Stockpile Work (DSW) (non-line item), non-Defense Programs (DP), non-NNSA, and Institutional General Plant Projects (IGPP). Specific tables address the following requirements: Facilities and Infrastructure Line Items (A-1); Proposed Line Item Projects (A-2); RTBF/Operations of Facilities (A-3); FIRP (A-4); Other Facilities and Infrastructure (A-5); and Security Infrastructure Projects (A-6); and Other Facilities and Infrastructure Recapitalization program

Projects (A-7). Also included are Attachment A-2 NNSA Integrated Construction Program Plan (ICPP) Proposed Line Item Construction Project Information Sheets.

b. **NNSA Excess Facilities New Construction and Leased Space Spreadsheets and Graphs (Attachments E-1 through E-6).** These capture all NNSA facilities that are currently excess to the Department of Energy (DOE) and those facilities that will become excess during the ten year planning horizon covered by the TYSP. Specific tables that are included are Excess Facilities Footprint Elimination Plan (E-1); New Construction Footprint Added (E-2); Grandfathered Footprint Added (E-3); Footprint Tracking Summary (NNSA and Site-Wide) (E-4); Waiver/Transfer Log (E-5), and (new) FY06 Leased Space Profile (E-6).

c. **NNSA Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction Spreadsheets and Charts and Replacement-in-Kind Requirements (Attachments F-1 through F-7).** These report on progress towards meeting the NNSA corporate Deferred Maintenance (DM) goals for FY05 and FY09 and also identify replacement-in-kind (RIK) projects over $500,000. This plan provides a narrative discussion that addresses the Laboratory's implementation plan for achieving those goals. Specific tables and figures associated with this requirement include: FIRP FY03 Deferred Maintenance (DM) Baseline and Projected DM Reduction from Baseline (F-1); NNSA Total DM and Projected DM Reduction (F-2); Site's Total DM, Mission Critical (MC) DM and new DM Growth (F-3); Site's Progress Towards FY09 Goal of <5% DM for Mission Critical Facilities and Infrastructure (F-4); Site's Progress Towards FY09 Goal of <10% DM for Mission-Dependent and Not Mission-Dependent Facilities and Infrastructure (F-5); (new) Site Total Facility Condition Index (NNSA Only) (F-6); and Replacement-In-Kind (F-7).

d. **Narrative discussion** in the main text clearly highlights any significant changes from the Site's FY06 TYCSP submission.

This document's attachments include several changes from the prior FY06 TYCSP that are mapped in order to support plan-to-plan traceability. They include:

- Attachment E-6, Leased Space, is included as requested per the TYSP Guidance.
- Attachment F-6, Replacement-In-Kind Requirements Spreadsheet has been moved to Attachment F-7. Attachment F-6 is now titled "Total Facility Condition Index Spreadsheet and Graph," per the TYSP Guidance.

This plan is organized as follows:

Chapter 2 discusses major sources of change from the publication of the prior FY06 TYCSP to now.

- Section 2.1 Facility Re-categorization - Facilities and infrastructure at the Laboratory have been re-categorized from Mission Essential and Non-Mission Essential to newer "Mission Dependency" categories per Federal Real Property Council (FRPC) guidance. This section includes a description of the rationale and the basis for re-categorization as well as how it compares to TYSP guidance. This section also describes how Mission Critical facility (MC) reporting will be performed in the FY07 TYSP in order to maintain comparability of projected deferred maintenance and planned DM buydown with the FY03 DM Baseline.

- Section 2.2 Program Budget Reductions - Major programs including FIRP and the RTBF program have been substantially reduced from the projections used to construct the FY06 TYCSP. This section discusses changes that have occurred and the potential impact of these changes on NNSA's FY09 DM reduction goals.

- Section 2.3 Security Infrastructure Direction – Direction on minimum investment in security facilities and infrastructure has been given by NNSA. This section discusses the Laboratory's approach to achieving the security operations budget set-aside in FY07 and FY08.

Chapter 3 provides a narrative discussion of the impact of major changes, particularly the changes in planned budgets, on the Attachments. These include the following:

- Section 3.1 Changes To Attachment A – This section describes the changes on planned and proposed projects, the Attachment A-1 through A-6 tables that are the result of planned budget changes this FY. This section also discusses Attachment A-7 describing proposed FIRP projects that may be required to buydown DM not in the original FY03 Baseline.

- Section 3.2 Changes to Attachment E – This section describes changes in projects to dispose of excess facilities and control the site footprint, Attachment E-1 through E-6 tables that are the result of planned budget shortfalls in FY06.

- Section 3.3 Changes in Attachment F – This section describes the basis for development of Attachment F projections of DM buydown from the FY03 Baseline (F-1) and by considering the growth in DM that has naturally occurred since the development of the FY03 Baseline (F-1). This section describes the impact of budget changes on the resulting DM buydown projections in F-1 and

F-2 and the resulting impacts on progress toward achieving NNSA directed DM reduction goals for FY09 (F-3 through F-6).

This plan does not consider one key issue that may heavily impact the forthcoming FY08 TYSP. The contract to manage Los Alamos National Laboratory was awarded to Los Alamos National Security, LLC (LANS) on December 21, 2005. The transition process from University of California management of the Laboratory to LANS management is currently underway. The FY08 TYSP will discuss the LANS strategies and commitments for managing facilities and infrastructure.

2 SOURCES OF CHANGE FROM THE FY06 TYCSP

2.1 Facility Re-categorization

Consistent with NNSA requirements up to the end of FY05, all facilities at the Laboratory were categorized in the FY06 TYCSP as Mission Essential (ME) or Balance of Plant (BOP), each with subsets of Enduring or Non-Enduring assets[1]. The breakdown of facilities into the two general categories is shown in Figure 2-1.

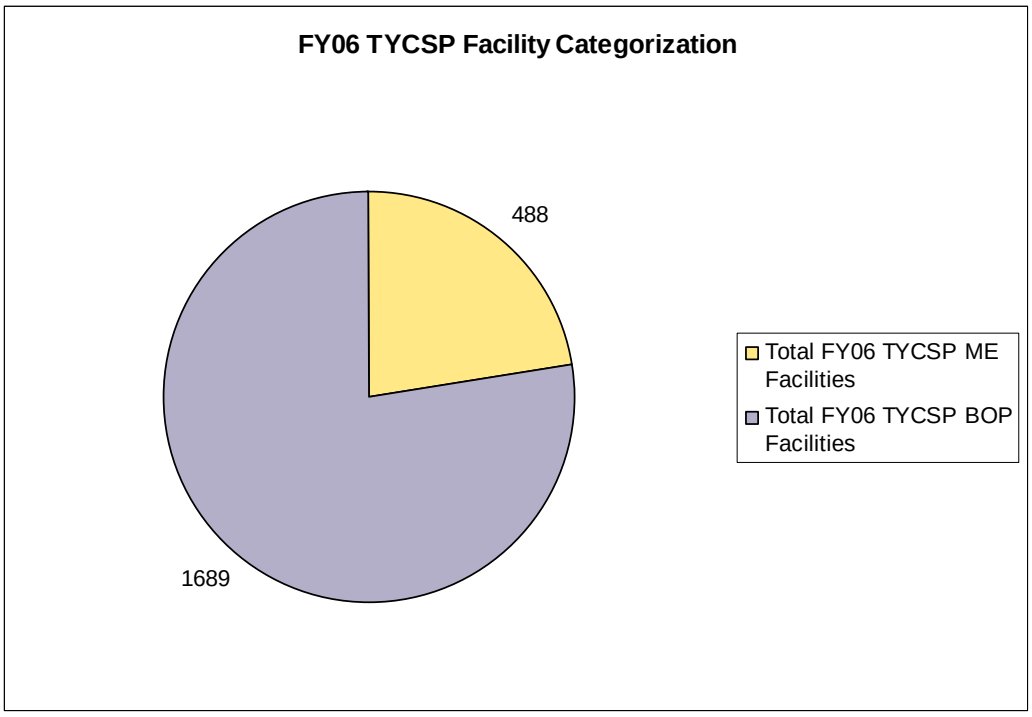

Figure 2-1: Facility Categorization Used in the FY06 TYCSP

Consistent with new reporting requirements from Executive Order 13327, Federal Real Property Asset Management, the Laboratory refined its previous designations to three new mission dependency categories: Mission Critical (MC), Mission Dependent (MD), Not Critical and Not Mission Dependent (NMD). Using the Federal Real Property Council (FRPC) definitions for these categories, the Laboratory worked with both program and line management to remap all existing assets. All changes were uploaded to the Laboratory's Facility Information Management System (FIMS) at the end of FY05, meeting the FRPC's reporting deadline. Table 2-1 provides a crosswalk of the Laboratory's older designations with the new Mission Dependency Categories.

[1] Although NNSA sites characterize ME differently, the Laboratory definition used to plan maintenance funding for RTBF prior to the end of FY05 is used.

Table 2-1: Mapping of Previous Facility Categories to Mission Dependency Categories

FRPC Mission Dependency Definitions	Previous TYCSP Mission Essential Category	Revised Mission Dependency Category
Mission Critical: Land or constructed assets deemed necessary to perform the primary missions assigned to a particular Site. This would encompass any facility or infrastructure predominantly used to perform scientific, production, environmental restoration or stockpile stewardship and without which, operations would be disrupted or placed at risk.	Mission Essential, Enduring	Mission Critical or Mission Dependent, Not Critical
	Mission Essential, Non-Enduring	Mission Critical or Mission Dependent, Not Critical
Mission Dependent, Not Critical: Land or constructed assets that play a supporting role in meeting the primary missions assigned to a particular Site. Loss of Mission Dependent, Not Critical assets would not immediately disrupt operations and can be reasonably restored or otherwise addressed prior to impacting operations.	Mission Essential, Enduring	Mission Critical or Mission Dependent, Not Critical
	Mission Essential, Non-Enduring	Mission Critical or Mission Dependent, Not Critical
Not Mission Dependent: Land or constructed assets that are not in support of the primary missions assigned to a particular Site but support secondary missions and / or quality of workplace initiatives. Loss of a Not Mission Dependent asset results in inconvenience and indirectly impacts operations if unavailable for an extended period. Further, assets determined to be excess to the site mission fall under this category.	Balance of Plant, Enduring	Not Mission Dependent
	Balance of Plant, Non-Enduring	Not Mission Dependent

The resulting re-categorization of Laboratory facilities and infrastructure used to update the FIMS database is shown in Figure 2-2[2].

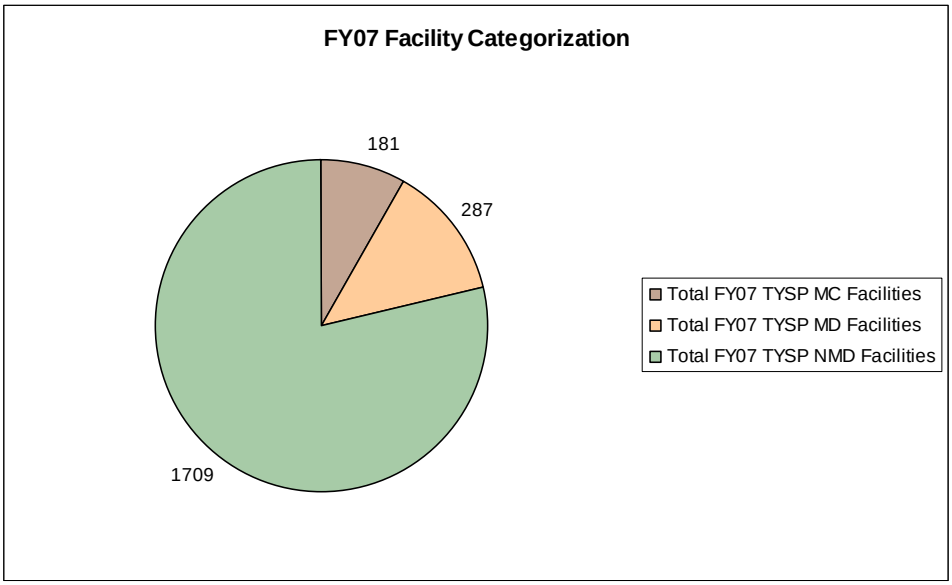

Figure 2-2: LANL Facility/Infrastructure Re-categorization Based on FIMS Definitions

The FY07 TYSP Guidance includes a requirement to re-categorize Laboratory facilities. The FY07 TYSP Guidance requests that sites follow the FRPC "Mission Dependency" categories for facilities and infrastructure, and it provides the cross reference between ME / BOP definitions used in the FY06 TYCSP and the MC / MD / NMD definitions to be used in the FY07 TYSP as shown in Table 2-2.

Table 2-2: FY07 TYSP Guidance on "Mission Dependency" Categories, Descriptions, and Cross Mapping

Previous FIMS Mission Essential Value	Previous FIMS Excess Indicator Value	Mapped FRPC Mission Dependency Value
Mission Essential	Not Excess	**Mission Critical**
Non-Mission Essential	Not Excess	**Mission Dependent Not Critical**
Non-Mission Essential	Excess	**Not Mission Dependent**

[2] Previously, non-enduring assets were those facilities *proposed* for future excess but *still operating*. For the non-enduring mission essential facilities, these structures have now become either mission critical or mission dependent because they are still active. Once they have been shutdown and placed in surveillance and maintenance status, they will become not mission dependent. All current excess facilities with reported demolition dates in Attachment E-1 *are* included in the not mission dependent category.

The Laboratory's facility re-categorization based on the FIMS guidelines yielded a substantially different distribution of facilities and infrastructure from that which would have resulted from using the FY07 TYSP Guidance[3].

The Laboratory proposes to resolve the inconsistency of re-categorization between FIMS and the TYSP Guidance in the following manner:

- Former ME facilities and infrastructure map reasonably well to the combined MC and MD as defined in the FIMS database and therefore to MC as defined in the FY07 TYSP Guidance. NMD maps reasonably well to the category of BOP and therefore to MD as defined in the FY07 TYSP Guidance.

- For purposes of reporting in this Laboratory's TYSP, MC (FY07) are considered the sum of MC and MD as defined in the FIMS database; whereas MD (FY07) are defined as NMD that is reported in the FIMS database[4]. The resulting temporary re-categorization is shown in Figure 2-3.

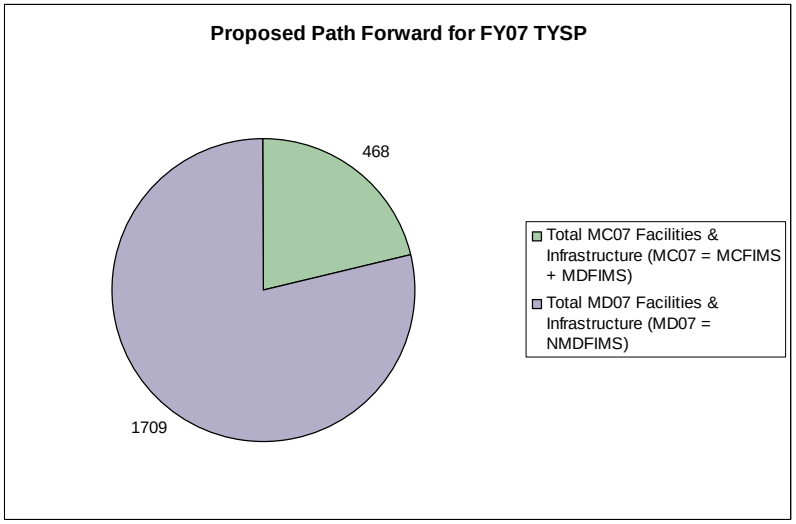

Figure 2-3: Proposed Temporary Reporting of Facility Categories for the FY07 TYSP

[3] The Laboratory's re-categorization yielded fewer MC facilities than would be the case using TYSP Guidance. In the TYSP Guidance, all ME facilities would be re-categorized as MC. The re-categorization also yielded fewer MD facilities than would be the case using TYSP Guidance. In the TYSP guidance all BOP facilities not considered excess, would become MD. The re-categorization also yielded more NMD facilities than would be the case using TYSP Guidance. In the TYSP Guidance only excess facilities are considered NMD; while in the FIMS update most BOP facilities are considered NMD.

[4] There are no NMD facilities based on the FY07 TYSP Guidance definition that only includes excess facilities and infrastructure. Excess facilities are removed from FIMS and reported only in Attachment E-1 during the disposal year.

This proposed resolution is used in all Attachment F submittals that are part of this TYSP. The proposed temporary re-categorization provides reasonable mapping to the FY07 TYSP guidance that preserves the capability to compare current forecasts for the ten year performance period with past forecasts and with the FY03 DM Baseline. In addition, the proposed temporary re-categorization allows NNSA time to coordinate a more consistent FIMS update process across the complex, and time to re-set the FIRP FY03 Baseline and its resulting DM reduction goals as needed[5].

[5] The proposed temporary solution received concurrence by NNSA NA-52 (Kim Loll) and the Los Alamos Site Office (Isaac Valdez) prior to the submittal of this plan in a teleconference (2/23/06).

2.2 Program Budget Reductions

FY06 funding for the FIRP Program, the RTBF program and planned maintenance were substantially reduced from the projections made in the FY06 TYCSP. The current budgets for this year, compared with projections made in the FY06 TYCSP, are shown in Table 2-3.

Table 2-3: Changes in Funding for Infrastructure Programs in FY06

Program	FY06 TYCSP	FY07 TYSP	Change
RTBF	$304M	$225M	-$79M
FIRP	$52.1M	$27.1M	-$25M
Planned Maintenance	$100.7M	$94.3M	-$6.4M

The changes in RTBF and FIRP funding shown above directly impact some areas of projected infrastructure activity including:

- RTBF Investments (Attachment A-3, F-1 and F-2), A-1 OPCs and
- FIRP Investments (Attachments A-4, E-1, F-1 and F-2)

The ultimate impact of budget reductions is on the capability of the Laboratory to meet commitments with regard to reduction of DM. This is discussed in Attachment F submittals, particularly F-1, which tracks progress toward reduction of the FY03 DM Baseline, and F-2, which tracks progress toward controlling and reducing DM in general.

FIRP funding cuts in FY06 result in the FY07 TYSP A-4 being modified such that some planned DM reduction projects are pushed to the out-years. These changes could affect the potential for meeting NNSA commitments for DM on MC facilities to beyond the original goal date of the end of FY09; but could still allow for meeting goals by the end of FY11.

In addition, the FY07 TYSP E-1 has been revised to reflect an end to FIRP funded Decontamination & Disposition (D&D) in FY09. This is in response to NA-52 guidance that the FIRP disposition program will end in FY09.

RTBF funding cuts in FY06 result in the FY07 TYSP A-3 being modified to reflect fewer investments in Footprint Reduction / Strategic Investments (FR/SI). This will result in less reduction in DM and slow execution of FR/SI which is vital to transforming the infrastructure so that it can accommodate present and future missions.

FY06 cuts in planned maintenance funding will limit the Laboratory's capacity to control DM growth during FY06 (Figure 2-4) and therefore will negatively impact proposed DM reduction goals over time as well as commitments regarding % of Replacement Plant Value (RPV) invested in maintaining Laboratory facilities (Figure 2-5)6.

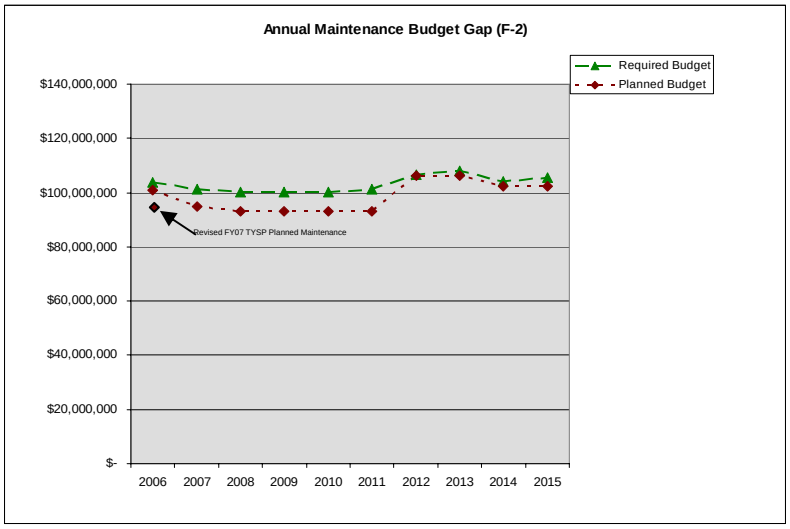

Figure 2-4: Impact of Planned Maintenance Cut on FY06 TYCSP Maintenance Gap[7]

[6] The negative delta between required maintenance (based on % of RPV invested in maintenance) and planned maintenance constitutes a maintenance funding gap. A portion of the annual maintenance funding gap (20%) is estimated to result in increased deferred maintenance over time. Therefore, an increased maintenance funding gap in a particular year will result in an increase in deferred maintenance.

[7] In Figure 2-4, the revised (downward) planned maintenance budget for FY06 is given as a single data point below the Planned Budget line derived from Attachment F-2 in the Final FY06 TYCSP.

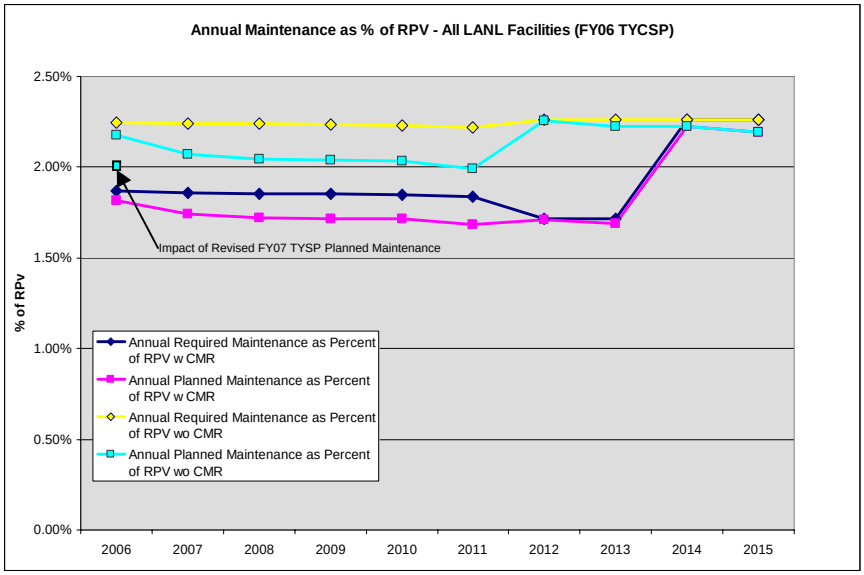

Figure 2-5: Impact of Reduced Maintenance on Maintenance % of RPV[8]

Within the ten-year planning horizon, there is a direct connection between the currently planned scope and schedule of specific D&D projects, and maintaining compliance with the New Mexico Environment Department (NMED) Consent Order schedule. The funding reductions in FY06 are not expected to impact the scope and schedule of NMED Consent Order projects. However, if the scopes of certain D&D projects are reduced, or their project schedules are delayed, the Laboratory's ability to maintain compliance with the NMED Consent Order will be directly affected.

[8] In Figure 2-5, the revised (downward) planned maintenance budget for FY06 (other than budget for Chemistry and Metallurgy Research (CMR)) as a percentage of RPV with CMR removed is given as a single data point below the Annual Planned Maintenance line, derived from Attachment F-2 in the Final FY06 TYCSP.

2.3 Requirements for Security Infrastructure Investment

Two issues that could imminently impact the funding of security infrastructure investments at the site include the following:

1. **Design Basis Threat Integration Project** - The Laboratory is incorporating a risk based approach to identify and prioritize necessary security related facilities and infrastructure upgrades at the site. Full implementation of the FY05 Design Basis Threat Integration Project (DBTIP) may require a significant investment in facilities and infrastructure upgrades. Depending on the requirements of the security system engineered protection strategy for DBTIP, several projects that were unfunded in the FY06 TYCSP could be funded as early as this year and additional projects could be identified for the FYNSP years. Currently, the Laboratory is seeking additional sources of funding for such projects. Decisions on DBTIP requirements are (and sources of funding that could impact Attachments A-6a and A-6b) forthcoming.

2. **Allocation of Operating Funds to Security Infrastructure Projects** - The FY07 TYSP Guidance states that "Sites shall ensure that 5% of their FY07 Physical Security Operations Budget and 7% of their FY08 Budget is focused on Security Infrastructure". Los Alamos National Laboratory will be allocating security operating funds in support of the Nuclear Material Safeguards and Security Project (NMSSUP), Phase II. The operating funds associated with NMSSUP Phase II will be $5.5M in FY06. This amount is 5-percent, which meets the 5-percent requirement. Physical security operating funds for Los Alamos in FY07 are projected to be approximately $110M. Los Alamos will continue to invest in NMSSUP Phase II and will also invest in infrastructure. The exact amount will be developed in support of the Program Execution Guidance (PEG) and will be reflected in Los Alamos' Annual Operating Plan for FY07.

3.0 IMPACTS OF CHANGES FROM FY06 TYCSP ON FY07 REPORTED ATTACHMENTS

This section provides a narrative discussion of the impact of major changes, particularly the changes in planned budgets, on Attachments A, E, and F discussing funding for projects, disposition of excess facilities and reduction in deferred maintenance. These include the following:

3.1 Changes to Attachment A

This section describes the result of changes in planned FIRP, RTBF and indirect budgets since the publication of the FY06 TYCSP that impact planned and proposed projects reported in Attachments A-1 through A-6.

Changes from the FY06 TYCSP are as follows:

3.1.1 Funded Line Item Projects (Attachment A-1)

Attachment A-1 provides information on line item projects. These projects are integral to the support of present and future programs at the Laboratory and are funded separately from other direct and indirect budgets. Funded line item projects are not significantly impacted by the changes in budget and facility categorization discussed previously. Minor Adjustments to funded line item projects over the 10 year planning horizon covered by the TYSP are based on the most current update to the NNSA Integrated Construction Program Plan and the revised NNSA Programmatic Guidance. The changes, so defined include

- shifts in other project cost funding,
- acceleration of key projects,
- incorporation of revised acquisition strategies, and
- effects of budget rescissions.

Other changes in the FY07 TYSP include

- adding to A-1 the ESA Fabrication Facility Replacement Project,
- removal from A-1 the NMSSUP Phase I Project (completed), and
- updating the TA-55 Radiography funding profile (to be in line with NNSA guidance).

3.1.2 Proposed Line Item Projects (Attachment A-2)

Attachment A-2 provides information on proposed line item projects. One new proposed line item was included in the FY07 TYSP for replacement fire stations. One FY06

TYCSP proposed project for replacing the TA-18 nuclear nonproliferation laboratories was removed.

3.1.3 RTBF/Operations of LANL Facilities (Attachment A-3)

Attachment A-3 provides information on RTBF funded projects that impact facilities and infrastructure at the Laboratory. RTBF projects described in Attachment A-3 are impacted by the changes in the FY06 RTBF budget discussed previously. In addition to new facilities, facility upgrades and facility modifications, RTBF also funds investments that reduce DM or prevent new DM from occurring. Therefore, the reduction in RTBF funding for this year will impact the Laboratory's performance against DM reduction and footprint reduction goals. Attachment A-3 notes where DM reduction is anticipated as a result of an RTBF funded project. However, estimates of DM value are not provided[9]. A comparison of Attachment A-3 from the FY07 TYSP with that submitted with the FY06 TYCSP indicates that:

- RTBF projects with DM buydown that were forecast in the FY06 TYCSP for FY06 are deferred to later years or removed in the FY07 TYSP; and
- RTBF projects with DM buydown that were forecast in the FY06 TYCSP for FYNSP years and out years are largely unmodified.

The impact of a one year drop in funding from the RTBF program on deferred maintenance buydown and the Laboratory's capacity to support NNSA's FY09 deferred maintenance buydown objectives is reflected in Attachment F-2.

3.1.4 Facilities & Infrastructure Recapitalization Program for LANL (Attachment A-4)

Attachment A-4 provides information on FIRP funded deferred maintenance buydown projects. These projects are significantly impacted by the changes in the FY06 FIRP budget that are discussed previously. Figure 3-1 indicates that the projected drop in FIRP funding is restricted to the current FY.

[9] The DM buydown values of RTBF projects are estimated on the basis of what DM actions (CAIS database IIU) are completed or no longer needed as a result of the project. The Attachment F database includes a mapping of DM actions that are eliminated through RTBF projects and therefore the impact of RTBF funding reductions on DM reduction are incorporated into the Attachment F-1 and F-2 projections.

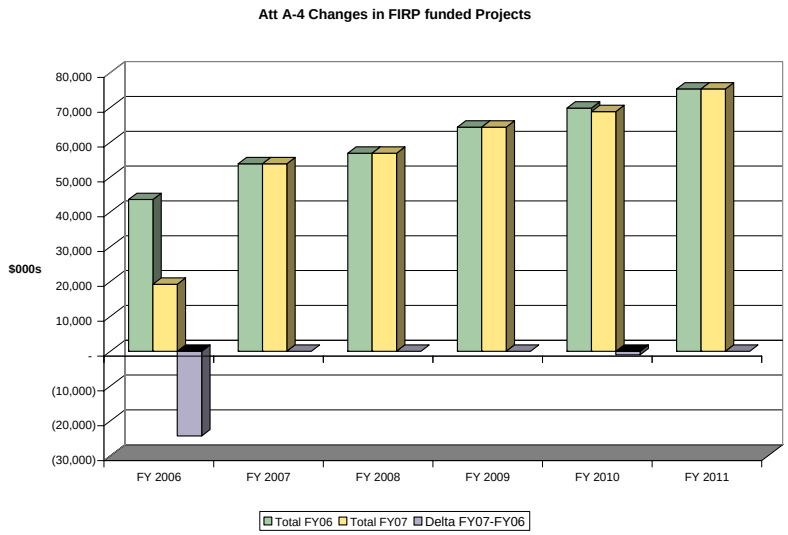

Figure 3-1: Changes in FIRP Funded Projects

Comparing changes between Attachment A-4 in the FY06 TYCSP and the FY07 TYSP, Figure 3-1 provides the following projections:

- FIRP projects for DM buydown that were forecast in the FY06 TYCSP for FY06 are deferred to later years or removed in the FY07 TYSP; and
- FIRP projects for DM buydown that were forecast in the FY06 TYCSP for FYNSP years and out years are largely unmodified.

The impact of a one year drop in funding from the FIRP program on deferred maintenance buydown and the Laboratory's capacity to support NNSA's FY09 deferred maintenance buydown objectives is reflected in Attachment F-2.

3.1.5 Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL (Attachment A-5)

Attachment A-5 provides information on deferred maintenance buydown projects funded from other sources. The IGPP planning in Attachment A-5 is based on the assumption that the GPP limits are raised from $5M to $10M in FY07, and that the increase will apply to IGPP. If this does not happen, the Laboratory will substitute smaller construction projects in the place of projects noted with a TEC greater than $5M. In addition, this plan is based on the institutional investment in IGPP increasing from $10M annually to $15M annually beginning in FY08.

3.1.6 Currently Funded Security Infrastructure Projects for LANL (Attachment A-6a) and Unfunded Security Infrastructure Projects for LANL (Attachment A-6b)

Attachments A-6a and A-6b provide a planning basis for security infrastructure investments to be made at the Laboratory. The planning horizon for security purposes is 3 years vs. the 10 year planning horizon addressed in the remainder of the TYSP. Attachment A-6a summarizes funded projects while A-6b summarizes high prioritized projects under the Security Infrastructure Rating Matrix and for which funding is still being sought. Projects listed in Attachment A-6a may require updating to reflect pending decisions discussed above. These changes will be reflected clearly in the FY08 TYSP.

3.1.7 Proposed FIRP Funded Projects (Attachment A-7)

Attachment A-7 provides proposed FIRP funded projects that buydown DM IIU not identified in the original FY03 DM Baseline. These projects may be required to assure that DM reduction goals for FY09 are met and that DM growth in the out years after FY09 is controlled.

3.2 Changes to Attachment E

This section describes the result of changes in planned FIRP, RTBF and indirect budgets since the publication of the FY06 TYCSP that impact planned and proposed projects to disposition excess facilities and control the site footprint. In particular, it discusses updates to the Attachment E-1 through E-6 tables that are the result of planned budget shortfalls in this FY.

3.2.1 Excess Facilities Footprint Elimination Plan (Attachment E-1)

Attachment E-1 captures all facilities (NNSA, DOE, and non-DOE) that are currently excess to DOE or that will become excess during the 10 year planning horizon considered in the TYSP. For the Laboratory, excessed facilities are currently dispositioned mainly with FIRP funding. However, funding for facility disposition is also provided by Environmental Management funding and other sources. The Laboratory prioritizes all excess facilities requiring disposition by funding program.

Attachment E-1 is consistent with DOE accepted archived totals from FY02 through FY05 with a total of 430K sq. ft. removed. Principal changes in Attachment E-1 reflect the reduction FIRP funding in FY06 and the elimination of FIRP funding in FY10 and FY11. In addition, the D&D of SM43 (the Administration Building) has been moved from FY07 to FY08 to reflect actual removal of the sq. ft. from the FIMS data base. In FY09, Other the D&D of the existing LASO building (45,536 sq. ft.) has been added to be consistent with Land Transfer requirements. However, the funding for D&D of the LASO building has not yet been identified. Figure 3-2 shows the impact of changes in FIRP funding[10] from the FY06 TYCSP Attachment E-1 projections. Figure 3-3 shows that the impact of FY06 reductions in FIRP is largely confined to FY06 and FY07.

[10] FIRP disposition investment is measured in terms of total estimated cost (TEC) of disposition projected funded through the FIRP Program Office.

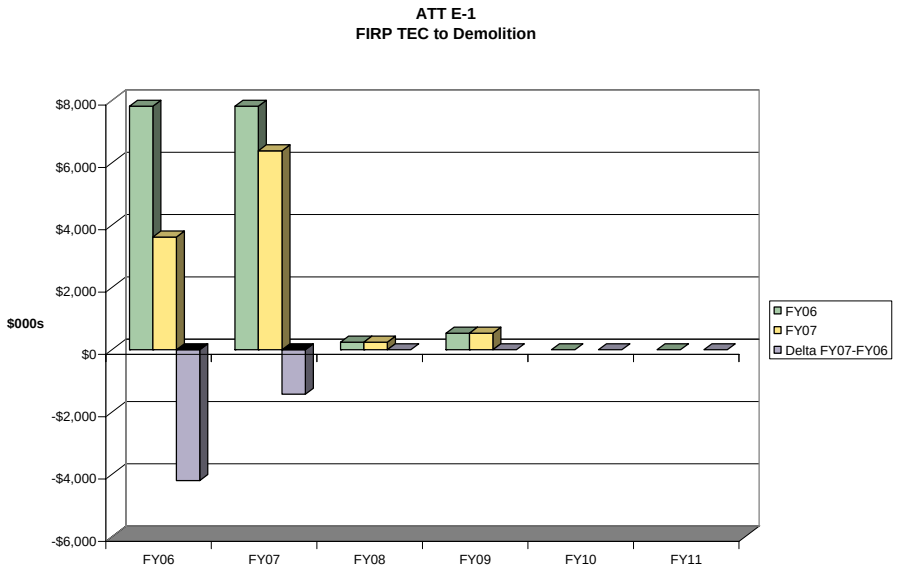

Figure 3-2: Changes in FIRP Funded Facility D&D

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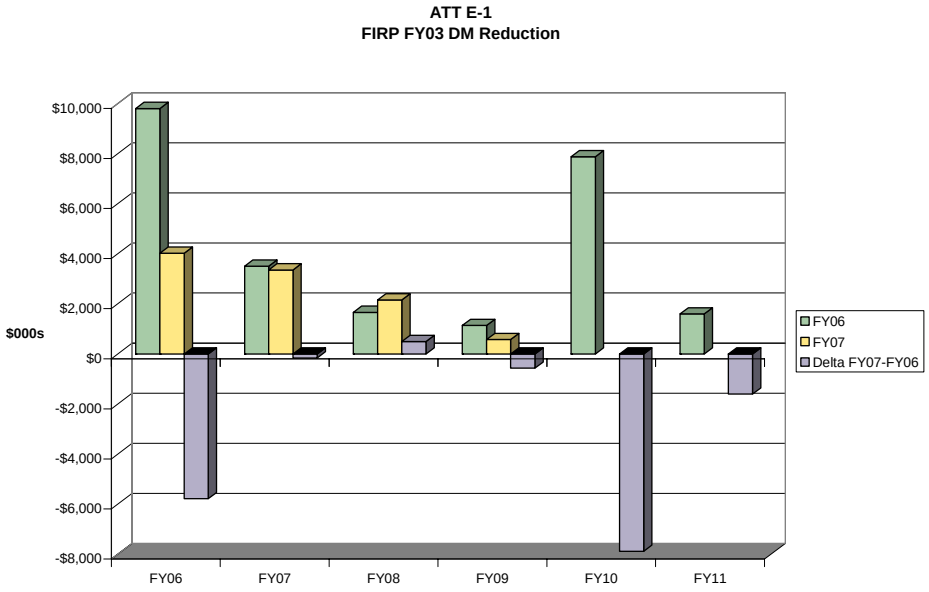

Figure 3-3: FIRP Funded FY03 Baseline D&D Deferred Maintenance Buydown

Attachment E-1 is consistent with DOE accepted archived totals from FY02 through FY05 with a total of 430,059 sq. ft. removed. Principal changes in Attachment E-1 reflect the reduction FIRP funding in FY06 and the elimination of FIRP funding in FY10 and FY11. In addition, the D&D of SM43 (the Administration Building) has been moved from FY07 to FY08 to reflect actual removal of the sq. ft. from the FIMS data base. In FY09, D&D of the existing Los Alamos Site Office (LASO) building (45,536 sq. ft.) has been added to be consistent with land transfer requirements. However, the funding for D&D of the LASO building has not yet been identified.

In Figure 3-2 the negative delta in funding after FY09 reflects the fact that in the FY06 TYCSP, FIRP funding was not assumed to expire until the end of the program in FY11. However, since that time, comments on the FY06 TYCSP were received that indicated FIRP funding could not be applied to disposition projects after FY09. The change in DM buydown from removal of FIRP funding after FY09 is significantly larger than from the temporary reduction in FIRP disposition funding this year.

3.2.2 New Construction Footprint Added (Attachment E-2)

The DOE implementing policy requires new construction projects that add space be offset with an equivalent amount of space that has been removed from the site. Attachment E-2 captures the gross square footage of FYNSP approved construction along with the year of beneficial occupancy through the 10 year planning horizon. Since line item projects are largely unaffected by the planned budget reduction for FY06, this Attachment has not changed significantly from the equivalent attachment in the FY06 TYCSP.

3.2.3 Grandfathered Footprint Added (Attachment E-3)

Attachment E-3 identifies projects where approval for start of construction was provided prior to FY03. By definition, this Attachment is unaffected by budget changes in programs.

3.2.4 Footprint Tracking Summaries (Attachments E-4a, E-4b)

This attachment tracks the extent to which the Laboratory can comply with DOE directives to offset new construction projects footprint by the transfer, sale, or demolition of excess buildings and facilities of equal size. Attachment E-4a applies to NNSA facilities only while Attachment E-4b applies to all facilities sitewide. The River Graph Chart with E-4a shows the growth and drop of total site gross square footage over time. The nature of these required filings does not vary substantially from the FY06 TYCSP with one exception; E-4 includes a summary of leased space (based on Attachment E-6) and the duration of time for which it is leased.

3.2.5 Waiver/Transfer Log (Space Added or Eliminated) (Attachment E-5)

There are no waivers or transfers of space currently in effect for the Laboratory.

3.2.6 FY06 Leased Space Profile (Attachment E-6)

This attachment tracks the current profile of leased space for the Laboratory as a means of tracking growth or shrinkage in the amount of and application of leased space. This is a new Attachment that has no equivalent in the FY06 TYCSP.

3.3 Changes to Attachment F

This section describes changes in projections of DM buydown and progress toward NNSA's FY09 DM Goals between the FY06 TYCSP and the FY07 TYSP. Comparisons are made for buydown against the FY03 Baseline (F-1) and against the current production that includes growth in DM since the development of the FY03 Baseline (F-2). This section describes the impact of budget reductions on the resulting DM buydown projections in F-1 and F-2 and the resulting progress toward meeting DM Goals (F-3 through F-6) based on Attachments F-1 and F-2. The re-categorization of facilities from mission essential to mission critical and from balance of plant to not mission critical discussed above is not assumed to have a significant impact on DM reduction projections for the 10 year planning horizon covered in the TYSP at this time[11].

3.3.1 FIRP FY03 Deferred maintenance Baseline and Projected Deferred Maintenance Reduction from Baseline (Attachment F-1)

Attachment F-1 reflects the FY03 deferred maintenance baseline as reported in the Laboratory's FY04 TYCSP (September 2003) without any new deferred maintenance or cost escalation added, and includes reductions against this baseline. This attachment allows FIRP to track progress toward a nationwide elimination of $1.2B of deferred maintenance by the end of FY09, in accordance with NNSA's corporate deferred maintenance reduction commitments. This attachment reflects the end of FIRP by the end of FY11.

Figure 3-4 reflects the change in FY03 Baseline DM Buydown that results from the budget changes discussed above. Notably, progress on DM buydown is less in FY06 due to decreased investment; but progress is greater in FYNSP out years.

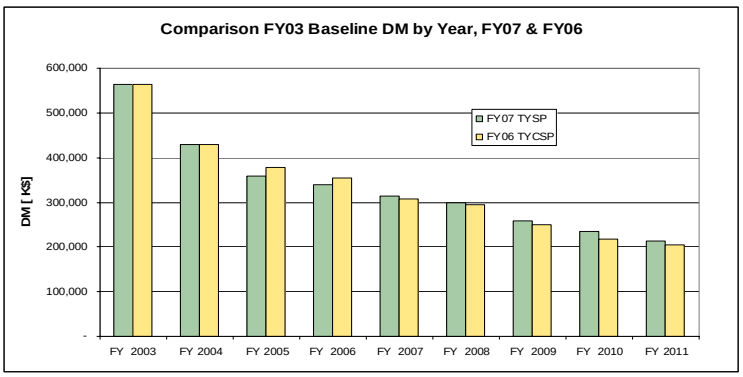

Figure 3-4: Comparison of Progress on FY03 DM Baseline Buydown, FY07 vs. FY06

[11] Facility re-categorization for the FY07 TYSP has been discussed previously. For purposes of comparing Attachments F-1 and F-2 reported in this TYSP with those reported in the Final FY06 TYCSP, it can be assumed that mission critical facilities are equivalent to the mission essential facilities and that mission dependent, not critical facilities are equivalent to BOP facilities.

3.3.2 NNSA Total Deferred Maintenance and Projected Deferred Maintenance Reduction (Attachment F-2)

Attachment F-2 reflects new growth in deferred maintenance (i.e. deferred maintenance not identified in the FY03 baseline submitted in the FY04 TYCSP, or new deferred maintenance that occurs as a result of funding shortfalls, as well as impacts of inflation or cost escalation on both DM reduction and RPV. This attachment is used to report the Laboratory's maintenance requirements, the total DM amounts (including adjustments to the FY03 Baseline), escalation of total DM and growth of DM as well as progress toward reduction of total deferred maintenance.

Figure 3-5 reflects the change in Facility Condition Index (FCI) between the FY06 TYCSP and the FY07 TYSP. It does not indicate a negative impact on DM management (as tracked by FCI reduction for MC facilities) as a result of changes in FIRP and RTBF budgets for FY06.

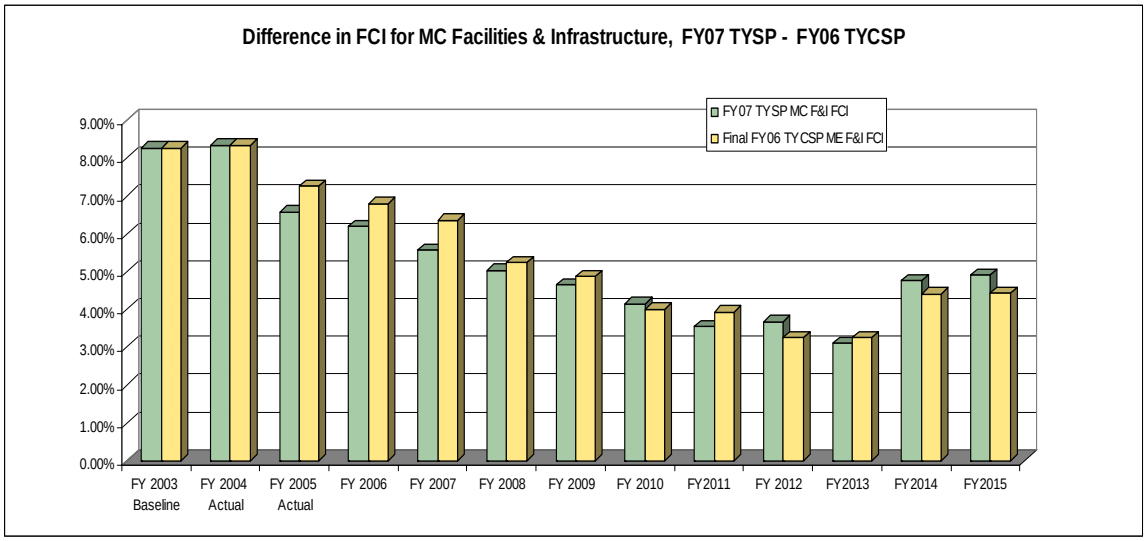

Figure 3-5: Difference in FCI for MC Facilities & Infrastructure, FY07 TYSP – FY06 TYCSP[12]

The improved forecast for FCI reduction in Figure 3-5 is primarily a function of a systematic effort by the Laboratory to correctly account for DM bought down through FIRP and other programs at the Laboratory over FY05. This is shown in the following Table 3-1.

[12] Figure 3-5 assumes that FCI for MC facilities in the FY07 TYSP can be directly compared with FCI for ME facilities in the FY06 TYCSP. The rationale for direct comparison of ME to MC facilities for this TYSP has been discussed in Section 2 of this report.

Table 3-1: Comparison of DM Buydown for FY05, FY06 TYCSP vs. FY07 TYSP

DM Buydown for FY05	FY06 TYCSP (K$)	FY07 TYSP (K$)
Total DM Buydown	36.0	114.6
DM Buydown, MC F&I	22.3	61.7
DM Buydown, MC F&I[13], FIRP	20.4	26.4

Removing the impact of the FY05 adjustment on FCI for MC facilities & infrastructure in Figure 3-6 shows that, generally the reduction in FIRP and RTBF funding has a negative impact on DM buydown.

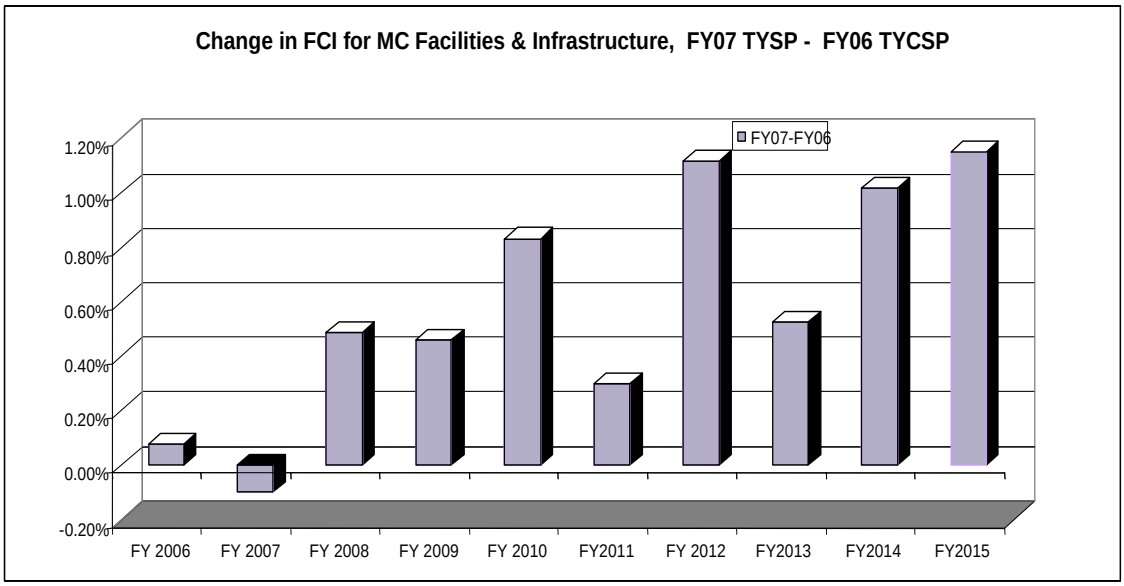

Figure 3-6: Difference in FCI for Mission Critical Facilities & Infrastructure FY07 TYSP - FY06 TYCSP with Impact of FY05 Reduction Removed[14]

[13] Facilities and Infrastructure (F&I)

[14] In Figure 3-6, values > 0% reflect a higher FCI for MC facilities forecast in the FY07 TYSP vs. the FCI forecast in the FY06 TYCSP; i.e. values > 0% indicate less effected buydown based on decreased investment and increased DM growth. Also, Figure 3-6 excludes the downward adjustment to FCI in FY05 of .68% based on a systematic re-evaluation of CAIS database IIU which determined that significantly more DM buydown had been achieved prior to the end of FY05 than was forecast in the Final FY06 TYCSP. This one time additional buydown is included in Figure 3-5.

3.3.3 Impact on Progress toward NNSA Corporate Goals

Figure 3-7 summarizes NNSA Corporate goals for FY05 and FY09 based on the first Deferred Maintenance Reduction Summit on July 25, 2002.

NNSA Corporate Goals for Deferred Maintenance Reduction

- By the end of FY05, NNSA will stabilize its deferred maintenance.
- By the end of FY09, NNSA will:
    1. Aggressively reduce deferred maintenance to within industry standards;
    2. Return facility conditions, for our mission essential facilities and infrastructure, to an assessment level of good to excellent (deferred maintenance/replacement plant value less than 5%);
    3. Have institutionalized responsible and accountable facility management processes, including budgetary ones, so that the condition of NNSA facilities and infrastructure is maintained equal to or better than industry standards.

Figure 3-7: NNSA Corporate Goals for DM Reduction

Comparison of Attachment F-3 of the FY07 TYSP with the equivalent attachment in the FY06 TYCSP shows that, despite the budget reductions in FIRP, RTBF, and planned maintenance discussed previously, the Laboratory is fully intent on meeting its commitment for a continuing decline of the facility and infrastructure DM from FY03 through FY11. The value of DM rises starting in FY12 as the FIRP program ends. There is a need to apply additional funds to manage this growth. However, this need has not changed significantly from when it was identified in the FY06 TYCSP.

Comparison of Attachment F-4 of the FY07 TYSP with the equivalent attachment in the FY06 TYCSP shows that the plan for meeting the corporate goal of a 5% FCI for MC facilities in FY09 based on executing the projects in FIRP Congressional Table I and additional support from RTBF and other funding, is still met by the end of FY09. This is due to a systematic effort on the part of the Laboratory to account for DM reductions that have been achieved before the end of FY05 but not accounted for in the CAIS database prior to the end of FY05.

Comparison of Attachment F-5 of the FY07 TYSP with the equivalent attachment in the FY06 TYCSP shows that the plan for meeting the corporate goal of a 10% FCI for MD facilities in FY09 based on executing the projects in FIRP Congressional Table I and additional support from other funding has already been achieved. Again, this is due to a systematic effort on the part of the Laboratory to account for DM reductions that have

been achieved before the end of FY05 but not accounted for in the CAIS database prior to the end of FY05.

Attachment F-6 is a new report showing the total FCI for the Laboratory. Since this is a new report there is no comparison between the FY07 TYSP and the FY06 TYCSP. However, for perspective, a description of site FCI based on actual DM and RPV is included for the years of FY04 and FY05.

Attachment F-7 of the FY07 TYSP can be compared with Attachment F-6 of the FY06 TYSP. Comparison of the two indicates that the value of RIK projects is decreasing. As above, the decrease is attributable to efforts by the Laboratory to take credit for RIK-achievements that have been achieved prior to the start of FY06 vs. newly reported RIK-requirements.

3.3.4 Impact of Maintenance Funding Shortfalls on Progress NNSA Required Funding for Maintenance Projects

Over and above the Corporate Goals for DM reduction discussed above, NNSA has stated the expectation that maintenance at various sites will be funded at 2% - 4% of the RPV value of facilities in several recent communications[15].

As discussed above, with the exception of the CMR facility, maintenance funding for facilities and infrastructure is anticipated to be approximately 2% of RPV across the Laboratory.

The second referenced NNSA communications also recognizes that local, site-specific conditions may warrant exceptions to the standards; specifically

- Facilities whose remaining life is limited and will soon become excess to the mission,
- Facilities with limited utilization, or
- Facilities for which historical data suggests that a different standard can be successfully applied to meet desired (mission reliability) objectives.

Also, as stated above, the Laboratory funds maintenance of the CMR facility below the standard of 2%; this in view of the fact that the facility is reaching the end of its useful life and historical data suggests that the current levels of maintenance funding are sufficient to assure mission reliability over the remaining life of the facility. The Laboratory requires that CMR be funded at 1% of its RPV. However, in a given year, maintenance funding may be limited by RTBF funding limitations.

[15] Memo, Deputy Secretary to the Administrator dated March 10, 2004, reiterated in a memo from Acting Deputy Administrator for Defense Programs entitled “Maintenance of the National Nuclear Security Administration (NNS) Facilities and Infrastructure”, dated July 18, 2005.

Attachment A
Facilities and Infrastructure Cost Projection Spreadsheets

The Facilities and Infrastructure Cost Projection Spreadsheets provide prioritized lists of the projected NNSA facilities and infrastructure projects and activities and burdened costs for FY06-FY16 and actuals for FY05. The projects and activities included in these spreadsheets reflect FIRP funding ending in FY11 and are consistent with the FYNSP and the latest Integrated Construction Program Plan (ICPP).

The spreadsheets are as follows:

1. **A-1 Line Item Projects**: This spreadsheet includes all NNSA Line Items for RTBF, FIRP, and Safeguards and Security (S&S).
2. **A-2: Proposed Line Item Projects**: This spreadsheet proposes additional line item projects that are either above the FYNSP profile and/or are not reported in the current ICPP (dated Nov. 22, 2005).
3. **A-3: RTBF/Operations of Facilities** (excludes Line Items): This spreadsheet includes facilities and infrastructure projects associated with Operations of Facilities within the RTBF category. RTBF/Operations of Facilities represents baseline funding necessary to ensure safe, secure, reliable facility operations on a daily basis.
4. **A-4: FIRP** (excludes utility line items): This spreadsheet includes projects that target deferred maintenance reduction and meet certain rating and scoring criteria. Since FIRP specifically targets deferred maintenance reduction, proposed projects that do not substantially reduce the site's FY03 Deferred Maintenance Baseline (as reported in its FY04 TYCSP) may not be accepted for funding. Projects were prioritized per the guidance using the Facilities and Infrastructure Recapitalization Rating Matrix, with each project rated in each category of Health & Safety, Environmental & Waste Management, Safeguards & Security, and Mission & Investment. FIRP funding will end in FY11 per Congressional language.
5. **A-5: Non-RTBF/Non-FIRP**: This spreadsheet includes facilities and infrastructure projects associated with non-NNSA tenant programs and activities and projects that are Campaign/DSW (non-line item) and IGPPs.
6. **A-6: Security Infrastructure Cost Projection Spreadsheets:** These spreadsheets crosswalk Security Infrastructure projects currently accepted for: 1) execution, to include funding for FY06 and 2) planning for FY07 and FY08, from Attachments A-1 through A-5 so that NNSA headquarters has a corporate roll-up of ongoing Security Infrastructure projects. These spreadsheets also list the planned unfunded projects in a disciplined prioritization order to ensure that management attention and potential resource allocation are focused on the highest priorities. To provide rough order financial constraints, the unfunded submissions are for FY07 and FY08 only.

7. **A-7 Other Facilities and Infrastructure Recapitalization Program:** this spreadsheet is an unconstrained list of facility and infrastructure projects selected from the approved Congressional lists for FIRP and address deferred maintenance identified in FY 2004.

NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: LANSCE Refurbishment / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
David Crandall, NA-11, 202-586-0586
Susan Seestrom, ADWP, 505-665-4454

Federal and Contractor Project Manager(s):
Eugene Colton, LASO, (505) 667-4241

Project Description:
The Los Alamos Neutron Science Center (LANSCE) Refurbishment Project addresses five main priorities: 1.) increasing the overall beam availability and reliability in a manner that is sustainable over the longer term, 2.) enhancing the cost effectiveness of the operation by system improvements that increase reliability and maintainability, 3.) upgrading facility equipment where necessary to address code compliance or end-of-life issues that could severely impact beam availability, 4.) increasing H^- beam intensity to improve pRad technical capability, and 5.) accomplishing the above with minimal disruption to the scheduled user programs.

Current Proposed/Actual Project Schedule:
A CD-0 package was submitted in FY05.

Project Justification (Program Requirements):
LANSCE is a national user facility that produces pulsed protons and spallation neutrons for defense and civilian research and applications. LANSCE is a key element of LANL scientific capability and is presently used for research in condensed-matter science and engineering, accelerator science, nuclear science, fundamental nuclear physics, radiography, and the production of radioactive isotopes. This broad array of accelerator uses has matured over 32 years of facility operation with the result that LANSCE is the largest NNSA user facility. LANSCE supports Defense Programs (DP) in areas of Stockpile Stewardship such as proton radiography, materials science and nuclear science; the Office of Science (OS) in areas of neutron scattering and nuclear physics; and the Office of Nuclear Engineering (NE), Science and Technology in the area of radioactive isotope production for medical and industrial use. There are plans by NE to construct a materials test station in Area A for research in support of the Advanced Fuel Cycle Initiative.

Over the past few years, LANSCE has become a workhorse for Stockpile Stewardship and it is clear that the programmatic as well as user-community demand for neutrons and protons is increasing. Both NNSA and DOE have affirmed the importance of having

LANSCE operational as a reliable facility for the next decade and beyond. LANSCE has been operational since 1972, and though it can be operated indefinitely if appropriately maintained, it contains several aging components and requires investment to keep operating. Without these planned upgrades, LANSCE reliability will decrease and impact the ability to complete programmatic missions.

Alternatives Developed/Available to Meet Program Requirements:
LANSCE is a unique facility of importance to NNSA, OS and NE and if it is to continue to operate past the near term, there are no alternatives to this project.

Proposed Funding Profile ($K):[1]

	Funding	FY07	FY08	FY09	FY10	FY11	Out Years
OPC	12,400	7,000	1,900	500	500	500	2,000
PED	7,100	2,500	4,600				
LI	169,900		19,600	43,100	47,000	36,900	23,300
TEC	177,000	2,500	24,200	43,100	47,000	36,900	23,300
TPC	189,400	9,500	26,100	43,600	47,500	37,400	25,300

Projected Annual Operating Costs:
Details are unknown at this time, but this project is anticipated to significantly reduce operating and maintenance costs at the LANSCE facility.

Project Site/Facility Space Utilization:
LANSCE refurbishments and improvements would occur within existing facilities and building infrastructure.

[1] Other Project Costs (OPC), Preliminary Engineering Design (PED), Line Item (LI), Total Estimated Cost (TEC), Total Project Costs (TPC).

NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site**:** Fire Stations Replacement Project, LANL TA-3, TA-16, TA-49

Federal and Contractor Program Manager(s) or Sponsor(s)**:** Gerry Schlapper, LASO, Beverly Ramsey LANL-EOO, funding sponsor Defense Programs

Federal and Contractor Project Manager(s): TBD

Project Description**:** Replace Fire Station 1 at TA-3 with a new 12 bay station. Replace Fire Station 5 at TA-16 with a new 8 bay station. Construct a new 6 bay station near TA-49 to address fire protection response issues in remote areas of the Laboratory and to provide a base for wildland fire fighting capability. Construct a new firefighter training capability at TA-49.

Current Proposed/Actual Project Schedule**:** FY09 Start with Completion in FY11 -Cost Profile: TBD

Project Justification (Program Requirements):
Fire Station 1 (TA-03-41), was classified as "failed" in the last summary condition report and had a backlog of deferred maintenance amounting to over $3M as of June 2004. Fire Station 5 (TA-16-180) was classified as "fair" in the last summary condition report and has a deferred maintenance backlog of $146,820. Neither building meets standards for fire fighter health and safety as described in the National Fire Protection Association (NFPA) 1500 "Standard on Fire Department Occupational Safety and Health Program. To bring the site into compliance with the new 10CRF851 requirements in fire protection a significant expansion of the current firefighting capability at the site will be required to meet NFPA 1500 and 1710 requirements. The "Base Line Needs Assessment for Fire Department Services" (BNA) (LA-CP-04-008), dated June 7, 2004, prepared by Hughes Associates for the Emergency Operations Office-Fire as per DOE Order 420, recommends an expansion of about 100% of the current firefighting strength to meet the new NFPA and the new 10CFR851 requirements. The two current stations 1 and 5 are inadequate to handle the current level of firefighter staffing and firefighting equipment apparatus. There is also a gap in adequate coverage to protect some remote areas of the Lab to the NFPA 1710 response requirements. With the dramatic increase in staffing the current training facilities require replacement.

Alternatives Developed/Available to Meet Program Requirements: None identified that will meet program requirements.

Proposed Funding Profile: TPC $51 million with approximately $ 22M for Fire Station 1, $12M for Fire Station 5 and $17M for the TA49 facilities. Design Build procurement will be utilized to reduce costs.

	Funding	FY10	FY11	FY12	FY13	FY14	FY15
OPC	2,500	1,000	300	300	300	300	300
PED	3,500		1,500	2,000			
LI	45,000			12,000	18,000	15,000	
TEC	48,500		1,500	14,000	18,000	15,000	
TPC	51,000	1,000	1,800	14,300	18,300	15,300	300

Projected Annual Operating Costs: TBD

Project Site/Facility Space Utilization**:** This project would allow older, non-compliant and expensive-to-maintain facilities to be retired and demolished while also meeting the needs of a growing emergency response capability.

NNSA Integrated Construction Program
Proposed Line Item Construction Project Information Sheet

Project Title/Site: RH TRU Processing Facility / Los Alamos National Laboratory

Federal and Contractor Program Manager(s) or Sponsor(s):
Kenneth Hargis, ENV

Federal and Contractor Project Manager(s):
Jim Orbin, LASO
Tom Starke, ENV-DO, LANL

Project Description:
The EM 2010 Waste Disposition project will retrieve additional buried Transuranic (TRU) waste at TA-54. Some of this waste is high activity waste that must be handled remotely for worker safety. To complete this waste retrieval and repackaging for shipment to the Waste Isolation Pilot Plant (WIPP) will require special handling and facilities. This project will construct a new 10,000 square foot (Hazard Category 2 nuclear) temporary facility to process, package and ship this high activity TRU waste.

Current Proposed/Actual Project Schedule:
Will be submitted with the CD-2/3 package on May 15, 2006.

Project Justification (Program Requirements):
The mission of the Remote-Handled (RH) TRU Retrieval Project at the Laboratory is to disposition the retrievably-stored legacy RH TRU waste, generated between 1970 and 1998, that is currently at Technical Area 54 Area G. This is required to enable the completion of environmental corrective actions at Material Disposal Area (MDA) G by 2015, which in turn will enable DOE, NNSA, and the Laboratory to comply with the requirements of the New Mexico Environment Department Consent Order.

Alternatives Developed/Available to Meet Program Requirements:
TBD.

Proposed Funding Profile ($K):

	Funding	FY07	FY08	FY09	FY10	FY11	FY12
OPC	3,700	500	1,500	300	300	300	800
PED	4,000			3,000	1,000		
LI	22,000				8,000	14,000	
TPC	29,700	500	1,500	3,300	9,300	14,300	800

Projected Annual Operating Costs:
$2M/year.

Project Site/Facility Space Utilization:
10,000 gross square feet of new space will be added.

Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Deferred Maintenance Identifier(s) (4)	Mission Critical (Y or N) (5)	Deferred Maintenance Reduction (6)	GSF Added or Eliminated (7)	Funding Type (8)	Total (9)	Prior Years Funding (10)	FY 2005 (11)	FY 2006 (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 FYNSP (16)	FY 2011 FYNSP (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)	FY 2016 (22)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																					
							OPC	**23,700**	3,400	2,900	12,100	5,300									
							PE&D	**-**	-	-											
F	National Security Sciences Building **(23)**	03-D-102		YES	22,280	275.0	LI	**98,364**	54,874	37,100	6,390										
							Total (TPC)	**122,064**	**58,274**	**40,000**	**18,490**	**5,300**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
							OPC	**100,000**	24,218	5,000	5,000	5,000	7,000	3,000	5,000	21,000	24,782				
							PE&D	**65,939**	9,500	13,568	28,710	14,161									
1	CMR Replacement Project **(31)**	04-D-125		YES	10,667	(150.0)	LI	**672,160**	9,941	39,684	54,450	112,422	160,586	178,011	117,066						
							Total (TPC)	**838,099**	**43,659**	**58,252**	**88,160**	**131,583**	**167,586**	**181,011**	**122,066**	**21,000**	**24,782**	**-**	**-**	**-**	**-**
							OPC	**46,648**	16,592	4,370	4,539	2,798	5,661	9,960	2,728						
							PE&D	**25,443**	9,015	5,953	8,910	1,565									
2	Criticality Experimental Facility	04-D-128		YES	-	0.0	LI	**77,469**	3,768	-	12,870	24,197	26,281	10,353							
							Total (TPC)	**149,560**	**29,375**	**10,323**	**26,319**	**28,560**	**31,942**	**20,313**	**2,728**	**-**	**-**	**-**	**-**	**-**	**-**
							OPC	**6,200**	-	1,900	1,200	800	600	800	900						
							PE&D	**11,100**	-		3,000	8,100									
3	Radioactive Liquid Waste Treatment Facility Upgrade	07-D-220		YES	100	TBD	LI	**50,000**	-			14,828	18,172	17,000							
							Total (TPC)	**67,300**	**-**	**1,900**	**4,200**	**23,728**	**18,772**	**17,800**	**900**	**-**	**-**	**-**	**-**	**-**	**-**
							OPC	**3,250**		1,000	750	250	250	1,000					-	-	-
							PE&D	**23,836**	-		1,859	1,977	20,000								
4	TA-55 Radiography **(24)**	06-D-140.1		YES	TBD	TBD	LI	**-**	-				-	-							
							Total (TPC)	**27,086**	**-**	**1,000**	**2,609**	**2,227**	**20,250**	**1,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
							OPC	**20,100**	-	1,000	3,800	1,700	1,300	1,100	1,500	1,500	1,700	3,000	3,500	-	-
							PE&D	**3,500**	-	-	2,000	1,500	-								
5	TA-55 Infrastructure Reinvestment **(25)**	LANL-06-015		YES	TBD	0.0	LI	**111,800**	-			-		12,000	12,000	12,000	12,000	12,000	12,000	12,000	27,800
							Total (TPC)	**135,400**	**-**	**1,000**	**5,800**	**3,200**	**1,300**	**13,100**	**13,500**	**13,500**	**13,700**	**15,000**	**15,500**	**12,000**	**27,800**
							OPC	**-**	-												
							PE&D	**-**	-												
6	Support Services Consolidation	LANL-07-019		YES	TBD	TBD	LI	**14,000**	-				14,000								
							Total (TPC)	**14,000**	**-**	**-**	**-**	**-**	**14,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
							OPC	**5,500**	-		1,500	2,000	500	500	500	500					
							PE&D	**5,500**	-			3,000	2,500								
7	TA-55 TRU Waste Facility Project	LANL-10-001		YES	TBD	TBD	LI	**34,500**	-				2,500	12,000	15,000	5,000					
							Total (TPC)	**45,500**	**-**	**-**	**1,500**	**5,000**	**5,500**	**12,500**	**15,500**	**5,500**	**-**	**-**	**-**	**-**	**-**
							OPC	-													
							PE&D	**3,000**								3,000					
8	ESA Fabrication Facility Replacement	11-D-140		TBD	TBD	TBD	LI	**15,000**									8,000	7,000			
							Total (TPC)	**18,000**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**3,000**	**8,000**	**7,000**	**-**	**-**	**-**
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																					
							OPC	**1,500**	1,250	-	125	125									
							PE&D	-													
1	Power Grid Infrastructure Upgrade	05-D-602	LA-LI-05-01	YES	-	0.0	LI	**18,336**		9,921	8,415										
							Total (TPC)	**19,836**	**1,250**	**9,921**	**8,540**	**125**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
C. Safeguards & Security (S&S) Line Items																					
							OPC	**4,490**	3,232	158	650	450									
							PE&D	**-**	-												
1	Security Perimeter Project	LANL-05-017		YES	0	1.0	LI	**19,842**	-	19,842	-										
							Total (TPC)	**24,332**	**3,232**	**20,000**	**650**	**450**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Attachment A-1
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Deferred Maintenace Identifier(s) (4)	Mission Critical (Y or N) (5)	Deferred Maintenance Reduction (6)	GSF Added or Eliminated (7)	Funding Type (8)	Total (9)	Prior Years Funding (10)	FY 2005 (11)	FY 2006 (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 FYNSP (16)	FY 2011 FYNSP (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)	FY 2016 (22)
2	NMSSUP Phase 2	05-D-170.1, 08-D-260		YES	TBD	TBD	OPC	27,200	5,800	4,900	5,500	2,000	1,000	1,000	3,000	4,000					
							PE&D	44,590	-	10,000	34,590	-									
							LI	168,210	-		-	-	48,000	46,000	49,000	25,210					
							Total (TPC)	240,000	5,800	14,900	40,090	2,000	49,000	47,000	52,000	29,210	-	-	-	-	-
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																					
	No "Other Defense Programs Line Items"																				
E. Nuclear Nonproliferation (NN) Line Items																					
	No "Nuclear Nonproliferation Line Items"																				
TOTAL (All NNSA Costs For Site Line Items)					33,047	126		1,701,177	141,590	157,296	196,358	202,173	308,350	292,724	206,694	69,210	38,482	15,000	15,500	12,000	27,800
E. Non NNSA Line Items (OFFICE OF SCIENCE)																					
F	Los Alamos CINT Gateway	LANL-02-010		TBD	-	36.5	OPC	575	55	225	295										
							PE&D	600	600												
							LI	15,348	10,601	4,400	347										
							Total (TPC)	16,523	11,256	4,625	642	-	-	-	-	-	-	-	-	-	-
TOTAL (All OFFICE OF SCIENCE Costs For Site Line Items)					0	37		16,523	11,256	4,625	642	-	-	-	-	-	-	-	-	-	-
Total (All Funded Line Item Projects)								1,717,700	152,846	161,921	197,000	202,173	308,350	292,724	206,694	69,210	38,482	15,000	15,500	12,000	27,800

Attachment A-2
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
PROPOSED Line Item Projects for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Deferred Maintenance Identifier's) (3a)	Mission Critical (Y or N) (4)	Deferred Maintenance Reduction (5)	GSF Added or Eliminated (6)	Funding Type (7)	Total (8)	Prior Years Funding (9)	FY 2005 (10)	FY 2006 (11)	FY 2007 FYNSP (12)	FY 2008 FYNSP (13)	FY 2009 FYNSP (14)	FY 2010 FYNSP (15)	FY 2011 FYNSP (16)	FY 2012 (17)	FY 2013 (18)	FY 2014 (19)	FY 2015 (20)	FY 2016 (21)
A. Readiness in Technical Base and Facilities (RTBF) Line Items																					
1	LANSCE Refurbishment	LANL-07-001	TBD	TBD	TBD	TBD	OPC	12,400			-	7,000	1,900	500	500	500	750	750	500		
							PE&D	7,100			-	2,500	4,600	-	-	-	-	-	-		
							LI	169,900			-	-	19,600	43,100	47,000	36,900	14,450	4,850	4,000		
							Total (TPC)	189,400	-	-	-	9,500	26,100	43,600	47,500	37,400	15,200	5,600	4,500	-	-
4	TA3, TA16 & TA49 Fire Stations		TBD	TBD	TBD	TBD	OPC	2,500	-	-	-			-	1,000	300	300	300	300	300	
							PE&D	3,500	-	-	-			-	-	1,500	2,000	-	-		
							LI	45,000	-	-	-			-	-	-	12,000	18,000	15,000		
							Total (TPC)	51,000	-	-	-	-	-	-	1,000	1,800	14,300	18,300	15,300	300	-
B. Facilities and Infrastructure Recapitalization Program (FIRP) Line Items																					
	No "Facilities and Infrastructure Recapitalization Program Line Items" proposed						OPC														
							PE&D														
							LI														
							Total (TPC)														
C. Safeguards & Security (S&S) Line Items																					
	No "Safeguards & Security Line Items" proposed						OPC														
							PE&D														
							LI														
							Total (TPC)														
D. Other Defense Programs Line Items (for example, Campaigns/Directed Stockpile Work (DSW))																					
	No "Other Defense Programs Line Items" proposed						OPC														
							PE&D														
							LI														
							Total (TPC)													-	
E. Nuclear Nonproliferation (NN) Line Items																					
TOTAL (All NNSA Costs For Proposed Site Line Items)								240,400	-	-	-	9,500	26,100	43,600	48,500	39,200	29,500	23,900	19,800	300	-
F. Other Proposed Line Items																					
2	RH TRU Processing Facility (Environmental Management)	LANL-09-001	TBD	TBD	TBD	TBD	OPC	3,700				500	1,500	300	300	300	800				
							PE&D	4,000						3,000	1,000						
							LI	22,000							8,000	14,000					
							Total (TPC)	29,700	-	-	-	500	1,500	3,300	9,300	14,300	800	-	-	-	-
TOTAL (Other Proposed Line Items)								29,700	-	-	-	500	1,500	3,300	9,300	14,300	800	-	-	-	-
G. Non NNSA Line Items (OFFICE OF SCIENCE)																					
	No "Non NNSA Line Items (Office of Science)" proposed																				
TOTAL (Office Of Science Costs For Proposed Site Line Items)																					
H. Non NNSA Line Items (OFFICE OF TRANSPORTATION)																					
	No "Non NNSA Line Items (Office of Transportation)" proposed																				
TOTAL (Office Of Transportation Costs For Proposed Site Line Items)																					

Attachment A-3
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
RTBF/Operations of Facilities for LANL
($000s)

Priority (1)	Project Name (2)	Project Number (3)	Program Sponsor	NEPA Status (22)	Funding Type (7)	Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	Prior Years (9)	FY 2005 Actual Cost (10)	FY 2006 (11)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 FYNSP (15)	FY 2010 FYNSP (16)	FY 2011 FYNSP (17)	FY 2012 (18)	FY 2013 (19)	FY 2014 (20)	FY 2015 (21)	FY 2016 (21)
F	Monitoring Well Project (NA)	LANL-98-048	NA11	CX	E	-	0.0	**53,000**	49,800	12,939	3,200										
F	WETF 1.6 MVA Generator Installation	LANL-02-092	NA12	CX-TBD	GPP	TBD	0	**1,700**	1,700	190											
F	TA-16 Intersection	LANL-02-107	NA11	CX	GPP	-	0	**2,837**	2,837	25											
F	TA-15 Electrical Distribution Upgrade	LANL-02-126	NA11	CX	GPP	TBD	0.0	**2,200**	2,200	245											
F	Pajarito Road Access Control Stations	LANL-03-068	NA11	EA-FONSI	GPP	-	0.6	**4,700**	4,700	46											
F	Kirby Building TA-03-1437	LANL-04-205	NA11	CX-TBD	GPP	-	3.5	**1,198**	1,198	265											
F	PF-4 Switchgear Installation (TA-55)	LANL-04-216	NA11	CDC-TBD	GPP	TBD	0.0	**5,000**	950	449	1,000	3,050									
F	TA-55 SST Pads	LANL-05-427	NA12	CX	GPP	-	0.0	**3,267**	3,267	2,968											
F	RLW Tie-In	LANL-05-428	NA12	CX	GPP	-	0.0	**2,872**	1,922	1,456	950										
F	RANT Seismic Upgrade	LANL-05-426	NA11	CX_TBD	GPP	TBD	0.0	**2,050**	350	32	350	1350									
F	LLW Pit		NA11	CX_TBD	GPP	-	0.0	**1,412**	212	79	1200										
F	Footprint Reduction	N/A	NA11/12	CX-TBD	Exp	TBD	TBD	**97,250**	1,320	916	4500	9000	9,270	9,550	9,830	10,130	10,430	10,750	11,070	11,400	11740
1	Strategic Investments (Note projects below this line are examples of the type of projects to compete for Strategic Investment Funding)	N/A	NA11/12	CX-TBD	Exp/GPP	TBD	TBD	**4,150**			750	3400	*	*	*	*	*	*	*	*	*
2	LLW Verification Building	LANL-06-430	NA11	CX_TBD	GPP	TBD	2.5	**4,750**			250	800	2,700	1,000							
3	Installation of an Anchor Ranch Gate (TA-22)	LANL-05-312	NA-11	CX-TBD	GPP	-	0.2	**5,000**				400	4,600								
5	LLW Access Control	LANL-07-432	NA11	CX_TBD	GPP	TBD	1.2	**1,000**					100	900							
6	Construct Neutron Production Target System	LANL-06-120	NA11	SWEIS	GPP	-	0	**1,300**					1,300								
7	Renovate MPF-3 Sector R and MPF-1 Basement	LANL-06-215	NA11	CX-TBD	GPP	TBD	0	**4,080**					600	3,480							
8	LLW Compaction Facility	LANL-08-433	NA11	CX_TBD	GPP	TBD	5.0	**4,750**						250	800	2,700	1,000				
9	Construct Calibration Laboratory	LANL-07-145	NA12	EA-FONSI	GPP	-	12.0	**3,050**						3,050							
10	Construct Data Systems Facility	LANL-07-184	NA12	CX-TBD	GPP	TBD	8.6	**5,000**							5,000						
11	RLW WAC Compliance	LANL-07-305	NA11	CX-TBD	GPP	-	0.0	**5,000**						1,470	3,530						
12	Construct Vessel Facility 1of 4	LANL-08-128	NA12	CX	GPP	TBD	6.7	**4,750**								4,750					
13	Construct LANSCE Lab/Office Building	LANL-08-216	NA11	CX-TBD	GPP	TBD	18.0	**5,000**								2,700	2,300				
14	Construct Medium/Heavy Lab At TA-22	LANL-08-153	NA12	EA-PREP	GPP	TBD	6.0	**3,680**								480	3,200				
15	BTF-Upgrades to FMS and VAV systems	LANL-08-014	NA12	CX-TBD	GPP	-	0	**2,000**								300	1,700				
16	Move Existing Vessel To TA-22	LANL-09-167	NA12	EA-PREP	GPP	-	0	**1,500**									1,500				
17	Construct TA-37 Classified HE Storage Facility	LANL-09-009	NA11	CX-TBD	GPP	-	2.0	**3,200**										3,200			
18	Construct Vessel Facility 2 of 4	LANL-09-152	NA12	CX	GPP	TBD	4.2	**2,500**										2,500			
19	TA-16-202 Renovation/Tritium Consolidation	LANL-09-020	NA12	CX-TBD	GPP	TBD	0	**2,650**										2,650			
20	Construct Vessel Facility 3 of 4	LANL-09-143	NA12	CX	GPP	TBD	4.2	**5,000**										2,500	2,500		
21	Construct Test Engineering Facility	LANL-10-194	NA12	CX-TBD	GPP	-	11.0	**3,500**											3,500		
22	Gas Gun Relocation TA-40 To TA-22	LANL-10-176	NA12	CX-TBD	GPP	-	0	**3,000**											3,000		
23	Construct Shock and Vibration Lab	LANL-10-185	NA12	CX-TBD	GPP	TBD	TBD	**5,000**											2,000	3,000	
24	Construct Electronics Facility	LANL-10-193	NA12	CX-TBD	GPP	TBD	10.0	**3,000**												3,000	
25	Construct Nuclear Safeguards Training Center	LANL-10-183	NA12	CX-TBD	GPP	-	8.0	**5,000**												5,000	
26	Facility Bomb Proofing (TA-22)	LANL-11-175	NA12	CX-TBD	GPP	-	0	**4,000**													4,000
27	Construct Secure Dissolving Rad Chemistry Building	LANL-11-191	NA12	CX-TBD	GPP	-	3.0	**5,000**													5,000
28	Construct Joint DX/ESA Conference Facility	LANL-11-181	NA12	CX-TBD	GPP	-	5.0	**2,000**													2,000
29	Construct Parking Lots (TA-22)	LANL-11-102	NA-11	CX-TBD	GPP	-	0.0	**1,700**													1,700
30	Construct Vessel Facility 4 of 4	LANL-11-160	NA12	CX-TBD	GPP	TBD	4.2	**2,500**													2,500
31	Radial Bridge Crane (LANSCE)	LANL-11-318	NA12	CX-TBD	GPP	-	0.0	**2,700**													2,700
32	Construct Replacement Machine Shop (TA-22)	LANL-11-166	NA12	EA-PREP	GPP	TBD	10.0	**4,000**													4,000
33	Construct Central Classified Storage Facility	LANL-12-194	NA12	CX-TBD	GPP	-	0.0	**5,000**													5,000
34	Post FIRP Investments	Various	TBD	TBD	GPP	TBD	0.0	**123,600**									30,000	30,600	31,200	31,800	32400
TOTAL RTBF/Operations of Facilities (facilities & infrastructure reported under this category)						TBD	125.9	415,846	70,456	19,610	12,200	18,000	18,570	19,700	19,160	21,060	50,130	52,200	53,270	54,200	71,040

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Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	FIRRS Score	Project Number	Deferred Maintenance Identifier (3)(4)	Mission Critical (Y or N)	FY03 Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years (9)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
F	Beryllium Tech Facility - Cartridge Filter House Install	50	LANL-R-03-02	LANL-R-03-02	Y	0	3.1	GPP	**2,700**	700		2,000					
F	TA-16-260 Reconfiguration*	60	LANL-R-03-06	LANL-R-03-06	Y	7,654	4	GPP	**5,315**	5,000	315						
F	Hydrotest Design Facility	50	LANL-R-03-07	LANL-R-03-07	Y	682	14	GPP	**5,297**	5,000	297						
F	TA-50 Stem Wall Repair	60	LANL-R-04-01	LANL-R-04-01	Y	405	0	E	**679**	400	279						
F	WETF Systems Refurbishment	60	LANL-R-04-02	LANL-R-04-02	Y	7,978	0	GPP	**4,509**	2,809	1,700						
F	Vulnerable Building Replacement - DX Shock & Detonation	50	LANL-R-04-04	LANL-R-04-04	Y	413	18	GPP	**1,734**	620	1,114						
F	TA-50 Caustic Tank Replacement*	60	LANL-R-04-07	LANL-R-04-07	Y	605	0	GPP	**750**	750							
F	Roof Replacement TA-53-1, TA-8-21, TA-59-1*	55	LANL-R-04-11	LANL-R-04-11	Y/N	390	0	E/GPP	**390**	390							
F	Deferred Maintenance Intermediate Projects	55	LANL-R-04-12	LANL-R-04-12	Y/N	1,492	0	E/GPP	**1,746**	1,746							
F	Deferred Maintenance TA-16-410/411	65	LANL-R-04-13	LANL-R-04-13	Y	3,330	0	GPP	**4,050**	750	3,300						
F	FY04 FIRP Funded D&D	N/A	LANL-D-04-01	LANL-D-04-01	N	TBD	-104.4	E	**9,100**	9,100							
F	TA-16-193 Reconfiguration	60	LANL-R-05-01	LANL-R-05-01	Y	3,923	0	GPP	**4,992**	643	2,000	2,349					
F	Deferred Maintenance Small Projects 05-01	60	LANL-R-05-02	LANL-R-05-02	Y/N	4,000	0	E/GPP	**5,000**		5,000						
F	Deferred Maintenance Intermediate Projects 05-01	60	LANL-R-05-03	LANL-R-05-03	Y/N	5,313	0	E/GPP	**4,999**		4,999						
F	RAMP Roofing Support	60	LANL-R-05-04	LANL-R-05-04	Y	2,300	0	E/GPP	**1,219**		1,219						
F	Reconfigure TA-39-98, Close 39-2,39-103, 39-07	60	LANL-R-05-05	LANL-R-05-05	Y	1,384	0	GPP	**1,541**	381	1,160						
F	Lujan Center Ventilation and Cooling Upgrade	60	LANL-R-05-06	LANL-R-05-06	Y	900	0	GPP	**1,094**	130	490	474					
F	IM-Division Office Building Replacement	50	LANL-R-05-07	LANL-R-05-07	N	4,497	0	GPP	**878**	300	737	(159)					
F	HVAC/Electrical Upgrade, MPF-6	60	LANL-R-05-08	LANL-R-05-08	Y	2,990	0	GPP	**3,662**	62	3,600						
F	Chiller Replacement for TA-48, RC-45	55	LANL-R-05-09	LANL-R-05-09	N	711	0	GPP	**1,707**		1,707						
F	FIRP Support to US Army Corp of Engineers	N/A	LANL-R-05-10	N/A	N				**150**		150						
F	TA-50 Waste Treatment Plant Deficiencies - 1A (Room 60 Modifications)	65	LANL-R-05-11	LANL-DM-07G30-02A	Y	6,868	0	GPP/E	**4,411**		826	3,585					
F	FY05 FIRP Funded D&D	N/A	LANL-D-05-01	N/A	N	TBD	-176.8	E	**8,586**		8,586						
F	FY06 Planning	N/A	LANL-P-05-01	N/A	Y/N	0	0	GPP/E	**7,450**		7,450						
F	RAMP Roofing Support	60	LA-R-06-01	LANL-R-06-05	Y	1,500	0	GPP/E	**800**			800					
F	TA-03, -15, -16, -35 and -36 HVAC Systems Deficiencies (ME)	45	LA-R-06-07	LANL-DM-06D30-01	Y	1,460	0	GPP/E	**1,540**			1,540					
F	TA-09, -22, -35, -39 and -53 Electrical Systems Deficiencies (ME)	55	LA-R-06-06	LANL-DM-06D50-01	Y	1,601	0	GPP/E	**2,443**			2,443					
F	FY06 FIRP Funded D&D	N/A	LANL-D-06-01	LANL-D-06-01	N	TBD	-97.5	E	**4,500**			4,500					
F	FY07 Planning	N/A	LANL-P-06-01	LANL-P-06-01	Y/N	0	0	GPP/E	**1,728**			1,728					
1	Radiography Facility Upgrades (TA-8-23)	55	TBD	LANL-R-XX-04	Y	1,059	0	GPP/E	**1,600**				1,600				
2	TA-55 Roof Systems Deficiencies (ME)	55	TBD	LANL-DM-06B30-02	Y	639	0	GPP/E	**1,000**				1,000				
3	TA-09, -15, -16, -35, -39, -53 and -69 Roof Systems Deficiencies (ME)	55	TBD	LANL-DM-06B30-03	Y	864	0	GPP/E	**1,500**				1,500				
4	Roof Systems Deficiencies (ME)	55	TBD	LANL-DM-06B30-03	Y	1,294	0	GPP/E	**2,000**				2,000				
5	TA-53 and -55 HVAC Systems Deficiencies (ME) - A	45	TBD	LANL-DM-06D30-03A	Y	583	0	GPP/E	**900**				900				
6	TA-16, -53 and -55 Electrical Systems Deficiencies	55	TBD	LANL-DM-06D50-03	Y	8,198	0	GPP/E	**1,200**				1,200				
7	Bldg 55-0042 HVAC and Cooling Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-05	Y	655	0	GPP/E	**1,000**				1,000				
8	Bldg 53-0030 HVAC Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-10	Y	611	0	GPP/E	**940**				940				
9	Electrical Infrastructure Safety Upgrade (TA-15-183)	50	TBD	LANL-R-06-01	Y	196	0	GPP	**1,900**				1,900				
10	Bldg 53-0030 Electrical Distribution Systems Deficiencies (ME)	50	TBD	LANL-DM-06D50-04	Y	642	0	GPP/E	**1,000**				1,000				
11	TA-15, -16 and -55 Plumbing and Fire Protection Systems Deficiencies (ME)	50	TBD	LANL-DM-06D90-01	Y	484	0	GPP/E	**750**				750				
12	TA-16, -22, -36, -39 and -53 Construction Deficiencies (ME)	45	TBD	LANL-DM-06X90-01	Y	166	0	GPP/E	**250**				250				
13	Electrical System Deficiencies (ME)	55	TBD	LANL-DM-07D50-01	Y	4,771	0	GPP/E	**7,300**				3,650	3,650			
14	Mechanical Systems Deficiencies (ME)	45	TBD	LANL-DM-07D90-01	Y	4,412	0	GPP/E	**6,500**				3,350	3,150			
15	Construction and Specialty Systems Deficiencies (ME)	45	TBD	LANL-DM-07X90-01	Y	1,708	0	GPP/E	**2,800**				2,800				
16	Bldg 53-0003 HVAC System Deficiencies (ME)	45	TBD	LANL-DM-08D30-03	Y	658	0	GPP/E	**1,000**				1,000				
17	TA-11, -15, -16, -36, -39, -40, -53 and -54 HVAC and Cooling Systems Deficiencies (ME)	45	TBD	LANL-DM-08D30-04	Y	306	0	GPP/E	**500**				500				
18	TA-50 HVAC and Cooling Systems Deficiencies (ME)	50	TBD	LANL-DM-08D30-09	Y	635	0	GPP/E	**1,000**				1,000				
19	TA-53 Fire Protection Systems Deficiencies (ME) - A	55	TBD	LANL-DM-08D40-01A	Y	613	0	GPP/E	**950**				950				
20	TA-08, -35, -54 and -55 Fire Protection Systems Deficiencies (ME)	55	TBD	LANL-DM-08D40-02	Y	715	0	GPP/E	**1,100**				1,100				
21	Bldg 53-0004 Fire Protection System Deficiencies (ME)	55	TBD	LANL-DM-08D40-02	Y	2,485	0	GPP/E	**3,800**				3,800				
22	Bldg 53-0002 HVAC System Deficiencies	55	TBD	LANL-DM-05D30-09	Y	1,893	0	GPP/E	**2,700**				2,700				
23	Bldg 09-0045 Electrical System Deficiencies	55	TBD	LANL-DM-05D50-01	Y	901	0	GPP/E	**1,300**				1,300				
24	Bldg 53-0002 Electrical System Deficiencies	55	TBD	LANL-DM-05D50-03	Y	1,382	0	GPP/E	**2,000**				2,000				
25	Electrical Infrastructure Safety Upgrade TA-9-21	50	TBD	LANL-R-XX-01	Y	1,900	0	GPP/E	**2,700**				2,700				
26	FY07 FIRP Funded D&D	N/A	TBD	LANL-D-07-01	N	TBD	-67.5	E	**7,500**				7,500				
27	FY08 Planning	N/A	TBD	LANL-P-07-01	Y/N	0	0	GPP/E	**5,440**				5,440				
28	Bldg 55-0004 Electrical Distribution System Deficiencies	55	TBD	LANL-DM-05D50-04	Y	815	0	GPP/E	**1,200**					1,200			
29	Roof System Deficiencies (ME)	55	TBD	LANL-DM-06B30-06	Y	695	0	GPP/E	**1,000**					1,000			
30	Bldg 16-0260 HVAC Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-01	Y	567	0	GPP/E	**800**					800			
31	TA-16 Air Handling and Ductwork Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-04	Y	1,116	0	GPP/E	**1,600**					1,600			
32	Bldg 53-0003 Electrical Lighting Systems Deficiencies (ME)	55	TBD	LANL-DM-06D50-01	Y	560	0	GPP/E	**800**					800			
33	TA-53 and -55 Mechanical Systems Deficiencies (ME) - B	45	TBD	LANL-DM-06D90-05B	Y	2,331	0	GPP/E	**3,100**					3,100			
34	TA-11 and -53 Construction and Specialty Systems Deficiencies (ME)	45	TBD	LANL-DM-06X90-02	Y	177	0	GPP/E	**300**					300			
35	Construction and Specialty Systems Deficiencies (ME)	45	TBD	LANL-DM-06X90-02	Y	393	0	GPP/E	**600**					600			
36	Roof System Deficiencies (ME)	50	TBD	LANL-DM-08B30-01	Y	5,738	0	GPP/E	**7,600**					1,000	3,800	2,800	

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	FIRRS Score	Project Number	Deferred Maintenance Identifier (3)(4)	Mission Critical (Y or N)	FY03 Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years (9)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
37	TA-15 and -21 Electrical Systems Deficiencies (ME)	55	TBD	LANL-DM-08D50-03	Y	9,214		GPP/E	**15,400**					4,000	4,000	4,000	3,400
38	Bldg 16-0260 Electrical System Deficiencies (Mission Essential (ME))	55	TBD	LANL-DM-05D50-05	Y	1,737	0	GPP/E	**2,700**					1,000	1,700		
39	TA-55 Electrical Systems Deficiencies	55	TBD	LANL-DM-06D50-03	Y	7,443	0		**12,400**					4,200	4,200	4,000	
40	Classified Parts Storage	55	TBD	LANL-R-XX-06	Y	812		GPP/E	**1,100**					1,100			
41	TA-53 Fire Protection Systems Deficiencies (ME) - B	55	TBD	LANL-DM-08D40-03B	Y	699	0	GPP/E	**900**					900			
42	Bldg 50-0037 Fire Protection System Deficiencies (ME)	55	TBD	LANL-DM-08D40-05	Y	560	0	GPP/E	**750**					750			
43	Construction and Specialty Systems Deficiencies (ME)	40	TBD	LANL-DM-08C30-03	Y	7,233	0	GPP/E	**9,600**					3,200	3,200	3,200	
44	CMR Roof System Deficiencies (ME)	50	TBD	LANL-DM-05CMR-01	Y	950		GPP/E	**1,600**					1,600			
45	CMR Mechanical Systems Deficiencies (ME)	40	TBD	LANL-DM-05CMR-01	Y	2,202		GPP/E	**3,700**					1,200	2,500		
46	Bldg 53-0003 Hot Water Distribution System Deficiencies	55	TBD	LANL-DM-05D30-02	Y	1,573	0	GPP/E	**1,792**					1,792			
47	Bldg 53-0003 Chilled Water System Deficiencies	55	TBD	LANL-DM-05D30-04	Y	1,573	0	GPP/E	**5,346**					2,104	3,242		
48	Bldg 53-0003 Electrical Distribution System Deficiencies	55	TBD	LANL-DM-05D50-02	Y	2,038	0	GPP/E	**10,549**					3,451	3,598	3,500	
49	Electrical Infrastructure Safety Upgrade (TA-53-2)*	50	TBD	LANL-R-06-10	Y	1,974	0	GPP	**3,565**	515				420	2,630		
50	FY08 FIRP Funded D&D	N/A	TBD	LANL-D-08-01	N	TBD	-51.1	E	**7,500**					7,500			
51	FY09 Planning	N/A	TBD	LANL-P-08-01	Y/N	0	0	GPP/E	**6,454**					6,454			
52	CMR Electrical Distribution Systems Deficiencies (ME)	50	TBD	LANL-DM-05CMR-02	Y	1,019		GPP/E	**1,700**						1,700		
53	Bldg 55-0004 Roof System Deficiencies (ME)	45	TBD	LANL-DM-05B30-01	Y	4,891		GPP/E	**8,200**						4,100	4,100	
54	Bldg 53-0001 Electrical System Deficiencies (ME)	55	TBD	LANL-DM-08D50-02	Y	2,108		GPP/E	**3,500**						2,100	1,400	
55	TA-03, -08, -09, -11, -15 and -16 Plumbing and Fire Protection Systems Deficiencies (ME)	55	TBD	LANL-DM-08D90-01	Y	1,399		GPP/E	**2,350**						1,200	1,150	
56	Construction Deficiencies (ME)	45	TBD	LANL-DM-09C30-01	Y	6,951		GPP/E	**11,600**						4,000	4,000	3,600
57	Bldg 53-0007 HVAC System Deficiencies	50	TBD	LANL-DM-05D30-11	Y	2,103	0	GPP/E	**4,050**						4,050		
58	Electrical Infrastructure Safety Upgrade (TA-48-1)	50	TBD	LANL-R-06-12	N	2,293	0	GPP	**4,625**	225					2500	1900	
59	TA-9-38,40,42,46 Stm to Hot Water Htg. Conversion	40	TBD	LANL-R-06-11	Y	72	0	GPP	**2,741**	341					2,400		
60	FY09 FIRP Funded D&D	N/A	TBD	LANL-D-09-01	N	TBD	-92	E	**6,000**						6,000		
61	FY10 Planning	N/A	TBD	LANL-P-09-01	Y/N	0		GPP/E	**7,427**						7,427		
62	TA-16 Construction Deficiencies (ME)	45	TBD	LANL-DM-08X90-02	Y	442		GPP/E	**750**							750	
63	TA-21 Roof Systems Deficiencies (ME)	45	TBD	LANL-DM-09B30-03	Y	2,272		GPP/E	**4,800**							4,800	
64	TA-03, -16, -36, -37, -40, -53, -54 and -55 Roof Systems Deficiencies (ME)	45	TBD	LANL-DM-09B30-04	Y	803		GPP/E	**1,400**							1,400	
65	TA-11, -15, -16, -36, -39, -40, -53 and -54 HVAC and Cooling Systems Deficiencies (ME)	55	TBD	LANL-DM-09D30-04	Y	789		GPP/E	**1,300**							1,300	
66	TA-55 Heating and Cooling Systems Deficiencies (ME)	55	TBD	LANL-DM-09D30-05	Y	2,363		GPP/E	**4,000**							4,000	
67	Replace High Voltage Electrical Panels TA-48-1*	50	TBD	LANL-R-06-13	Y	2,293	0	GPP	**4,154**	454						3,700	
68	Life Extension Project (TA-9-21)	55	TBD	LANL-R-XX-05	Y	4,002	0	GPP/E	**4,800**							2,000	2,800
69	TA-3-32 & TA-3-34 Revitalization (MST)	50	TBD	LANL-R-06-08	N	3,100	0	GPP	**4,800**							900	3,900
70	Electrical Infrastructure Safety Upgrade (TA-35-2)*	50	TBD	LANL-R-06-07	N	1,236	0	GPP	**4,059**	729						3,330	
71	Electrical Infrastructure Safety Upgrade (TA-46-1)	50	TBD	LANL-R-06-09	N	332	0	GPP	**3,304**	414						2,890	
72	TA-50 HVAC and Cooling Systems Deficiencies (ME)	55	TBD	LANL-DM-09D30-09	Y	59		GPP/E	**200**							200	
73	TA-53 Fire Protection Systems Deficiencies (ME) - A	55	TBD	LANL-DM-09D40-01A	Y	404		GPP/E	**700**							700	
74	TA-08, -35, -54 and -55 Fire Protection Systems Deficiencies (ME)	55	TBD	LANL-DM-09D40-02	Y	215		GPP/E	**400**							400	
75	TA-11, -16, -35, -36, -37, -39, -53 and -54 Electrical Systems Deficiencies (ME)	55	TBD	LANL-DM-09D50-02	Y	369		GPP/E	**600**							600	
76	TA-15 and -21 Electrical Systems Deficiencies (ME)	55	TBD	LANL-DM-09D50-03	Y	396		GPP/E	**700**							700	
77	Bldg 55-0008 Electrical Systems Deficiencies (ME)	55	TBD	LANL-DM-09D50-04	Y	1,019		GPP/E	**1,700**							1,700	
78	FY11 Planning	N/A	TBD	LANL-P10-01	Y/N	0		GPP/E	**9,389**							9,389	
79	Bldg 53-0003 Heat Ventilation Systems Deficiencies (ME)	55	TBD	LANL-DM-09D30-07	Y	675		GPP/E	**1,200**								1,200
80	TA-03, -08, -09, -11, -15 and -16 Plumbing and Fire Protection Systems Deficiencies (ME)	55	TBD	LANL-DM-09D90-01	Y	1,279		GPP/E	**2,500**								2,500
81	TA-03, -08, -09, -14, -15, -16, -22, -35, -36, -39, -40, -50, -53, -54 and -55 Exterior Construction Deficiencies (ME)	45	TBD	LANL-DM-09X90-04	Y	1,379		GPP/E	**2,700**								2,700
82	TA-08, -15, -16, -35, -36, -39, -40, -53, -54 and -55 Internal Construction Deficiencies (ME)	45	TBD	LANL-DM-09X90-05	Y	1,257		GPP/E	**2,500**								2,500
83	Electrical System Deficiencies (Mission Essential)	55	TBD	LANL-DM-08D50-01	Y	2,372		GPP/E	**4,700**								4,700
84	Mechanical Systems Deficiencies (ME)	55	TBD	LANL-DM-09D30-01	Y	741		GPP/E	**1,500**								1,500
85	TA-50 HVAC Systems Deficiencies (Mission Essential)	55	TBD	LANL-DM-09D30-06	Y	3,355		GPP/E	**4,800**								4,800
86	Electrical Infrastructure Safety Upgrade (TA-33-114)	50	TBD	LANL-R-07-02	N	188	0	GPP	**1,200**								1,200
87	Electrical Infrastructure Safety Upgrade (TA-35-46)	50	TBD	LANL-R-08-02	N	49	0	GPP	**2,000**								2,000
88	Electrical Infrastructure Safety Upgrade (TA-39-2)	50	TBD	LANL-R-09-02	N	93	0	GPP	**1,200**								1,200
89	TA-03 Roof Systems Deficiencies - B	50	TBD	LANL-DNM-05B30-01B	N	968	0	GPP/E	**1,900**								1,900
90	TA-16 and -48 HVAC Systems Deficiencies	40	TBD	LANL-DNM-05D30-01	N	733	0	GPP/E	**1,500**								1,500
91	TA-03, -16 and -35 Roof Systems Deficiencies	50	TBD	LANL-DNM-06B30-01	N	1,032	0	GPP/E	**2,100**								2,100
92	TA-03 Roof Systems Deficiencies - A	50	TBD	LANL-DNM-06B30-02A	N	670	0	GPP/E	**1,400**								1,400
93	TA-03 and -35 and General Site (7155010823) Mechanical Deficiencies	50	TBD	LANL-DNM-06D90-01	N	636	0	GPP/E	**1,300**								1,300
94	TA-03, -48 and Site 7155010823 Mechanical and Electrical Systems Deficiencies	50	TBD	LANL-DNM-06D90-02	N	711	0	GPP/E	**1,400**								1,400
95	TA-50 Waste Treatment Plant System Deficiencies - 4A	60	TBD	LANL-DNM-06G30-01A	N	600	0	GPP/E	**1,200**								1,200
96	TA-16 and -55 Construction and Roof Systems Deficiencies (ME)	55	TBD	LANL-DM-08B90-02	Y	342	0	GPP/E	**600**								600
97	TA-16-200 Upgrades	40	TBD	LANL-R-XX-07	Y	1,086	0	GPP/E	**2,200**								2,200
98	TA-03, -16 and -35 Roof Systems Deficiencies	50	TBD	LANL-DNM-07B30-01	N	82	0	GPP/E	**150**								150
99	TA-03, -16, 35, -46, -48, -49, -53, -60 and -72 Roof Systems Deficiencies*	50	TBD	LANL-DNM-07B30-01	N	1,246	0	GPP/E	**2,500**								2,500
100	TA-16 Roof Systems Deficiencies	50	TBD	LANL-DNM-07B30-03	N	566	0	GPP/E	**1,050**								1,050
101	Bldg 59-0001 Roof Systems Deficiencies	50	TBD	LANL-DNM-07B30-05	N	478	0	GPP/E	**900**								900

Attachment A-4
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Facilities and Infrastructure Recapitalization Program (FIRP) for LANL
($000s)

FIRP Priority (1)	Project Name (2)	FIRRS Score	Project Number	Deferred Maintenance Identifier (3)(4)	Mission Critical (Y or N)	FY03 Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years (9)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
102	DX Consolidated Machine Shop	15	TBD	LA-R-XX-02	Y	1,552	5	GPP/E	**3,100**								3,100
103	JNETF (TA-16-302)	45	TBD	LA-R-XX-03	Y	728	5	GPP/E	**1,600**								1,600
104	TA-50 Waste Treatment Plant Deficiencies 1A (Mission Essential	50	TBD	LANL-DM-05G30-01A	Y	3,147	0	GPP/E	**4,800**								4,800
105	TA-16 and -55 Electrical Systems Deficiencies (Mission Essential)	50	TBD	LANL-DM-09D50-05	Y	3,543	0	GPP/E	**4,800**								4,800
106	Internal Construction Deficiencies (Mission Essential	45	TBD	LANL-DM-09X90-06	Y	3,419	0	GPP/E	**4,800**								4,800
TOTAL (FIRP)						**222,424**	**(540)**		**414,805**	**31,459**	**44,929**	**19,260**	**53,830**	**56,871**	**64,347**	**68,809**	**75,300**

Note: FIRRS scores for projects funded in FY07 & beyond are initial estimates and will be refined with project development.

Attachment A-5
Non-RTBF/Non-FIRP Facilities and Infrastructure Cost Projection Spreadsheet for LANL
($000s)

Priority (1)	Description (2)	Project Identification No. (3)	GSF Added (+) or Eliminated (-) X1000 (6)	Total (8)	FY 2004 Actual Cost (10)	FY05 (11)	FY06 (12)	FY07 (13)	FY08 (14)	FY09 (15)	FY10 (16)	FY11 (17)	FY12 (18)	FY13 (19)	FY14 (20)	FY15 (21)
	NNSA GPPs															
F	Construct Classified Detonator Storage Facility	LANL-05-427	2.4	2,150	0	250	1,900									
	TOTAL NNSA GPPs		**2.4**	**2,150**	**0**	**250**	**1,900**									
	***LANL GPPs* (28)**															
F	Construct Conflict Simulation Lab	LANL-03-124	0.0	1,900	630	185										
F	Conversion of PF-4 Packing/Unpacking Room	LANL-04-172	0.0	2,200	600	1,600										
F	Construct TA-64 PTLA Building	LANL-04-168	8.0	1,800	1,065	590	60									
F	TA-33 Bunker Refurbishment	LANL-04-167	0.0	3,000	1,200	1,200	200									
F	Centralized Characterization Project	LANL-05-531	3.6	800		450	350									
1	Guard Post Automation	LANL-05-529	0.0	650		325	325									
2	Construct PF-1 Annex Office Building	LANL-06-530	17.5	5,000				5,000								
	TOTAL LANL GPPs		**29.1**	**15,350**	**3,495**	**4,350**	**935**									
	Total LANL GPPs - Construction Projects		**32**	**17,500**	**3,495**	**4,600**	**2,835**	**5,000**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	***Institutional GPPs (IGPP)* (29)**															
F	Construct Parking Structure	LANL-03-243	0.0	5,240	2,730											
F	Badge Office Communication Lines	LANL-03-144	0.0	680	380											
F	Construct Surface Parking Lots	LANL-04-314	0.0	1,170	800											
F	Construct Mercury/Pajarito Parking Lot	LANL-05-420	0.0	530		78	452									
F	Relocate Radio Shop	LANL-05-421	7.4	2,600		630	1,970									
F	Relocate Roads & Grounds	LANL-05-422	7.0	2,800		879	1,921									
F	TA-3 Telecom Duct Bank Expansion	LANL-05-423	0.0	225		1	224									
	TA-3 Utility corridor		0.0	1,850			780	1,070								
	Pajarito Corridor Road and Parking Project		0.0	4,900			4,000	900								
	Pajarito corridor electrical Substation		0.0	4,800			500	3,250	1,050							
	Warehouse Relocation	LANL-07-427	20.0	6,800				780	3,500	3,000						
	Construct Computing and Communications Operations Facility	LANL-07-429	14.0	4,900				1,550	3,350							
	Upgrade Diamond Drive/Eniwetok Drive Intersection	LANL-07-428	0.0	2,000				2,000								
	Construct Wellness Center Replacement	LANL-08-434	15.0	4,900					1,630	3,270						
	Construct TA-69 EOC Support Office	LANL-08-435	15.0	4,900					1,000	3,900						
	Pajarito/Pecos Pedestrian Tunnel		0.0	4,800					4,000	800						
	TA-16-171 Water Tank Refurbishment	LANL-08-436	0.0	4,000						2,000	2,000					
	Electrical Upgrade for Institutional Computing	LANL-09-438	0.0	2,500						1,000	1,500					
	TA-3/TA-59 Sewer Upgrade	LANL-09-440	0.0	1,500						630	870					
	Construct TA-49 Consolidated Emergency Training Center Bldg.	LANL-09-439	15.0	6,000							2,000	4,000				
	Construct Building to Relocate IM-2 and IM-3 Groups	LANL-10-441	10.0	4,900							3,000	1,900				
	Pajarito Road Parking Structure		0.0	9,800							3,200	6,600				
	Road Safety Upgrades	LANL-10-444	0.0	4,000							1,940	2,060				
	Construct Institutional Office Building		25.0	9,800									6,000	4,000		
	TBD												9,000	11,000	15,000	15,000
	TOTAL IGPPs		**103.4**	**85,795**	**3,910**	**1,588**	**9,847**	**9,550**	**14,530**	**14,600**	**14,510**	**14,560**	**15,000**	**15,000**	**15,000**	**15,000**
	Decommissioning and Demolition Charges							*Demolition Notes*								
	SM-43 D&D	LANL-06-DD-13	(315.0)	0	0	250	400	6,000	15,000	11000		D&D of the existing 315,00 S.F. SM-43 structure is being funded as an OPC cost of the National Security Sciences Building Line Item Project.				
	Potential D&D Transfer of Responsibility To EM															
	TSTA	LANL-TBD-DD-16	(18.8)	0				Transfer of the TSTA Facility from the Office of Science to EM has occurred. The negotiated costs and schedules for D&D are unknown at this time.								
	TA-21 Facilities	LANL-TBD-DD-17	(164.2)	0				Transfer of TA-21 facilities to EM is being requested as noted in Attachment E-1.								
	TOTAL DECOMMISSIONING & DEMOLITION CHARGE		**(498.0)**	**0**	**0**	**250**	**400**	**6,000**	**15,000**	**11,000**	**0**	**0**	**0**	**0**		**0**
	TOTAL		**(363.1)**	**103,295**	**7,405**	**6,438**	**13,082**	**20,550**	**29,530**	**25,600**	**14,510**	**14,560**	**15,000**	**15,000**	**15,000**	**15,000**

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Attachment A-6(a) - FY 2006- FY 2008
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Currently Funded Security Infrastructure Projects for LANL ($000s)

						Planned Funding Source				
Priority (1)	**Project Name (2)**	**Site Specific Project Number (3)**	**Mission Critical (Y or N) (4)**	**Estimated Total Project Cost (8)**	**Estimated Total Real Property Cost**	**Line Item A-1,2**	**RTBF A-3**	**FIRP A-4**	**Other A-5**	**DBT Related? Y or N**
1	FY03 Design Basis Threat		**Y**	**15,000**	**$1,000,000**				**ALT**	**Y**
2	NMSSUP II	LANL 05-D-070.1	**Y**	**240,000**	**$46,000**	**X**				**Y**
3	Security Perimeter Project	LANL-05-017	**Y**	**24,000**	**$1,480,000**	**X**				**Y**
4	Red Net Infrastructure Expansion Program		**Y**	**33,000**	**NA**				**ALT**	**N**
5	Guard Post Automation Project	LANL-05-529	**N**	**650**	**NA**				**ALT**	**N**
	List FY 07 Projects									
	None									
	List FY08 Projects									
	None									

Note: Prioritize for each Fiscal Year (FY06, FY07 and FY08) in sequential order site Security Infrastructure projects/activities.

Attachment A-6(b) - FY 07 and FY08 Unfunded
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Security Infrastructure Projects for LANL ($000s)

Priority (1)	Prioritization Score (2a)	Project Name (2)	Site Specific Project Number (3)	Mission Critical (Y or N) (4)	Total (8)	Proposed for either FY07 or FY08 funding	DBT Related? Y or N
1		FY05 Design Basis Threat		Y	$33,000	FY07	Y
2		Red Net Expansion Program		Y	$7,000	FY07	N
3		Alarm Point Increment Project		N	$9,000	FY07	N
4		Brass to Argus Conversion		Y	$50,000	FY07	Y
5		S-Division Office Building		N	$6,000	FY08	N
TOTAL					$105,000		

Attachment A-7
NNSA Facilities and Infrastructure Cost Projection Spreadsheet
Other Facilities and Infrastructure Recapitalization Program (FIRP) Projects for LANL
($000s)

FIRRS Priority (1)	Project Name (2)	FIRRS Score	Project Number	Deferred Maintenance Identifier (3)(4)	Mission Critical (Y or N)	FY04 Deferred Maintenance Reduction (5)	GSF Added (+) or Eliminated (-) X1000 (6)	Funding Type (7)	Total (8)	Prior Years (9)	FY 2005 (11)	FY 2006 FYNSP (12)	FY 2007 FYNSP (13)	FY 2008 FYNSP (14)	FY 2009 (15)	FY 2010 (16)	FY 2011 (17)
1	TA-16, -53 and -55 Electrical Systems Deficiencies	55	TBD	LANL-DM-06D50-03	Y	8,198	0	GPP/E	**1,200**				1,200				
2	Bldg 53-0002 HVAC System Deficiencies	55	TBD	LANL-DM-05D30-09	Y	1,893	0	GPP/E	**2,700**				2,700				
3	Bldg 09-0045 Electrical System Deficiencies	55	TBD	LANL-DM-05D50-01	Y	901	0	GPP/E	**1,300**				1,300				
4	Bldg 53-0002 Electrical System Deficiencies	55	TBD	LANL-DM-05D50-03	Y	1,382	0	GPP/E	**2,000**				2,000				
5	Electrical Infrastructure Safety Upgrade TA-9-21	50	TBD	LANL-R-XX-01	Y	1,900	0	GPP/E	**2,700**				2,700				
6	TA-55 to TA-50 RLWCS Manhole Refurbishment	55	TBD	LANL-R-06-14	N	1630	0	GPP/E	**3,100**					3,100			
7	Bldg 55-0004 Electrical Distribution System Deficiencies	55	TBD	LANL-DM-05D50-04	Y	815	0	GPP/E	**1,200**					1,200			
8	Roof System Deficiencies (ME)	55	TBD	LANL-DM-06B30-06	Y	695	0	GPP/E	**1,000**					1,000			
9	Bldg 16-0260 HVAC Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-01	Y	567	0	GPP/E	**800**					800			
10	TA-16 Air Handling and Ductwork Systems Deficiencies (ME)	45	TBD	LANL-DM-06D30-04	Y	1,116	0	GPP/E	**1,600**					1,600			
11	Bldg 53-0003 Electrical Lighting Systems Deficiencies (ME)	55	TBD	LANL-DM-06D50-01	Y	560	0	GPP/E	**800**					800			
12	TA-53 and -55 Mechanical Systems Deficiencies (ME) - B	45	TBD	LANL-DM-06D90-05B	Y	2,331	0	GPP/E	**3,100**					3,100			
13	TA-11 and -53 Construction and Specialty Systems Deficiencies (ME)	45	TBD	LANL-DM-06X90-02	Y	177	0	GPP/E	**300**					300			
14	Construction and Specialty Systems Deficiencies (ME)	45	TBD	LANL-DM-06X90-02	Y	393	0	GPP/E	**600**					600			
15	TA-48 to TA-50 RLWCS Manhole Refurbishment	55	TBD	LANL-R-06-14	N	1,835	0	GPP/E	**3,400**						3,400		
16	TA-55 Electrical Systems Deficiencies	55	TBD	LANL-DM-06D50-03	Y	7,443	0	GPP/E	**12,400**					4,200	4,200	4,000	
17	Electrical Infrastructure Safety Upgrade (TA-53-2)*	50	TBD	LANL-R-06-10	Y	1,974	0	GPP	**3,050**					420	2,630		
18	TA-3 to TA-48 RLWCS Manhole Refurbishment	55	TBD	LANL-R-06-14	N	2,650	0	GPP/E	**5,000**							5,000	
19	TA-59 RLWCS Manhole Refurbishment	55	TBD	LANL-R-06-14	N	1,423	0	GPP/E	**2,700**								2,700
20	Life Extension Project (TA-9-21)	55	TBD	LANL-R-XX-05	Y	4,002	0	GPP/E	**4,800**							2,000	2,800
21	Electrical System Deficiencies (Mission Essential)	55	TBD	LANL-DM-08D50-01	Y	2,372	$0	GPP/E	**4,700**								4,700
22	TA-16 and -55 Construction and Roof Systems Deficiencies (ME)	55	TBD	LANL-DM-08B90-02	Y	342	0	GPP/E	**600**								600
23	TA-16 and -55 Electrical Systems Deficiencies (Mission Essential)	55	TBD	LANL-DM-09D50-05	Y	3,543	0	GPP/E	**4,800**								4,800
24	Internal Construction Deficiencies (Mission Essential	45	TBD	LANL-DM-09X90-06	Y	3,419	0	GPP/E	**4,800**								4,800
TOTAL (FIRP)						**51,561**	**-**		**68,650**	**-**	**-**	**-**	**9,900**	**17,120**	**10,230**	**11,000**	**20,400**

Note: FIRRS scores for projects funded in FY07 & beyond are initial estimates and will be refined with project development.

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NNSA Facilities and Infrastructure Cost Projection Spreadsheets
Notes

(1) Priority. Each of the funding types (Line Item, RTBF/Operations of Facilities, and FIRP) is prioritized in sequential order (from 1 to xyz) for site facilities and infrastructure projects/activities. For funded projects – an "F" is shown in tl priority column.
(2) Official Project Name
(3) Project Number/Project Identification Number.
(4) Deferred Maintenance Identifier - Unique project ID number required by Implementation of Congressional Guidance for FIRP.
(5) Mission Critical (Y/N)
(6) Deferred Maintenance Reduction - Deferred maintenance reduction from the FY03 Deferred Maintenance Baseline [K$] due directly or indirectly from completion of the project.
(7) Gross Square Footage - Gross square footage constructed or demolished as a result of the project.
(8) Funding Type - The type of funding associated with each activity/project, as applicable using the following abbreviations:
LI = Existing Capital Funded Line Item Project
OPC = Other Project Costs
PE&D = Project Engineering & Design
TPC = Total Project Cost
E = Expense
GPP = General Plant Project
GPE = General Purpose Equipment
IGPP = Institutional General Plant Project
(9) Total - On the Line Item Spreadsheets, the total (cumulative) cost associated with each existing and proposed line item project for each funding type listed. Under "Total", is the Total Project Cost (TPC) associated with each "Proposed Line Item" and "Existing Line Item" project. TPC is the sum of the LI and PE&D plus the OPC.
(10) Prior Years Funding - On the Line Item Spreadsheet, the actual prior years funding associated with the project (sum of the prior years funded through FY 2002 actual) for each funding type listed.
(11) FY 2005 Actual - The FY05 cost and appropriation associated with the project. FY04 Appropriation column added so that totals will be consistent with ICPP.
(12) FY 2006 - Data for FY06 is consistent with the Guidance Site Funding Profile for LANL.
(13) FY 2007 - Data for FY 2007 is consistent with the Guidance Site Funding Profile for LANL.
(14) – (17) FY 2008 – FY 2011 FYNSP - The site's Future Years Nuclear Security Program (FYNSP) constrained case for Fiscal Years 2008 – 2011.
(18) – (22) FY 2012 – FY 2016 - Provides a requirements based case that is constrained by a 2.6% annual inflation- based assumption or, in the case of Line Items, the Integrated Construction Program Plan's out-year projections.

Attachment A-1 Specific Notes
(23) NSSB: FY06-FY07 Other Project Costs (OPC) include institutional funding for SM-43 demolition.
(24) TA-55 Radiography: Project funding proposed from RTBF and Pit Program.
(25) TA-55 Reinvestment Project The current funding profile matches that presented in NNSA's ICPP with the exception of PED funds. The PED funding presented here represents recent agreements between NNSA, NA-10 and LANL on PED funds.
(31)CMRR: Out years OPC funds as presented in the ICPP included in FY2012.

Attachment A-2 Notes
(26) TA-18 Nuclear Nonproliferation Laboratory Replacement (NNLR) Project Proposed Line Item Cost Projection Profile shows Project Engineering and Design Funds only in conjunction with the FY08 Office of Management and Budget Construction Project Data Sheet.

Attachment A-4 Notes
(27) FIRP project titles with an asterisk (*) denote a Replacement in Kind project. See Attachment F-6 for the full list of RIK projects.

Attachment A-5 Notes
(28) GPP construction projects that meet mission needs but currently do not have a funding source identified. Prioritization and funding determination to be developed.
(29) Proposed Insitutional General Plant Projects (IGPPs).
(30) Office Building Replacement projects will be targeted at eliminating temporary structures, including trailers and transportables.

Attachment E-1
NNSA Excess Facilities Footprint Elimination Plan Spreadsheet

The Excess Facilities Disposition Plan spreadsheet (Attachment E-1) captures all facilities (NNSA, DOE, and non-DOE) by program that are currently excess to the DOE, including those facilities that are either in the process of being transferred or will be transferred in the future to the Office of Environmental Management for cleanup, and those that will become excess in the FY07– FY16 period. Also included are prior year (FY03, FY04, and FY05) excess facilities data. Facilities proposed for FIRP D&D funding are prioritized and ranked on this spreadsheet. Gross square footage data was pulled from FIMS in January 2006.

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Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
				FY02 ARCHIVED TOTAL		**68,161**									
				FY03 ARCHIVED TOTAL		**136,416**									
				FY04 ARCHIVED TOTAL		**109,586**									
FIRP	03-0246	No	Z CABLE CONTROL BLDG C116500			68								Removed: 01-06-05	No
FIRP	03-0247	No	Z CABLE STRESSER BLDG C116501			288								Removed: 01-06-05	No
FIRP	03-0379	No	Z LEAD POUR & PAINT C116402			1,603								Removed: 01-06-05	No
FIRP	03-1527	YES	Security Division			550								Removed: 12-14-05	No
FIRP	03-1544	No	OFFICE BLDG			702								Removed: 10-25-04	No
FIRP	03-1545	No	OFFICE BLDG			702								Removed: 10-25-04	No
FIRP	03-1539	YES	SECURITY DIVISION			720								Removed: 10-01-04	No
FIRP	15-0008	YES	STORAGE BLDG			324								Removed: 09-07-05	No
FIRP	15-0020	No	BRANCH SHOP & LAB BLDG			3,699								Removed: 11-17-04	Eligible, hist doc complete
FIRP	15-0022	No	STORAGE BLDG			310								Removed: 10-19-04	Eligible, hist doc complete
FIRP	15-0023	No	LAB/STORAGE BLDG			780								Removed: 10-09-04	Eligible, hist doc complete
FIRP	15-0030	No	GUARD STATION			205								Removed: 10-08-04	Eligible, hist doc complete
FIRP	15-0194	No	PULSE POWER LAB			1,976								Removed: 11-08-04	Eligible, hist doc complete
FIRP	15-0203	No	REX LABORATORY			3,412								Removed: 11-04-04	Eligible, hist doc complete
FIRP	15-0213	No	PLATFORM			624								Removed: 11-08-04	Eligible, hist doc complete
FIRP	15-0245	No	REX CONTROL ROOM			1,653								Removed: 11-04-04	Eligible, hist doc complete
FIRP	16-0339	No	STORAGE BLDG			375								Removed: 01-06-05	No
FIRP	16-0340	No	EXPLOSIVES SYNTHESIS			27,665								Removed: 01-06-05	Eligible, hist doc complete
FIRP	16-0341	No	REST HOUSE			4,542								Removed: 01-06-05	No
FIRP	16-0342	No	BLENDING BLDG			7,385								Removed: 01-06-05	Eligible, hist doc complete
FIRP	16-0343	No	REST HOUSE			4,730								Removed: 01-06-05	No
FIRP	16-0344	No	DRUM STORAGE			760								Removed: 01-06-05	No
FIRP	16-0345	No	REST HOUSE			5,064								Removed: 01-06-05	Eligible, hist doc complete
FIRP	16-0370	No	METAL FORMING BLDG			19,594								Removed: 03-24-05	Eligible, hist doc complete
FIRP	16-0457	Yes	VALVE HOUSE			42								Removed: 09-13-05	No
FIRP	16-0476	Yes	CONTROL ROOM			238								Removed: 06-30-05	Eligible, hist doc pending
FIRP	16-0477	Yes	REST HOUSE			374								Removed: 06-30-05	Eligible, hist doc pending
FIRP	16-0478	Yes	HIGH SPEED MACHINING			1,199								Removed: 06-30-05	Eligible, hist doc pending
FIRP	16-0540	Yes	STEAM PLANT			12,811								Removed: 09-13-05	Eligible, hist doc pending
FIRP	21-0021	No	VAULT (SNM)			3,577								Removed: 03-24-05	Eligible, hist doc pending
FIRP	36-0022	No	SECURITY DIVISION			163								Removed: 12-04-04	No
FIRP	36-0069	No	SECURITY DIVISION			912								Removed: 12-02-04	No
FIRP	39-0103	Yes	TRANSPORTABLE			1,680								Removed: 06-30-05	No
FIRP	39-0107	Yes	TRANSPORTABLE			1,680								Removed: 06-30-05	No
FIRP	59-0002	No	MODULAR OFFICE BUILDING			4,347								Removed: 12-17-04	No
OTHER	03-1714	Yes	TRAILER			672								Removed: 09-20-05	No
OTHER	57-027	No	TRAILER			470								Removed: 09-20-05	No
				FY05 ARCHIVED TOTAL		**115,896**									
FIRP	03-1769	No	SECURITY DIVISION - SEMI-TRAILER	Completed		320	2004	2004						Removed: 2004	No
FIRP	03-0031	Yes	CHEMICAL WAREHOUSE	56	4	30,049	2005	2005	$2,985	$1,245				Removed: 12/31/2005	Yes - Needs evaluation
FIRP	03-0208	Yes	ION BEAM EQUIPMENT BLDG	80	2	1,440	1999	Complete	$143	$2,116	$30			Removed: 2005	Yes - Needs evaluation
FIRP	03-0483	Yes	OFFICE BLDG			3,333	2005	2005	$331	$314				Removed: 2005	No
FIRP	03-0482	Yes	OFFICE BLDG			3,325	2005	2005	$330	$186				Removed: 2005	No
FIRP	03-1381	Yes	OFFICE TRAILER			592	2004	2005	$59	$30				Removed: 2005	No
FIRP	03-1552	Yes	OFFICE BLDG			1,994	2005	2005	$198	$5				Removed: 2005	No
FIRP	03-1586	Yes	OFFICE BLDG			1,997	2005	2005	$198	$69				Removed: 12/11/2005	No
FIRP	03-1949	Yes	Ion Beam TRANSPORTAINER			48	1999	Complete	$5	N/A	$2			Removed: 2/1/2006	No
FIRP	16-0209	Yes	LABORER SHOP	BCP	Jnderrun Utilizatior	187	2006	2005	$22	$12				Removed: 2005	No
FIRP	21-0046	Yes	Z WAREHOUSE			1,812	2002	2005	$180	$87				Removed: 2005	Eligible, hist doc pending
FIRP	21-0213	Yes	LAB SUPPLY WAREHOUSE			1,728	2003	2005	$172	$5				Removed: 2005	No
FIRP	21-0359	Yes	OFFICE TRAILER			540	2005	2005	$54	N/A				Removed: 11/15/2005	No
FIRP	21-0361	Yes	OFFICE TRAILER			1,680	2005	2005	$167	N/A				Removed: 2005	No
FIRP	21-0365	Yes	OFFICE TRAILER			1,680	2005	2005	$167	$14				Removed: 2005	No
FIRP	21-0489	Yes	TRAILER			480	2005	2005	$48	$0				Removed: 11/15/2005	No
FIRP	53-0549	Yes	TRAILER			709	2003	2005	$70	$0				Removed: 2005	No
FIRP	09-0035	Yes	PROCESS LAB			1,911	2005	2005	$190	$432				Removed: 2005	Eligible, hist doc pending

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
FIRP	09-0043	Yes	PROCESS BUILDING			1,768	2005	2005	$176	$371				Removed: 2/3/2006	Eligible, hist doc pending
FIRP	15-0046	Yes	EXERCISE FACILITY			179	2005	Complete	$18	$72				Removed: 2005	Eligible, hist doc pending
FIRP	15-0138	Yes	BUNKER			100	1999	Complete	$10	N/A	$12			Removed: 2/8/2006	Eligible, hist doc pending
FIRP	15-0140	Yes	STORAGE BUILDING			1,210	2005	2005	$120	$66				Removed: 2005	Eligible, hist doc pending
FIRP	15-0141	Yes	BUNKER			100	1999	Complete	$10	N/A	$12			Removed: 2/8/2006	Eligible, hist doc pending
FIRP	28-0001	Yes	MAGAZINE			280	2002	Complete	$28	$9	$5			Removed: 1/13/2006	Eligible, hist doc pending
FIRP	28-0002	Yes	MAGAZINE			280	2000	Complete	$28	$9	$5			Removed: 1/13/2006	Eligible, hist doc pending
FIRP	28-0003	Yes	MAGAZINE	80	3	280	2000	Complete	$28	$9	$5			Removed: 1/13/2006	Eligible, hist doc pending
FIRP	28-0004	Yes	MAGAZINE			280	2000	Complete	$28	$9	$5			Removed: 1/13/2006	Eligible, hist doc pending
FIRP	28-0005	Yes	MAGAZINE			280	2000	Complete	$28	$9	$5			Removed: 1/13/2006	Eligible, hist doc pending
FIRP	39-0101	Yes	TRAILER			300	2005	2005	$30	$5				Removed: 2005	
FIRP	40-0004	Yes	FIRING POINT			572	2005	Complete	$57	$10				Removed: 1/5/2006	Yes - Needs evaluation
FIRP	40-0019	Yes	OFFICE AND LAB			189	1999	Complete	$22	$57	$6			Removed: 1/10/2006	Yes - Needs evaluation
FIRP	40-0043	Yes	STORAGE BUILDING			216	1999	Complete	$21	N/A	$10	Former	No	Removed: 12/23/2005	No
FIRP	49-0023	Yes	BOTTLE HOUSE			256	2000	Complete	$25	$90	$10			Removed: 2005	Yes - Needs evaluation
FIRP	49-0121	Yes	CABLE BLDG			377	2000	Complete	$37	N/A	$10			Removed: 2005	No
			FIRP UNDERWAY TOTAL			**60,492**		(Note A)							
FIRP	08-0024	Yes	STORAGE BLDG	76	2	2,231	2006	2006	$258	$110				ESA Consolidation	Eligible, hist doc pending
FIRP	08-0025	Yes	UTILITY BLDG			99	2006	2006	$11	$5					Yes - Needs evaluation
FIRP	08-0028	Yes	GUARD STATION			87	2006	2006	$10	$3					Yes - Needs evaluation
FIRP	08-0029	Yes	UTILITY BLDG			99	2006	2006	$11	$3				ESA Consolidation - Ready in FY06	Yes - Needs evaluation
FIRP	15-0009	Yes	FIRING BUNKER			297	1999	2006			$12	Yes	Yes		Yes - Needs evaluation
FIRP	15-0027	Yes	CONTROL BLDG			560	1999	2006			$12	Yes	Yes		Yes - Needs evaluation
FIRP	15-0040	Yes	OFFICE AND LAB			13,487	2005	2006	$1,561	$3,140				Shifted from FY05 due to DX Division Consolidation Plan timing	Yes - Needs evaluation
FIRP	15-0044	Yes	CONTROL BUILDING			508	2001	2006			$12	Yes	Yes	Moved from TBD	Yes - Needs evaluation
FIRP	15-0305	Yes	TRANSPORTABLE			3,552	2005	2006	$411	$87					No
FIRP	36-0082	Yes	TRAILER			665	2006	2006	$66	$33				Potential HE and DU contamination issues	No
FIRP	16-0203	Yes	LUMBER STORAGE	56	5	1,043	2006	2006	$121	$47				ESA Consolidation	No
FIRP	16-0435	Yes	REST HOUSE			4,439	2005	2006	$514	$287					No
FIRP	16-0437	Yes	REST HOUSE			4,323	2005	2006	$500	$287					No
FIRP	16-0294	Yes	SHED			0	2003	2006	$0	N/A					No
FIRP	18-0002	Yes	GENERAL STORAGE			123	1999	2006	$14	N/A					Eligible, hist doc pending
FIRP	18-0005	Yes	GENERAL STORAGE			123	1999	2006	$14	N/A					Eligible, hist doc pending
FIRP	18-0186	Yes	OTHER SERVICE BUILDINGS			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	18-0187	Yes	GUARD TOWER			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	18-0188	Yes	GUARD TOWER			36	1999	2006	$4	$3					Yes - Needs evaluation
FIRP	33-0026	Yes	STORAGE BLDG	76	4	173	2000	2006	$20	N/A	$8				Yes - Needs evaluation
FIRP	33-0129	Yes	TEST CELL			202	1999	2006	$23	$11	$8				Yes - Needs evaluation
FIRP	39-0007	Yes	FIRING CHAMBER #2			490	2006	2006		$3	$2			Moved from FY08	Yes - Needs evaluation
FIRP	39-0008	Yes	FIRING CHAMBER #3			582	2006	2006		$4	$2				Yes - Needs evaluation
FIRP	41-0044	Yes	STORAGE BLDG			300	2006	2006	$35	N/A					No
FIRP	41-0054	Yes	STORAGE BLDG			300	2006	2006	$35	N/A					No
			FY06 FIRP TOTAL			**33,791**			$4.5M						
FIRP	03-0542	Yes	GUARD STATION	44	10	50	2007	2007	$6	N/A					No
FIRP	03-1814	Yes	GUARD STATION	84	1	36	2007	2007	$4	N/A					Yes - Needs evaluation
FIRP	14-0005	Yes	STORAGE BUILDING			375	2001	2006	$43	N/A	$15				No
FIRP	14-0030	Yes	EXPLOSIVE PREP BLDG			246	2006	2006	$28	$3				Q Site at DX	Yes - Needs evaluation
FIRP	14-0034	Yes	CONTROL BUILDING			342	2006	2006	$40	$36					Yes - Needs evaluation
FIRP	14-0038	Yes	STORAGE SHACK	76	3	48	1999	2006	$6	$1	$8			Planning Complete	No
FIRP	14-0039	Yes	STORAGE SHACK			0	2006	2006	$0	N/A				Deferred to FY2007 due to funding limitations	No
FIRP	14-0040	Yes	INSTRUMENTATION BLDG			80	2006	2006	$9	$6					No
FIRP	14-0043	Yes	ASSEMBLY AND STORAGE BLDG			1,000	2006	2006	$116	N/A					No
FIRP	15-0476	Yes	TRAILER	56	7	672	2005	2007	$78	$3				Hold in FY07	No
FIRP	16-0304	Yes	PLASTICS BLDG	76	3	19,513	2007	2007	$2,263	$1,234				ESA Consolidation - Ready in FY06.	No
FIRP	16-0305	Yes	PLASTICS BLDG	56	6	5,402	2007	2007	$626	$349				When these buildings are removed,	No
FIRP	16-0306	Yes	PLASTICS BLDG	76	2	19,636	2007	2007	$2,277	$1,234				structure 16-1484 (Steam Boiler) may be available for demolition as well.	Eligible, hist doc pending
FIRP	16-0307	Yes	PLASTICS BLDG	56	4	7,716	2007	2007	$895	$490				Requires further clarification.	No
FIRP	60-0228	Yes	Morgan Shed	44	11	118	2007	2007	$0	N/A				Added from Excess on 7/16/04	Yes - Needs evaluation

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
				FY07 FIRP TOTAL		**55,234**			$7.5M						
FIRP	03-0016	Yes	ION BEAM FACILITY	TBD	6	56,259	1999	2006		$1,043		EM	Yes	Originally candidate for EM, possible contamination issues	Yes - Needs evaluation
FIRP	08-0026	Yes	STORAGE BLDG			638	2006	2008	$74	$37				Shifted from 06	Yes - Needs evaluation
FIRP	16-0242	Yes	TRANSPORTABLE			1,456	2008	2008		$51				Moved to FY08 from FY06 due to ESA Consolidation timing and GPP construction progress. These structures may slip from FY08, new construction is needed to relocate current occupants.	No
FIRP	16-0243	Yes	TRANSPORTABLE			3,241	2008	2008		$136					No
FIRP	16-0244	Yes	TRANSPORTABLE			3,389	2008	2008		$160					No
FIRP	16-0245	Yes	TRANSPORTABLE			1,691	2008	2008		$87					No
FIRP	16-0246	Yes	TRANSPORTABLE			1,688	2008	2008		$76					No
FIRP	16-0897	Yes	TRANSPORTABLE			1,452	2006	2008	$168	$62					No
FIRP	54-0215	Yes	TENSION SUPPORT DOME			15,181	2008	2008		$0				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
FIRP	54-0216	Yes	TENSION SUPPORT DOME			3,306	2008	2008		$0					Yes - Needs evaluation
FIRP	54-1058	Yes	TRAILER			360	2008	2008		$6					Yes - Needs evaluation
FIRP	54-0039	Yes	PCB WASTE STORAGE FACILITY			2,173	2008	2008		$0					Yes - Needs evaluation
FIRP	54-0055	Yes	MODIFIED MORGAN SHED			288	2008	2008		$5					No
FIRP	54-0037	Yes	TRAILER OFFICE			547	2008	2008		$16					Yes - Needs evaluation
FIRP	54-0051	Yes	TRAILER			722	2008	2008		$472					Yes - Needs evaluation
FIRP	54-0060	Yes	TRAILER			672	2008	2008		$9					Yes - Needs evaluation
FIRP	54-0083	Yes	PASSAGEWAY			90	2008	2008		$2					Yes - Needs evaluation
FIRP	54-0084	Yes	PASSAGEWAY			62	2008	2008		$1					Yes - Needs evaluation
				FY08 FIRP TOTAL		**93,215**			$7.5M						
FIRP	08-0030	Yes	LAB			602	2007	2009		$65				Moved from FY06 - ESA Consolidation Is	Yes - Needs evaluation
FIRP	11-0002	Yes	CONTROL BUILDING			831	2002	2009	$96	$10	$6			ESA Consolidation	Eligible, hist doc pending
FIRP	11-0024	Yes	OFFICE/SHOP BLDG			3,685	2006	2009	$427	$46					No
FIRP	11-0033	Yes	EQUIPMENT SHELTER			66	2006	2009	$8	$12					No
FIRP	16-0414	Yes	STORAGE BUILDING			8,488	2009	2009		$97				Moved from FY06 due to ESA Consolidation Plan timing	Yes - Eligible, KEEP
FIRP	16-0415	Yes	REST HOUSE			4,559	2009	2009		N/A					Yes - Eligible, KEEP
FIRP	54-0434	Yes	MODULAR OFFICE BUILDING			1,436	2009	2009		$60				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
FIRP	54-0022	Yes	TRANSPORTABLE			1,680	2009	2009		$60					Yes - Needs evaluation
FIRP	54-0064	Yes	TRANSPORTABLE			1,680	2009	2009		$19					Yes - Needs evaluation
FIRP	54-0049	Yes	TENSION SUPPORT DOME			25,587	2009	2009		$90					Yes - Needs evaluation
FIRP	54-0224	Yes	TENSION SUPPORT DOME			5,829	2009	2009		$1					No
FIRP	16-0360	Yes	SHOP/STORAGE BLDG			3,911	2009	2009	$0	$118				ESA Consolidation	Eligible, hist doc pending
FIRP	16-0453	Yes	STORAGE BLDG			288	2009	2009	$0	N/A				ESA Consolidation	No
				FY09 FIRP TOTAL		**58,642**			$6.0M						
OTHER	16-0247		TRAILER			208	2005	2006						Removed: 10-13-05	
OTHER	55-139		TRAILER			672	2005	2006						Removed:	
OTHER	55-144		TRAILER			670	2005	2006						Removed:	
OTHER	55-145		TRAILER			672	2005	2006						Removed:	
OTHER	03-0070	No	Maintenance Shop			6,028	2006	2006						Structures to be removed by the Security Perimeter Project (line item project); previously noted in FY07	
OTHER	03-0225		General Storage			1,168									
OTHER	03-0179		WOODEN SHED			268									
OTHER	03-0225		General Storage			1,168									
OTHER	03-0478		STORAGE SHED			192									
OTHER	03-0479		STORAGE SHED			256									
OTHER	03-1766		JCI SHED			400									
OTHER	03-1976		MORGAN SHED			118									
OTHER	03-1989		STORAGE SHED			87									
OTHER	03-1990		MORGAN SHED			118									
OTHER	61-0019		MORGAN SHED			118									
OTHER	61-0020		MORGAN SHED			118									
OTHER	61-0021		MORGAN SHED			118									
OTHER	61-0022		METAL SHED			130									
OTHER	61-0023		MODEL SHOP			6,661									
OTHER	61-0040		MORGAN SHED			128									
OTHER	61-0041		MORGAN SHED			119									
OTHER	61-0055		TRANSPORTAINER			160									
				FY06 OTHER TOTAL		**19,577**									
RTBF	21-1001	Yes	RECORDS CENTER			15,423	2007	2007							Eligible, hist doc pending

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
RTBF	21-1002	Yes	WAREHOUSE			15,881	2007	2007						Structures listed will be part of an RTBF supported LAND TRANSFER to Los Alamos County as part of the Department's Land Transfer Agreement. Structures will be vacated as a result of NSSB Construction and records movement to that new facility. These structures are anticipated to be removed (archived) from the database upon completion of Land Transfer.	Eligible, hist doc pending
RTBF	21-1003	Yes	BACKFLOW PREVENTER			113	2007	2007							No
RTBF	21-1004	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1005	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1006	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1007	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1008	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1009	Yes	MORGAN SHED			0	2007	2007							No
RTBF	21-1010	Yes	TRANSPORTAINER			0	2007	2007							No
				FY07 RTBF TOTAL		**31,417**									
EM	21-0002N	No	LABORATORY BLDG			14,447	1999	2007	$8,322		$24	Yes	Yes		Eligible, hist doc pending
EM	21-0002S	No	LABORATORY BLDG				1999	2007				Yes	Yes		Eligible, hist doc pending
EM	21-0005N	No	LABORATORY BLDG.			27,039	1998	2007	$8,617		$24	Yes	Yes		Eligible, hist doc pending
EM	21-0005S	No	LABORATORY BLDG				1998	2007				Yes	Yes		Eligible, hist doc pending
EM	21-0210	No	ENV-ECO			20,851	1999	2007	$3,245		$36	Yes	Yes		No
				FY07 OTHER (EM) TOTAL		**62,337**									
OTHER	03-0043	No	ADMINISTRATION BUILDING			315,737	2007	2009						Institutionally Funded	Eligible, hist doc pending
	43-0039		DOE-LASO BUILDING			39,788	2008	2009						Contingent on construction of new LASO Building; required prior to land transfer	
	43-0041		STORAGE BUILDING			5,748									
				FY09 OTHER TOTAL		**361,273**									
EM	21-0155	No	TRITIUM SYSTEMS TEST ASSEMBLY			16,349	2003	2009				Yes	Yes	Transferred from the Office of Science to EM in 2003	Eligible, hist doc pending
EM	21-0213	No	SUPPLY WAREHOUSE			1,728	2003	2009				Yes	Yes		
EM	21-0220	No	COOLING TOWER			450	2003	2009				Yes	Yes		
EM	21-0388	No	50' STEEL STACK			256	2005	2009				Yes	Yes		
EM	21-0420	No	COOLING TOWER			N/A	2003	2009				Yes	Yes		
				FY09 OTHER (EM) TOTAL		**18,783**									
OTHER	03-0029	No	CMR LABORATORY			566,849	2014	2014						CMR Complex	No
OTHER	03-0503	No	GUARD STATION			349	2014	2014							Eligible, hist doc pending
OTHER	03-0564	No	EQUIPMENT SHELTER			80	2014	2014							Eligible, hist doc pending
OTHER	03-0586	No	MECHANICAL BLDG			336	2014	2014							Eligible, hist doc pending
OTHER	03-1196	No	SWITCHGEAR (CMR)			0	2014	2014							Eligible, hist doc pending
OTHER	03-0154	No	HOT WASTE PUMP HOUSE			400	2014	2014							Eligible, hist doc pending
OTHER	03-1610	No	GUARD STATION			288	2014	2014							Eligible, hist doc pending
OTHER	03-1614	No	GUARD STATION			64	2014	2014							Eligible, hist doc pending
OTHER	03-1615	No	GUARD STATION			64	2014	2014							Eligible, hist doc pending
OTHER	03-2206	No	STORAGE BUILDING			3,028	2014	2014							Eligible, hist doc pending
				FY14 OTHER TOTAL		**571,458**									
				SUBTOTAL ALL FUNDING SOURCES*		**1,366,219**									
TBD	18-0001	Yes	STAGING AREA			1,051	2008	TBD				TBD	TBD	These structures will become available for demolition as relocation of TA-18 missions progresses. A phased approach will likely be utilized to begin demolition activities once structures are vacated. Of this structure set, some buildings may potentially be historical	Eligible, hist doc pending
TBD	18-0116	Yes	CRITICAL ASSEMBLY BLDG			5,790	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0119	Yes	STORAGE BLDG			1,242	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0122	Yes	STORAGE BLDG			1,372	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0127	Yes	PULSED ACCELERATOR BLDG			9,537	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0128	Yes	ASSEMBLY COVER BLDG			120	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0129	Yes	REACTOR SUB-ASSY BLDG			6,570	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0138	Yes	WAREHOUSE			1,344	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0141	Yes	ULTRA-SONIC CLEANING BLDG			963	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0147	Yes	OFFICE BLDG			1,298	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0168	Yes	SHEBA CRITICAL BLDG			400	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0184	Yes	TRAILER			248	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0189	Yes	SECUR ENHANC ASSESSM			912	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0190	Yes	GUARD STATION			523	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0227	Yes	ACCELERATOR DEV LAB			2,838	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0023	Yes	CRITICAL ASSEMBLY BLDG			2,681	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0256	Yes	BUTLER BLDG			920	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0257	Yes	TRAILER			1,440	2008	TBD				TBD	TBD		Eligible, hist doc pending

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
TBD	18-0258	Yes	TRAILER			1,440	2008	TBD				TBD	TBD	buildings may potentially be historical and will require review with the State.	Eligible, hist doc pending
TBD	18-0026	Yes	VAULT			287	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0270	Yes	GUARD STATION			42	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0028	Yes	WAREHOUSE			4,782	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0288	Yes	TRAILER			840	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0029	Yes	POND CABIN			384	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0297	Yes	STORAGE BLDG			874	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0030	Yes	MAIN BLDG			23,137	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0031	Yes	UTILITY BLDG			2,093	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0313	Yes	TRAILER			156	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0314	Yes	TRAILER			70	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0315	Yes	TRAILER			70	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0032	Yes	CRITICAL ASSEMBLY BLDG			3,266	2008	TBD				TBD	TBD		Eligible, hist doc pending
TBD	18-0037	Yes	GUARD STATION			189	2008	TBD				TBD	TBD		Eligible, hist doc pending
				TA-18 FUNDING TO BE DETERMINED		**76,879**									
EM RQST	21-0212	No	CALCIUM BLDG			455	1999	TBD	$228			Yes	Yes		Eligible, hist doc pending
EM RQST	21-0334	No	SHED			0	1995	TBD	$0		$4	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0003	Yes	LABORATORY BLDG.			4,733	1996	TBD	$2,367	$32		Yes	Yes		Eligible, hist doc pending
EM RQST	21-0004	Yes	LABORATORY BLDG.			1,551	1996	TBD	$776	$39		Yes	Yes		Eligible, hist doc pending
EM RQST	21-0080	No	PRV STATION (WATER)			35	1999	TBD	$9		$4	Yes	Yes		No
EM RQST	21-0089	No	PRV STATION (WATER)			40	1999	TBD	$10		$4	Yes	Yes		No
EM RQST	21-0110	No	ACID TANK			450	1999	TBD	$225			Yes	Yes		No
EM RQST	21-0111	No	ACID TANK			450	1999	TBD	$225			Yes	Yes		No
EM RQST	21-0112	No	ACID TANK			450	1999	TBD	$225			Yes	Yes		No
EM RQST	21-0113	No	ACID TANK			450	1999	TBD	$225			Yes	Yes		No
EM RQST	21-0116	No	WAREHOUSE			2,067	1999	TBD	$517		$10	Yes	Yes		No
EM RQST	21-0150	No	MOLECULAR CHEMISTRY			14,842	1999	TBD	$6,883		$12	Yes	Yes		No
EM RQST	21-0286	No	WAREHOUSE			3,578	1999	TBD	$1,109		$8	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0335	No	CONTAINER VESSEL			0	1999	TBD	$0			Yes	Yes		No
EM RQST	21-0355	No	STORAGE TRAILER			500	2003	TBD	$50		$15	Yes	Yes		Eligible, hist doc pending
EM RQST	21-0418	Yes	ROVER SEMI-TRAILER			0	2006	TBD	$0			Yes	Yes		
EM RQST	21-0451	Yes	STORAGE TRAILER			63	2006	TBD	$7			Yes	Yes		
EM RQST	21-0167	No	EQUIPMENT BUILDING			873	2006	TBD	$437		$4	Yes	Yes		
EM RQST	21-0209	No	TSFF			13,155	2006	TBD	$16,359		$24	Yes	Yes		
EM RQST	21-0223	No	SHED			48	1999	TBD	$12			Yes	Yes		
EM RQST	21-0257	No	RAD LIQUID WASTE			4,229	2006	TBD	$6,980		$24	Yes	Yes		
EM RQST	21-0031	No	ELECTRONIC/CABLE FAB			5,288	1999	TBD	$529			Yes	Yes		
EM RQST	21-0149	No	CORRIDOR STRUCTURE			3,762	1999	TBD	$2,537		$10	Yes	Yes		
EM RQST	21-0312	No	CORRIDOR STRUCTURE			2,072	1999	TBD	$1,799		$8	Yes	Yes		
EM RQST	21-0313	No	CORRIDOR STRUCTURE			4,264	1999	TBD	$4,267		$8	Yes	Yes		
EM RQST	21-0314	No	CORRIDOR STRUCTURE			4,843	1999	TBD	$4,373		$8	Yes	Yes		
EM RQST	21-0315	No	CORRIDOR STRUCTURE			4,773	1999	TBD	$4,848		$8	Yes	Yes		
EM RQST	21-0315A	No	FAN ROOM			450	1999	TBD	$450			Yes	Yes		
EM RQST	21-0315B	No	FAN ROOM			450	1999	TBD	$450			Yes	Yes		
EM RQST	21-0458	No	SHED			0	1999	TBD	$8		$4	Yes	Yes		
EM RQST	21-0160	No	SHELTER			262	2006	TBD	$66		$4	Yes	Yes		No
EM RQST	21-0164	No	ACID SUMP			100	2006	TBD	$50		$4	Yes	Yes		No
EM RQST	21-0166	No	EQUIPMENT BUILDING			856	2006	TBD	$428		$4	Yes	Yes		No
EM RQST	21-0227	No	SUMP\LIFT			452	1999	TBD	$113			Yes	Yes		
EM RQST	21-0313A	No	FAN ROOM			450	1999	TBD	$450			Yes	Yes		
EM RQST	21-0313B	No	FAN ROOM			450	1999	TBD	$450			Yes	Yes		No
EM RQST	21-0152	No	LABORATORY BLDG			13,750	TBD	TBD	$16,359		$24	Yes	Yes		No
EM RQST	21-0229	No	PUMP HOUSE			214	2007	TBD	$54			Yes	Yes		
EM RQST	21-0230	No	AERATION/SEDIMENTATION			1,258	2007	TBD	$315			Yes	Yes		
EM RQST	21-0346	No	CONDENSATE TANKS			720	2006	TBD	$360			Yes	Yes		No
EM RQST	21-0357	No	STEAM PLANT			5,682	2006	TBD	$1,421			Yes	Yes		No
EM RQST	21-0370	No	MECHANICAL EQUIPMENT			544	2003	TBD	$136			Yes	Yes		
EM RQST	21-0042	No	Z PUMP HOUSE C108692			65	2003	TBD	$16		$4	Yes	Yes		
EM RQST	21-0342	No	EAST WATER TOWER			1,600	2009	TBD	$745			Yes	Yes		No
EM RQST	21-0258	No	WEST WATER TOWER			1,600	2009	TBD	$160			Yes	Yes		

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
EM RQST	N/A	No	WATER SUPPLY				2009	TBD	$766			Yes	Yes		
EM RQST	N/A	No	SANITARY WASTEWATER				2009	TBD	$453		$8	Yes	Yes		
EM RQST	N/A	No	STEAM AND CONDENSATE SYSTEM				2009	TBD	$188			Yes	Yes		
				TA-21 FUNDING TO BE DETERMINED		**101,874**									
TBD	03-0039	Yes	ESA SHOPS			152,567	2011	TBD		$1,600				Moved from FY11 FIRP. Contingent on Line Item Project for ESA Shops - POTENTIAL FOR REMOVAL FROM LIST	Eligible, hist doc pending
TBD	03-0028	Yes	OFFICE BLDG			17,174	2006	TBD	$1,988	$1,428				Start of D&D is dependent on construction of new IM Facility (FIRP funded design). Moved out of FY06 FIRP	Yes - Needs evaluation
TBD	03-0510	Yes	PHOTO LAB BUILDING			9,006	2006	TBD	$1,043	$2,458					No
TBD	03-1566	Yes	TRANSPORTABLE			1,680	2006	TBD	$194	$330					No
TBD	03-1559	Yes	TRANSPORTABLE			1,688	2006	TBD	$195	$281					No
TBD	09-0020	Yes	OFFICE			189	2010	TBD		$8				D&D is contingent HEC Line Item - Moved from FY2010 FIRP to TBD	Yes - Needs evaluation
TBD	09-0021	Yes	LAB / OFFICE			25,423	2010	TBD		$6,000					Yes - Needs evaluation
TBD	09-0022	Yes	MAGAZETTE			9	2010	TBD		$2					Yes - Needs evaluation
TBD	09-0023	Yes	MAGAZETTE			9	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0024	Yes	MAGAZETTE			9	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0025	Yes	MAGAZETTE			10	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0026	Yes	MAGAZETTE			9	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0027	Yes	MAGAZETTE			9	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0029	Yes	ACID STORAGE			4,675	2010	TBD		$319					Yes - Needs evaluation
TBD	09-0030	Yes	STORAGE			242	2010	TBD		$20					Yes - Needs evaluation
TBD	09-0031	Yes	SOLVENT STORAGE			330	2010	TBD		$27					Yes - Needs evaluation
TBD	09-0032	Yes	PRESSING LAB			2,629	2010	TBD		$399					Yes - Needs evaluation
TBD	09-0033	Yes	CHEM LAB			949	2010	TBD		$209					Yes - Needs evaluation
TBD	09-0034	Yes	CHEM LAB			1,771	2010	TBD		$306					Yes - Needs evaluation
TBD	09-0037	Yes	PROCESS BUILDING			1,591	2010	TBD		$59					Yes - Needs evaluation
TBD	09-0050	Yes	HE RECEIVING			576	2010	TBD		$53					Yes - Needs evaluation
TBD	09-0204	Yes	STORAGE			39	2010	TBD		$1					Yes - Needs evaluation
TBD	09-0208	Yes	MAGAZETTE			50	2010	TBD		$40					Yes - Needs evaluation
TBD	09-0272	Yes	OFFICE			1,698	2010	TBD		$192					No
TBD	09-0273	Yes	CLASSIFIED OFFICE			1,701	2010	TBD		$133					No
FIRP	15-0184	Yes	PHERMEX CHAMBER / AMP			10,144	2007	TBD		$53				D&D of Phermex Complex	Yes - Needs evaluation
FIRP	15-0185	Yes	POWER CONTROL BUILDING			12,698	2007	TBD		$328					Yes - Needs evaluation
FIRP	15-0186	Yes	DETECTION CHAMBER			2,338	2007	TBD		$6					Yes - Needs evaluation
FIRP	15-0189	Yes	POWER SUPPLY BLDG			452	2007	TBD		N/A					Yes - Needs evaluation
FIRP	15-0198	Yes	TUNNEL			905	2007	TBD		N/A					Yes - Needs evaluation
FIRP	15-0199	Yes	TUNNEL			2,027	2007	TBD		N/A					Yes - Needs evaluation
FIRP	15-0200	Yes	TUNNEL			702	2007	TBD		$54					Yes - Needs evaluation
FIRP	15-0201	Yes	TUNNEL			870	2007	TBD		$67					Yes - Needs evaluation
FIRP	15-0310	Yes	MULTI DIAG OPERATIONS BLDG			3,194	2007	TBD		$55					Yes - Needs evaluation
FIRP	40-0001	Yes	OFFICE AND LAB			6,095	2006	TBD	$706	$82					Yes - Needs evaluation
TBD	40-0012	Yes	LAB			1,342	2010	TBD		$69					Yes - Needs evaluation
FIRP	40-0023	Yes	MACHINE SHOP			8,204	2006	TBD	$950	$118					Yes - Needs evaluation
FIRP	40-0045	Yes	SOLVENT SHED			99	2006	TBD	$11	N/A					No
TBD	40-0090	Yes	HERCULES OFFICE			1,587	2010	TBD		$13					No
TBD	37-0001	No	STORAGE BLDG			188	2006	TBD	$22	$11	$8				Yes - Needs evaluation
TBD	37-0002	No	MAGAZINE			192	2006	TBD	$22	$17					
TBD	37-0003	No	MAGAZINE			416	2006	TBD	$48	$9					
TBD	37-0004	No	MAGAZINE			416	2006	TBD							
TBD	37-0005	No	MAGAZINE			416	2006	TBD							
TBD	37-0015	No	MAGAZINE			800	2006	TBD	$93	$28					
TBD	37-0016	No	MAGAZINE			800	2006	TBD	$93	$28					
TBD	37-0017	No	MAGAZINE			800	2006	TBD	$93	$28					
TBD	37-0018	No	MAGAZINE			800	2006	TBD	$93	$28					
TBD	37-0019	No	MAGAZINE			800	2006	TBD	$93						
TBD	37-0020	No	MAGAZINE			800	2006	TBD	$93						
TBD	37-0021	No	MAGAZINE			800	2006	TBD	$93						
TBD	37-0027	No	STORAGE BLDG			800	2006	TBD	$93	$28					
TBD	54-0002	Yes	LAB SUPPORT FACILITY			1,617	2010	TBD		$2					Yes - Needs evaluation

Attachment E-1
Excess Facilities Footprint Elimination Plan

Funding Source	Facility Identification Number (FIMS)	Congressional Project List?	Facility Name	Priority Score (FY06 and FY07 FIRP Only)	Priority Rank (FY06 and FY07 FIRP Only)	Gross Square Footage	Year Ready To Start D&D	Planned Demolition Year	Total Estimated Cost (TEC) to Demolition (FY06 and FY07 FIRP Only) ($000s)	FY03 (baseline) Deferred Maintenance Reduction (for FIRP Demolition Only) ($000s)	Yearly S&M Costs ($000s)	Candidate for Transfer?	Contaminated Facility?	Notes	Historical Significance
TBD	54-0011	Yes	STORAGE BUILDING			1,136	2010	TBD		$16				Added on 3/1/05 per Areas G and L Integrated Closure Plan and Timeline	Yes - Needs evaluation
TBD	54-0033	Yes	TRU WASTE DRUM PREP			7,854	2010	TBD		$5					Yes - Needs evaluation
TBD	54-0153	Yes	TENSION SUPPORT DOME			18,610	2010	TBD		$0				Moved from FY2010 FIRP to TBD	Yes - Needs evaluation
TBD	54-0156	Yes	MODIFIED MORGAN SHED			192	2010	TBD		$3					No
TBD	54-0486	Yes	MODIFIED TRANSPORTAINER			384	2010	TBD		$0					Yes - Needs evaluation
TBD	16-0088	Yes	CASTING REST HOUSE			2,043	TBD	TBD				Yes	Yes	Originally FIRP FY04, beryllium decontamination being investigated	Yes - Eligible
TBD	16-0421	No	FIRE DEPT TRAINING FACILITY			584	2005	TBD					No	Division has identified potential of excessing these structures.	
TBD	16-0248	No	TRAILER			208	TBD	TBD					No		
TBD	16-1484	No	STEAM PLANT			1,200	TBD	TBD					No		
TBD	21-0031	No	WAREHOUSE			9,184	TBD	TBD					No		
TBD	15-0233	No	TRAILER			1,440	TBD	TBD					No		
TBD	36-0055	Yes	CONTROL BUILDING			732	TBD	TBD					No		
TBD	36-0104	No	TRAILER			60	TBD	TBD					No		
			OTHER TECHNICAL AREAS - FUNDING TO BE DETERMINED			**327,962**									
N/A	08-0001	No	LABORATORY & SHOP BLDG			3,330	N/A	N/A			$6			Historical - Not to be demolished	Yes - Eligible
N/A	08-0002	No	SHOP & STORAGE BLDG			408	N/A	N/A			$6			Historical - Not to be demolished	Yes - Eligible
N/A	08-0003	No	LABORATORY BLDG			602	N/A	N/A			$6			Historical - Not to be demolished	Yes- Eligible
N/A	08-0020	Yes	STORAGE BLDG			187	N/A	N/A						Moved from FY09 - State Historical Issue	Yes - Needs evaluation
N/A	16-0058	No	MAGAZINE			299	N/A	N/A			$8			Historical - Not to be demolished	Yes- Eligible
N/A	16-1451	No	GUARD STATION			187	N/A	N/A			$3			Historical - Not to be demolished	Yes - Eligible
N/A	16-0516	No	PROCESS BLDG			660	2001	N/A			$8	EM	Yes	Candidate for DP to EM transfer	Yes - Eligible
N/A	16-0517	No	EQUIP BLDG			318	1999	N/A			$8	EM	Yes	Candidate for DP to EM transfer	Yes - Eligible
N/A	22-0001	Yes	LOADING BLDG			7,895	N/A	N/A		$1,372	$20		No	Historical - Disposition on hold	Yes - Eligible
N/A	22-0025	Yes	PROCESS BLDG			227	N/A	N/A		$36	$8		No	Historical - Disposition on hold	Yes - Needs evaluation
N/A	41-0002	No	GUARD HOUSE			781	N/A	N/A		$23				Historical - Disposition on hold	Yes - Eligible
N/A	41-0003	No	BLOWER HOUSE			24	N/A	N/A		$0				Historical - Disposition on hold	Yes - Eligible
N/A	41-0006	No	COVERED PASSAGEWAY			938	N/A	N/A						Historical - Disposition on hold	Yes - Eligible
N/A	60-0019	No	TEST FABRICATION FACILITY			17,318	N/A	N/A		$564	$20			Historical - Disposition on hold	Yes - Needs evaluation
					HISTORICAL STRUCTURES TOTAL	**33,174**									
					GRAND TOTAL*	**1,872,934**									

* Does not include FY2002 - FY2005 archived square footage or historical structures not to be demolished

Note A - Demolition projects completed in FY06 are noted as complete but not archived until the end of the FY.

Attachment E-2
NNSA New Construction Footprint Added Spreadsheet

The New Construction Added spreadsheet (Attachment E-2) captures the gross square footage of all proposed and completed construction (NNSA, other DOE, etc.), along with the year of beneficial occupancy, for Line Item, General Plant Project (GPP), IGPP, and other projects from FY05-FY16. New construction includes square footage for only buildings that count against the one-for-one new construction/banked offset.

The New Construction Footprint Added counts against the available banked gross square footage eliminated at the time of beneficial occupancy. Project beneficial occupancy is taken in the fiscal year when the FIMS Status Date for "Year Acquired" is populated. This date is consistent with the project Critical Decision (CD)-4, project closeout approval. New construction added will consist of construction line items and those smaller new construction projects (such as GPP and IGPP) funded with program dollars (FIRP, RTBF, other NNSA funding) and multi-program (NNSA, Office of Science (OS), Office of Nuclear Engineering (NE), Environmental Management (EM) etc.) approved for FY03 and the out years.

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Attachment E-2

New Construction Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-03-068	Pajarito Road Access Control Stations	GPP	772	FY04	
FIRP	LANL-R-03-09	FWO Office Building	GPP	19,242	FY04	
Other		Office Building (TA-55-0313)	GPP	23,860	FY04	
RTBF	LANL-04-205	Office Building (TA-3-1437)	GPP	3,500	FY04	
FY04 New Construction Total GSF				**47,374**		
RTBF	LANL-04-205	Office Building (TA-3-1437)	GPP	397	FY04	space not previously noted
CGRP		Records Center (TA 63-121)	GPP	8,220	FY05	
FY05 New Construction Total GSF				**8,617**		
FIRP	LANL-R-03-07	Hydrotest Design Facility (TA-22-120)	GPP	14,327	FY06	
S&S	LANL-04-168	TA-64 PTLA Building	GPP	7,005	FY06	
EM		Centralized Characterization Project	GPP	3,600	FY06	
OS	LANL-02-010	Center for Integrated Nanotechnology (CINT)	LI	36,500	FY06	
RTBF	03-D-102	National Security Sciences Building	LI	275,000	FY06	
IGPP	LANL-05-321	Relocate Radio Shop	IGPP	7,400	FY06	
IGPP	LANL-05-422	Relocate Roads & Grounds	IGPP	7,000	FY06	
FY06 New Construction Total GSF				**350,832**		
FIRP	LANL-R-03-02	Beryllium Tech Facility - Cartridge Filter House Install	GPP	3,100	FY07	
Other	LANL-06-530	Construct PF-1 Annex Office Building	GPP	17,500	FY07	
S&S	LANL-05-017	Security Perimeter Project	LI	3,384	FY07	
FY07 New Construction Total GSF				**23,984**		
RTBF	03-D-102	LASO (Part of NSSB)	LI	27,500	FY08	
IGPP		Warehouse Relocation	GPP	27,500	FY08	
IGPP	LANL-07-429	Computing and Communications Operations Building	IGPP	14,000	FY08	
FY08 New Construction Total GSF				**69,000**		
FIRP	LANL-R-06-13	Replace High Voltage Electrical Panels TA-48-1	GPP	100	FY09	
IGPP	LANL-08-434	Construct Wellness Center Replacement	IGPP	15,000	FY09	
IGPP	LANL-08-435	TA-69 EOC Support Office	IGPP	15,000	FY09	
RTBF	LANL-07-184	Data Systems Facility	GPP	9,000	FY09	
RTBF	LANL-07-145	Calibration Laboratory	GPP	12,000	FY09	

Attachment E-2

New Construction Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Beneficial Occupancy	Notes
RTBF	LANL-07-019	Support Services Consolidation	LI	TBD	FY09	
RTBF	LANL-08-153	Medium/Heavy Lab at TA-22	GPP	6,000	FY09	
RTBF	04-D-125	CMR Replacement Project (RLUOB)	LI	186,000	FY09	
FY09 New Construction Total GSF				**243,100**		
RTBF	LANL-09-009	TA-37 Classified HE Storage	GPP	2,000	FY10	
IGPP	LANL-09-439	TA-49 Consolidated Emergency Training Center	IGPP	15,000	FY10	
FY10 New Construction Total GSF				**17,000**		
IGPP	LANL-10-441	Relocation of IM-2 and IM-3	IGPP	10,000	FY11	
IGPP		Construct Institutional Office Building	IGPP	25,000	FY11	
FY11 New Construction Total GSF				**35,000**		
RTBF	LANL-11-166	Replace Machine Shop at TA-22	GPP	10,000	FY12	
FY12 New Construction Total GSF				**10,000**		
RTBF	LANL-11-181	Joint DX/ESA Conference Facility	GPP	5,000	FY13	
RTBF	04-D-125	CMR Replacement Project (Radiological Facility)	LI	238,000	FY13	
FY13 New Construction Total GSF				**243,000**		
FY14 New Construction Total GSF				**0**		
FY15 New Construction Total GSF				**0**		
GRAND TOTAL				**1,047,907**		

Attachment E-3
GSF Grandfathered Footprint Added Spreadsheet

The Grandfathered Footprint Added spreadsheet identifies projects that approval for start of construction was provided prior to FY03. Approved “grandfathered” projects are not required to meet the Congressional offset requirement. Projects whose start of construction (when the project receives CD-3) was prior to the end of FY02 are considered grandfathered. For GPP and IGPP projects that add new gross square footage, the project qualifies as Grandfathered space added if the construction award date was prior to FY03.

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Attachment E-3
GRANDFATHERED Footprint Added

Funding Source	Project Number	Facility Name	Funding Type (LI, GPP, IGPP)	Project Area (GSF)	Year of Beneficial Occupancy	Notes
Other	LANL-02-065	BSL (03-1076)	GPP	3,233	2003	Contract awarded 9/26/02
RTBF		Water Treatment Facility (03-1398)	GPP	4,703	2003	Contract awarded 7/2/02
FIRP	LANL-02-078	D Division Office Building (03-1405)	GPP	25,635	2003	Contract awarded 6/2/02
FIRP	LANL-02-077	S-3 Office building (03-1409)	GPP	21,266	2003	Construction started in July 2002
FIRP	LANL-02-075	Occupational Medical Facility (03-1411)	GPP	20,600	2003	Contract awarded June 2002
Other	LANL-00-008	Nonproliferation and International Security Center (03-2322)	LI	178,638	2003	Construction started in March 2001
DP		DARHT Vessel Preparation Facility (15-0534)	LI	7,964	2003	Part of DARHT; CD3 granted in 1998
DP		Storage Building (15-0603)	LI	615	2003	
DP		Storage Building (15-0604)	LI	613	2003	Part of DARHT; CD3 granted in 1998
CGRP		Shop Building (15-0563)	GPP	3,655	2003	Contract awarded 12/3/01
CGRP		Calibration Building (15-0564)	GPP	3,200	2003	Contract awarded 12/3/01
CGRP	LANL-01-030	Office Building (16-0933)	LI	22,787	2003	Portion of Line Item; Construction complete in Nov 2002
CGRP		Prep Building (36-0078)	GPP	1,527	2003	HE Preparation; CGRP
Other	LANL-99-006	Isotope Production Facility (53-0984)	LI	5,632	2003	Construction started in Feb. 2000
CGRP		Storage Building (64-0064)	GPP	6,168	2003	Contract awarded Nov. 16, 2001
CGRP	LANL-01-029	Emergency Operation Center (69-0033)	LI	40,906	2003	Construction started in January 2002
CGRP		Storage Building (69-0051)	LI	912	2003	Part of EOC Line Item
FY03 Subtotal				**348,054**		
FIRP	LANL-02-076	MST Office Building (03-1415)	GPP	20,646	2004	Contract signed Sept 2002
RTBF	LANL-02-093	Weapons Plant Support Facility (16-0969)	GPP	22,156	2004	Contract awarded 9/27/02
FY04 Subtotal				**42,802**		

Attachment E-4
GSF Footprint Tracking Summary

The Laboratory is required to offset new construction project footprints by the transfer, sale, or demolition of excess buildings and facilities of equal size. Attachment E-4 displays actual and projected total gross square footage (GSF) based on Attachments E-1 and E-2 and provides a visual comparison of the projected footprint reduction efforts. In addition, Attachments E-3 and E-5 data are also captured.

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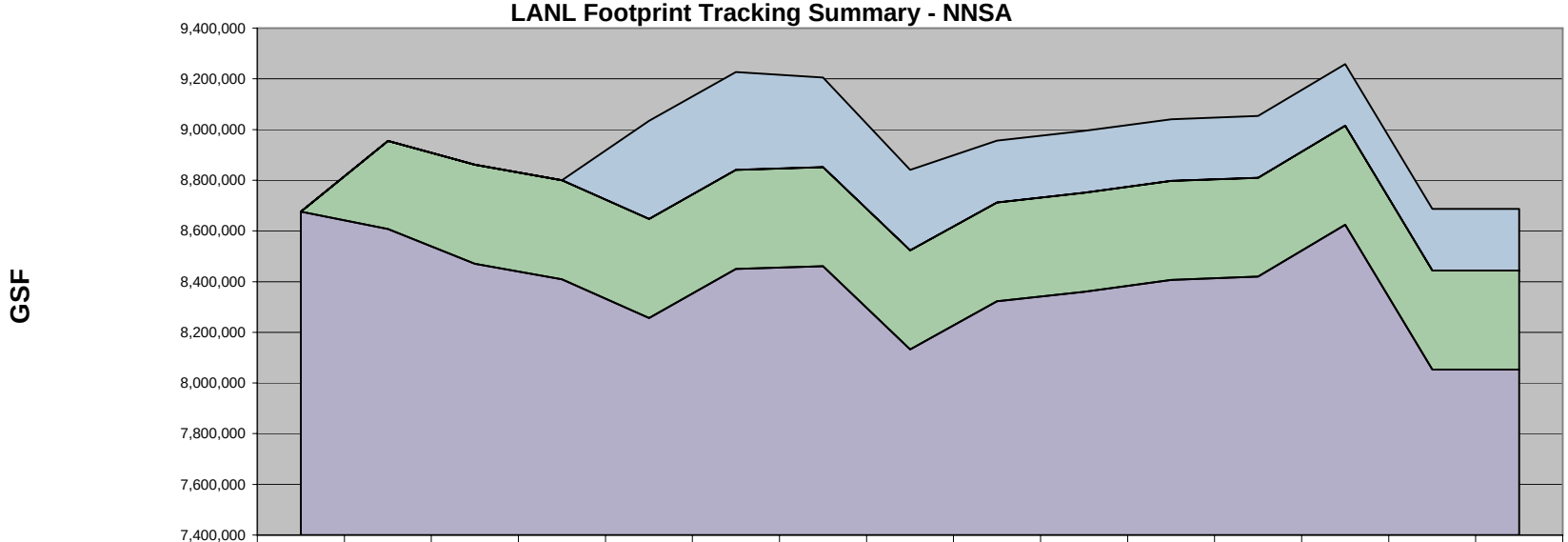
Attachment E-4
FOOTPRINT TRACKING SUMMARY SPREADSHEET
LANL Footprint Tracking Summary - NNSA

Fiscal Year (1)	Beginning Site Footprint (gsf) (2)	Excess Facilities Footprint Elimination (gsf) (3)	New Construction/ Footprint Added (gsf) (4)	Site Footprint Reduction by FY (gsf) (5)	Footprint "Banked" (gsf) (6)	Waiver/Transfer (gsf) (7)	"Grandfathered" Footprint Added (gsf) (8)	Cumulative "Grandfathered" Footprint Added (gsf) (8a)	NNSA Site Total Footprint (gsf) (9)	NNSA Leased Space (10)
FY 2002 Actual	8,675,489	-68,161	0	8,607,328	-68,161	0	0	0	8,607,328	
FY 2003 Actual	8,607,328	-136,416	0	8,470,912	-204,577	0	348,054	348,054	8,818,966	
FY 2004 Actual	8,470,912	-109,586	47,374	8,408,700	-266,789	0	42,802	390,586	8,799,286	
FY 2005 Actual	8,408,700	-178,133	26,220	8,256,787	-418,702	0	-	390,586	8,647,373	
FY 2006	8,256,787	-152,477	345,850	8,450,160	-225,329	0	-	390,586	8,840,746	387,039
FY 2007	8,450,160	-99,836	110,219	8,460,543	-214,946	0	-	390,586	8,851,129	386,367
FY 2008	8,460,543	-366,868	39,000	8,132,675	-542,814	0	-	390,586	8,523,261	354,304
FY 2009	8,132,675	-91,972	281,300	8,322,003	-353,486	0	-	390,586	8,712,589	317,715
FY 2010	8,322,003	0	38,300	8,360,303	-315,186	0	-	390,586	8,750,889	243,413
FY 2011	8,360,303	0	46,000	8,406,303	-269,186	0	-	390,586	8,796,889	243,413
FY 2012	8,406,303	0	13,000	8,419,303	-256,186	0	-	390,586	8,809,889	243,413
FY 2013	8,419,303	0	205,000	8,624,303	-51,186	0	-	390,586	9,014,889	243,413
FY 2014	8,624,303	-571,458	0	8,052,845	-622,644	0	-	390,586	8,443,431	243,413
FY 2015	8,052,845	0	0	8,052,845	-622,644	0	-	390,586	8,443,431	243,413
FY 2016	8,052,845	-25,000	10,000	8,037,845	-637,644		0	390,586	8,428,431	243,413

Attachment E-4
RIVER GRAPH
LANL Footprint Tracking Summary - NNSA

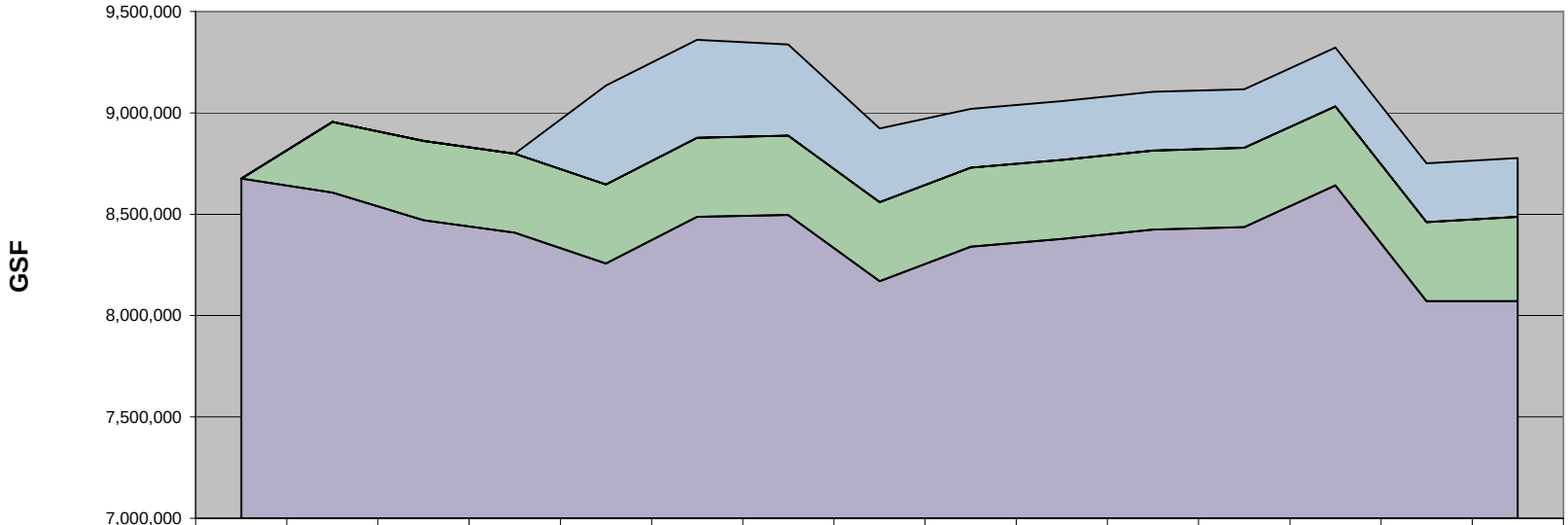


	LANL Footprint Tracking	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
NNSA Leased Space (gsf)					387,039	386,367	354,304	317,715	243,413	243,413	243,413	243,413	243,413	243,413	243,413
Cumulative "Grandfathered" Footprint Added (gsf)	0	348,054	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586
Beginning Site Footprint (gsf)	8,675,489	8,607,328	8,470,912	8,408,700	8,256,787	8,450,160	8,460,543	8,132,675	8,322,003	8,360,303	8,406,303	8,419,303	8,624,303	8,052,845	8,052,845

Attachment E-4
FOOTPRINT SUMMARY SPREADSHEET
LANL Footprint Tracking Summary - Sitewide (Multi-Program)

Fiscal Year (1)	Beginning Site Footprint (GSF) (2)	Excess Facilities Footprint Elimination (gsf) (3)	New Construction Footprint Added (gsf) (4)	Site Footprint Reduction by FY (5)	Footprint "Banked" (gsf) (6)	Waiver/Transfer (gsf) (7)	"Grandfathered" Footprint Added (gsf) (8)	Cumulative Grandfathered Footprint Added (gsf) (8a)	Site Total Footprint (Multi-Program) (gsf) (9)	Leased Space (10)
FY 2002 Actual	8,675,489	-68,161	0	8,607,328	-68,161	0	0	0	8,607,328	
FY 2003 Actual	8,607,328	-136,416	0	8,470,912	-204,577	0	348,054	348,054	8,818,966	
FY 2004 Actual	8,470,912	-109,586	47,374	8,408,700	-266,789	0	42,802	390,586	8,799,286	
FY 2005 Actual	8,408,700	-178,133	26,220	8,256,787	-418,702	0	-	390,586	8,647,373	
FY 2006	8,256,787	-152,477	382,350	8,486,660	-188,829	0	-	390,586	8,877,246	487,066
FY 2007	8,486,660	-99,836	110,219	8,497,043	-178,446	0	-	390,586	8,887,629	482,494
FY 2008	8,497,043	-366,868	39,000	8,169,175	-506,314	0	-	390,586	8,559,761	450,431
FY 2009	8,169,175	-110,755	281,300	8,339,720	-335,769	0	-	390,586	8,730,306	363,710
FY 2010	8,339,720	0	38,300	8,378,020	-297,469	0	-	390,586	8,768,606	289,408
FY 2011	8,378,020	0	46,000	8,424,020	-251,469	0	-	390,586	8,814,606	289,408
FY 2012	8,424,020	0	13,000	8,437,020	-238,469	0	-	390,586	8,827,606	289,408
FY 2013	8,437,020	0	205,000	8,642,020	-33,469	0	-	390,586	9,032,606	289,408
FY2014	8,642,020	-571,458	0	8,070,562	-604,927	0	-	390,586	8,461,148	289,408
FY2015	8,070,562	0	0	8,070,562	-604,927	0	-	390,586	8,461,148	289,408
FY 2016	8,070,562	-225,000	200,000	8,045,562	-629,927		0	416,500	8,462,062	289,408

Attachment E-4
RIVER GRAPH
LANL Site Wide Footprint Tracking Summary - SITE WIDE (Multi-Program)



	FY 2002 Actual	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY2014	FY2015	FY 2016
Leased Space (gsf)					487,066	482,494	450,431	363,710	289,408	289,408	289,408	289,408	289,408	289,408	289,408
Cumulative Grandfathered Footprint Added (gsf)	0	348,054	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	390,586	416,500
Beginning Site Footprint (gsf)	8,675,489	8,607,328	8,470,912	8,408,700	8,256,787	8,486,660	8,497,043	8,169,175	8,339,720	8,378,020	8,424,020	8,437,020	8,642,020	8,070,562	8,070,562

Attachment E-5
GSF Waiver and Transfer Spreadsheet

Attachment E-5 is to manage and document approved or pending requests for waivers and transfers of banked gross square footage. Waivers are required when a site needs square footage to off-set new construction because the site does not have sufficient square footage "banked." Transfers are required when a program transfers "banked" square footage to another program at the same site. The Secretary of Energy must approve a waiver with concurrence by each Program Secretarial Officer. A transfer requires each Program Secretarial Officer approve with notifications to the Associate Administrator for Infrastructure and Environment.

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Attachment E-5
LANL Waiver/Transfer Log (Space Added or Eliminated)

Site or Program Donor	Site or Program Receiver	Waiver Banked (GSF)	Transfer Banked (GSF)	Request Submitted (Yes/No)	Request Approved (Yes/No)	Comments
						No waivers or transfers to date involving the Los Alamos National Laboratory

Attachment E-6
FY06 Leased Space

Attachment E-6 outlines the Laboratory's portfolio of FY06 leased space. The information allows for a more accurate report on the total space footprint that is required to support NNSA and other program office missions. It also demonstrates that leased space is being tracked and managed in a manner consistent with Executive Order (E.O.) 13327 on Federal Real Property Asset Management and Federal Real Property Council guidelines.

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Attachment E-6
FY 2006 Leased Space Profile
LANL

#	FIMS #	Property Name	Program Occupant	Program	Mission Dependency	# Occupants	Gross Square Feet	Rental Rate per Rentable s.f.	Annual Cost	Lease Type	Lease Term - yrs.	Exp. Month / Year	Renewal Options
1	00-0199	Canyon School	DP	None	Not Mission Dependent	82	34,651	$12.00	$398,112.00	Unserviced	5	31-Dec-06	Y
2	00-0480	Pajarito School	DP	None	Not Mission Dependent	172	37,026	$12.52	$463,565.52	Unserviced	5	31-Jan-09	N
3	00-0548	Shannon Bldg 1	DP	None	Not Mission Dependent	24	9,277	$11.90	$75,075.00	Unserviced	5	30-Jun-09	N
4	00-0549	Shannon Bldg 2	DP	None	Not Mission Dependent	NA	2,813	$10.00	$27,920.00	Unserviced	5	30-Jun-09	N
5	00-0726	Diversity Office	DP	None	Not Mission Dependent	47	7,785	$17.00	$48,841.00	Unserviced	5	31-Aug-09	N
6	00-0758	Museum Fabrication Shop	DP	None	Not Mission Dependent	NA	2,374	$11.35	$26,097.48	Full	5	31-Jan-07	N
7	00-0759	Office Bldg	DP	None	Not Mission Dependent	10	3,804	$16.89	$64,396.80	Unserviced	5	31-Oct-05	Y
8	00-0760	General Law Office	DP	None	Not Mission Dependent	56	21,366	$16.13	$287,981.64	Unserviced	5	19-Dec-06	Y
9	00-0762	Office Bldg	DP	None	Not Mission Dependent	17	4,998	$14.55	$72,706.32	Unserviced	5	31-May-08	N
10	00-0763	Housing Office	DP	None	Not Mission Dependent	2	621	$16.40	$9,022.56	Full	5	14-Nov-06	N
11	00-0764	557 Oppenheimer	DP	None	Not Mission Dependent	51	8,338	$20.16	$180,982.68	Full	5	28-Feb-06	Y
12	00-0767	Central Park Square	DP	None	Not Mission Dependent	23	7,067	$21.42	$142,914.24	Full	4	14-Nov-05	Y
13	00-0767-A	Central Park Square	DP	None	Not Mission Dependent	113	11,124	$21.42	$237,822.72	Full	4	14-Oct-05	Y
14	00-0769	Office Building	DP	Multiple	Not Mission Dependent	77	12,196	$19.00	$255,436.00	Full	7	31-Mar-09	Y
15	00-0770	Office Building	DP	None	Not Mission Dependent	12	1,883	$21.89	$42,384.00	Unserviced	5	31-Oct-07	Y
16	00-0771	Office and Training Center	DP	None	Not Mission Dependent	NA	4,878	$19.50	$87,769.56	Full	5	31-Mar-08	Y
17	00-0772	Office Building	DP	None	Not Mission Dependent	0	1,193	$15.30	$18,240.00	Full	5	29-Feb-08	Y
18	00-0774	1175 Iris Street Apartments	DP	None	Not Mission Dependent	NA	14,350	$17.12	$245,700.00	Full	3	16-Mar-06	Y
19	00-0775	1305 Iris Street Apartments	DP	None	Not Mission Dependent	NA	9,840	$17.12	$168,480.00	Full	3	16-Mar-06	Y
20	00-0776	3590 Gold Street Apartments	DP	None	Not Mission Dependent	NA	1,300	$12.46	$16,200.00	Full	2	31-Dec-05	Y
21	00-0777	3620 Gold Street Apartments	DP	None	Not Mission Dependent	NA	1,300	$12.46	$16,200.00	Full	2	31-Dec-05	Y
22	00-0778	3806 Gold Street Apartments	DP	None	Not Mission Dependent	NA	3,900	$12.46	$48,600.00	Full	2	31-Dec-05	Y
23	00-0779	3810 Gold Street Apartments	DP	None	Not Mission Dependent	NA	1,300	$12.46	$16,200.00	Full	2	31-Dec-05	Y
24	00-0780	3785 Gold Street Apartments	DP	None	Not Mission Dependent	NA	1,300	$12.65	$16,440.00	Full	2	31-Dec-05	Y
25	00-0781	3789 Gold Street Apartments	DP	None	Not Mission Dependent	NA	650	$12.65	$8,220.00	Full	2	31-Dec-05	Y

Attachment E-6
FY 2006 Leased Space Profile
LANL

#	FIMS #	Property Name	Program Occupant	Program	Mission Dependency	# Occupants	Gross Square Feet	Rental Rate per Rentable s.f.	Annual Cost	Lease Type	Lease Term - yrs.	Exp. Month / Year	Renewal Options
26	00-0782	3793 Gold Street Apartments	DP	None	Not Mission Dependent	NA	650	$12.65	$8,220.00	Full	2	31-Dec-05	Y
27	00-0783	3807 Gold Street Apartments	DP	None	Not Mission Dependent	NA	650	$12.65	$8,220.00	Full	2	31-Dec-05	Y
28	00-0786	Office Building	DP	None	Not Mission Dependent	39	9,707	$17.00	$165,818.00	Unserviced	5	31-Jul-09	Y
29	00-0787	Office Building	DP	None	Not Mission Dependent	163	43,733	$23.47	$1,026,493.56	Full	6	28-Feb-10	Y
30	00-0850	Transportable	DP	None	Not Mission Dependent	0	768	$4.50	$3,150.00	Full	5	31-May-07	N
31	00-1197	Mesa School	DP	None	Not Mission Dependent	24	11,102	$13.43	$138,735.24	Unserviced	5	31-Jan-08	N
32	00-1237	Pueblo School	DP	Multiple	Not Mission Dependent	303	50,132	$12.76	$639,684.36	Unserviced	5	31-Jan-08	N
33	00-1246	A & M Bldg	DP	None	Not Mission Dependent	71	15,160	$15.20	$230,432.04	Unserviced	5	30-Jun-09	N
34	00-1308	Training Cntr	DP	None	Not Mission Dependent	44	23,135	$19.36	$439,940.00	Full	5	31-May-07	N
35	00-1309	Bradbury Science Museum	DP	None	Not Mission Dependent	16	13,989	$23.35	$305,301.25	Full	5	30-Apr-08	N
36	00-1313	New Mexico Environmental Bldg	DP	None	Not Mission Dependent	3	2,241	$12.82	$27,048.00	Full	5	31-Oct-08	N
37	00-1317	Office Bldg	DP	None	Not Mission Dependent	51	6,500	$15.55	$100,862.64	Unserviced	5	29-Feb-08	N
38	00-1320	Transportable	DP	None	Not Mission Dependent	0	896	$4.50	$3,150.00	Full	5	31-May-07	N
39	00-1325	TSC Dev Office	DP	None	Not Mission Dependent	84	22,226	$19.00	$438,615.00	Full	5	30-Sep-09	Y
40	00-1328	White Rock Office Park	DP	None	Not Mission Dependent	7	1,662	$15.51	$25,599.36	Unserviced	5	30-Apr-06	Y
41	00-1329	White Rock Office Park	DP	None	Not Mission Dependent	9	1,334	$15.51	$25,599.36	Unserviced	5	30-Apr-06	Y
42	00-1330	TRK - 195 East Rd, Suite 103	DP	None	Not Mission Dependent	115	19,111	$20.00	$376,660.00	Full	5	31-Jan-06	Y
43	00-1331	White Rock Shopping Cntr Suite P	DP	None	Not Mission Dependent	31	6,625	$17.41	$128,800.00	Full	5	31-Mar-06	Y
44	00-1355	Exhibit Warehouse	DP	None	Not Mission Dependent	NA	4,269	$5.66	$24,044.00	Full	5	31-Dec-06	N
45	00-1356	Exhibit Warehouse	DP	None	Not Mission Dependent	NA	1,976	$5.66	$11,150.00	Full	5	31-Dec-06	Y
46	00-1357	Bradbury Office Bdlg	DP	None	Not Mission Dependent	2	1,290	$22.00	$28,050.00	Full	5	30-Jun-08	Y
47	03-4200	LA Research Park	DP	Multiple	Not Mission Dependent	95	25,919	$52.75	$719,598.00	Full	5	31-Mar-06	Y
48	CARLS1	E-Division Carlsbad Office	DP	Multiple	Not Mission Dependent	0	7,880	$12.00	$94,560.00	Full	5	31-Jul-05	Y
49	CARLS2	Carlsbad Warehouse	DP	Multiple	Not Mission Dependent	NA	3,900	$6.27	$24,689.00	Full	5	31-Mar-06	N
50	DOESF	Old Pecos Trail	DP	None	Not Mission Dependent	3	1,375	$19.64	$24,768.00	Full	4	31-May-05	Y

Attachment E-6
FY 2006 Leased Space Profile
LANL

#	FIMS #	Property Name	Program Occupant	Program	Mission Dependency	# Occupants	Gross Square Feet	Rental Rate per Rentable s.f.	Annual Cost	Lease Type	Lease Term - yrs.	Exp. Month / Year	Renewal Options
51	ESPAN1	Office Building	DP	None	Not Mission Dependent	2	672	$12.00	$8,064.00	Unserviced	4	30-Jun-05	N
52	ESPAN2	MAP Program	DP	None	Not Mission Dependent	10	4,830	$6.00	$28,200.00	Unserviced	10	31-Aug-09	Y
Total FY06 GSF All Programs Facilities							**487,066**						

Attachments F-1 and F-2
Deferred Maintenance Baseline and
Projected Deferred Maintenance Reduction Spreadsheet

The data reported in Attachment F-1 will be used to report the NNSA maintenance requirements baseline and assess actual and planned progress towards reducing deferred maintenance. Attachment F-1 addresses the FY03 deferred maintenance baseline as identified in the FY04 TYCSP and reflects reductions against this baseline. New growth in deferred maintenance (i.e. deferred maintenance not identified in the FY03 baseline as presented in the FY04 TYCSP or new deferred maintenance that occurs because of funding shortfalls) is reported in Attachment F-2. A NNSA corporate roll-up of data reported in this spreadsheet will be used to trend and analyze progress towards the achievement of NNSA's Deferred Maintenance Reduction goals.

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Attachment F-1
FIRP FY 2003 Deferred Maintenance Baseline and Projected Deferred Maintenance Reduction from Baseline
Los Alamos National Laboratory
($000s)

Category of Maintenance	FY 2003 (Baseline)	FY 2004 (Actual)	FY 2005 (Actual)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
1. **FIRP DEFERRED MAINTENANCE (DM) BASELINE (Excludes Programmatic Real Property or Equipment)**	564,243	429,439	359,144	338,904	314,426	298,775	257,587	235,427	213,638	213,638	213,638	202,888	202,888	202,888
A. DM Baseline for **Mission-Critical** Facilities & Infrastructure (F&I) ONLY	267,110	227,509	147,806	135,256	116,150	100,915	86,101	68,105	53,510	53,510	53,510	42,760	42,760	42,760
B. DM Baseline for Mission-Dependent and Not Mission-Dependent F&I	297,133	201,930	211,338	203,648	198,276	197,861	171,485	167,323	160,128	160,128	160,128	160,128	160,128	160,128
2. **DEFERRED MAINTENANCE BASELINE (DM) REDUCTION TOTAL**	24,770	134,803	115,916	20,240	24,478	15,651	41,189	22,159	21,789	0	0	10,750	0	0
A. Reduction in DM Baseline for **Mission-Critical** F&I	20,315	39,600	75,308	12,550	19,105	15,236	14,814	17,997	14,594	0	0	10,750	0	0
1. Reduction attributed to FIRP ONLY	20,315	20,498	51,901	12,515	19,061	15,208	14,786	17,997	14,594					
B. Reduction in DM Baseline for Mission-Dependent and Not Mission-Dependent F&I	4,455	95,203	40,608	7,690	5,372	415	26,375	4,163	7,195	0	0	0	0	0
1. Reduction attributed to FIRP ONLY	4,455	6,927	11,453	7,514	3,983	415	1,618	4,163	7,195					
3. **REPLACEMENT PLANT VALUE (RPV) FOR NNSA FACILITIES & INFRASTRUCTURE**	5,623,221													
A. RPV for NNSA **Mission-Critical** F&I ONLY	3,232,755													
B. RPV for NNSA Mission-Dependent and Not Mission-Dependent F&I	2,390,467													

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Attachment F-2
NNSA Total Deferred Maintenance and Projected Deferred Maintenance Reduction
Los Alamos National Laboratory
($000s)

Category of Maintenance	FY 2003 (Baseline)	FY 2004 (Actual)	FY 2005 (Actual)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
1. **NNSA ANNUAL REQUIRED MAINTENANCE**	107,124	109,313	111,620	114,715	118,009	120,794	123,100	125,986	128,986	132,018	140,352	137,283	140,440	143,670
1A. **NNSA ANNUAL REQUIRED REPLACEMENT-IN-KIND**	0	11,443	0	0	0	0	0	0	0	0	0	0	0	0
2. **NNSA ANNUAL PLANNED MAINTENANCE TOTAL**	88,222	107,523	107,450	94,298	94,834	92,937	92,937	92,937	92,937	92,937	106,295	102,459	102,459	102,459
a. Direct	41,804	48,716	49,076	46,995	46,446	45,517	45,517	45,517	45,517	45,517	58,875	55,039	55,039	55,039
b. Indirect	46,418	58,807	58,373	47,303	48,388	47,420	47,420	47,420	47,420	47,420	47,420	47,420	47,420	47,420
2A. **NNSA ANNUAL PLANNED REPLACEMENT-IN-KIND**	0	1,382	0	0	0	0	0	0	0	0	0	0	0	0
3. **NNSA DEFERRED MAINTENANCE (DM) TOTAL (Excludes Programmatic Real Property or Equipment)**	564,243	546,979	455,113	451,293	442,634	435,478	396,220	382,960	363,887	380,073	395,626	389,191	405,739	423,313
i. Backlog Inflation Rate (%)		2.3%	2.6%	2.0%	3.2%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%	2.3%
ii. DM Inflation		12,978	14,221	9,102	14,441	10,181	10,016	9,113	8,808	8,369	8,742	9,099	8,951	9,332
iii. DM NEW		36,276	8,487	4,116	4,635	5,571	6,033	6,610	7,210	7,816	6,811	6,965	7,596	8,242
A. DM, **Mission-Critical** F&I ONLY	267,110	273,878	212,115	203,819	187,989	173,690	164,641	150,446	131,558	139,675	146,688	131,232	138,255	145,784
B. DM, Mission-Dependent and Not Mission-Dependent F&I	297,133	273,101	242,998	247,473	254,645	261,788	231,579	232,514	232,329	240,398	248,938	257,959	267,484	277,529
4. **DEFERRED MAINTENANCE (DM) REDUCTION TOTAL** for NNSA Facilities and Infrastructure (F&I)	24,770	28,110	114,574	17,039	27,735	22,908	55,307	28,983	35,091	0	0	22,499	0	0
A. Reduction in DM for **Mission-Critical** F&I	20,315	21,010	61,792	15,441	25,668	22,398	17,183	22,430	27,107	0	0	22,498	0	0
1. Reduction attributed to FIRP ONLY	20,315	21,010	26,378	15,404	25,522	22,295	17,078	22,430	27,107					
B. Reduction in DM for Mission-Dependent and Not Mission-Dependent F&I	4,455	7,100	52,783	1,598	2,067	510	38,124	6,553	7,983	0	0	1	0	0
1. Reduction attributed to FIRP ONLY	4,455	7,100	14,313	1,232	9	510	1,881	6,553	7,983					
5. **REPLACEMENT PLANT VALUE (RPV)** for NNSA Facilities and Infrastructure (F&I)	5,623,221	5,742,511	5,775,207	5,906,690	6,069,313	6,213,948	6,335,115	6,483,386	6,637,622	6,792,900	7,808,286	5,895,687	6,031,288	6,170,007
A. RPV for NNSA **Mission-Critical** F&I ONLY	3,232,755	3,285,848	3,220,392	3,291,013	3,372,533	3,447,895	3,541,519	3,623,623	3,706,967	3,794,840	4,740,151	2,757,981	2,821,414	2,886,307
B. RPV for NNSA Mission-Dependent and Not Mission-Dependent F&I	2,390,467	2,456,662	2,554,816	2,615,678	2,696,779	2,766,053	2,793,596	2,859,763	2,930,655	2,998,060	3,068,134	3,137,706	3,209,873	3,283,701
C. RPV Increase from prior year attributed to inflation				115,504	189,014	139,594	142,921	145,708	149,118	152,665	156,237	179,591	135,601	138,720
D. RPV Increase / decrease attributed to causes other than inflation (provide separate supporting narrative behind F-2 exhibit)				15,979	(26,391)	5,041	(21,754)	2,564	5,118	2,613	859,149	(2,092,190)	0	0

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Attachment F-3 to F-7
NNSA Deferred Maintenance Projections Charts

Attachments F-3 through F-7 illustrate progress in meeting each of the quantifiable NNSA Corporate Goals. These data will help demonstrate actualized achievement of the NNSA corporate goal for FY05 (stabilize deferred maintenance) and planned progress toward the NNSA corporate goal for FY09 (reduce deferred maintenance to within industry standards). FY03 is the baseline from which progress and results will be assessed. Attachment F-7 captures replacement-in-kind requirements.

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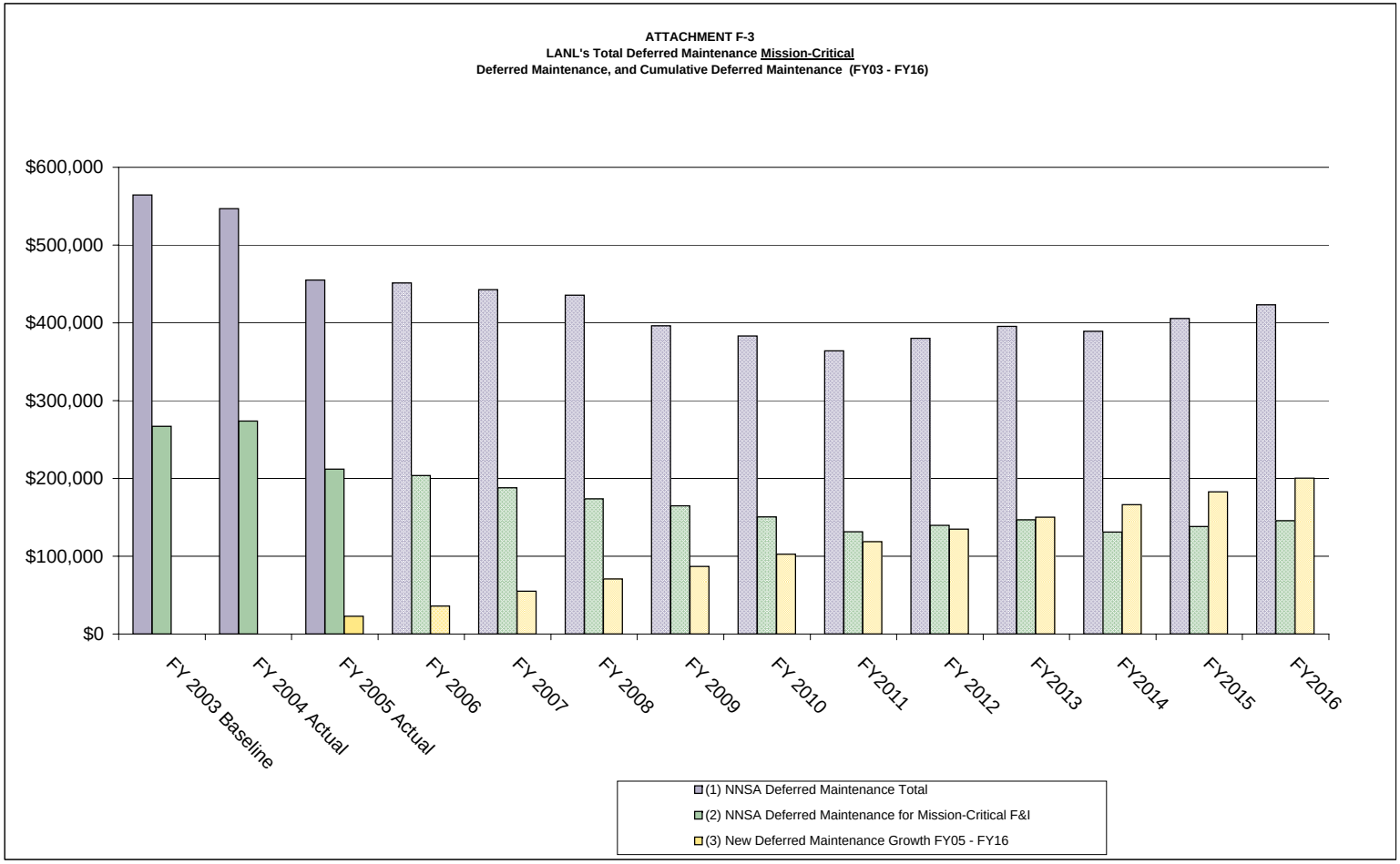
ATTACHMENT F-3
INPUT SHEET FOR CHART
LANL's Total Deferred Maintenance, Mission Critical Deferred Maintenance, and New Deferred Maintenance Growth

	FY 2003 Baseline	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY2013	FY2014	FY2015	FY2016
(1) NNSA Deferred Maintenance Total	$564,243	$546,979	$455,113	$451,293	$442,634	$435,478	$396,220	$382,960	$363,887	$380,073	$395,626	$389,191	$405,739	$423,313
(2) NNSA Deferred Maintenance for Mission-Critical F&I	$267,110	$273,878	$212,115	$203,819	$187,989	$173,690	$164,641	$150,446	$131,558	$139,675	$146,688	$131,232	$138,255	$145,784
(3) New Deferred Maintenance Growth FY05 - FY16			$22,708	$35,927	$55,003	$70,755	$86,804	$102,527	$118,544	$134,730	$150,283	$166,347	$182,895	$200,469



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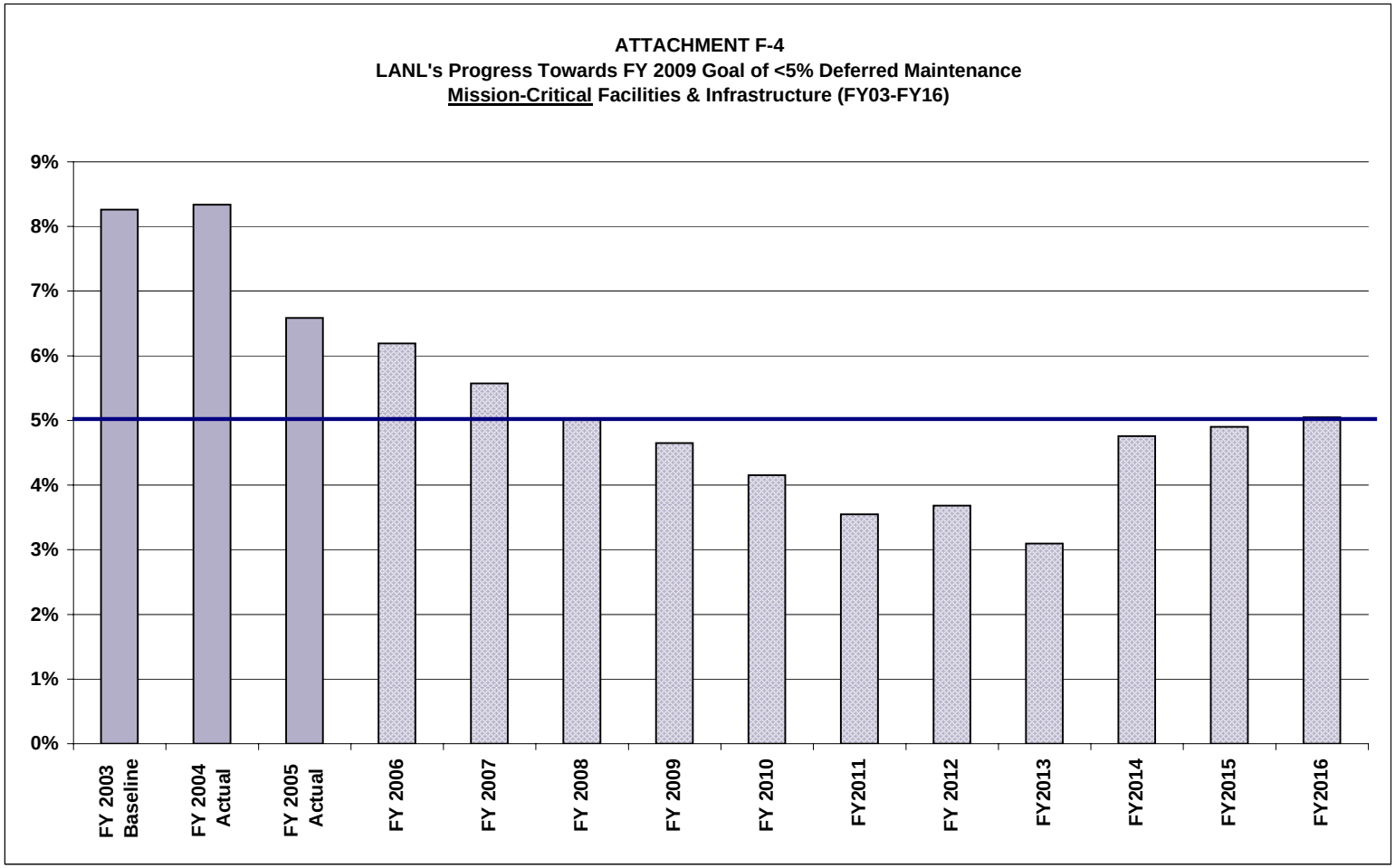
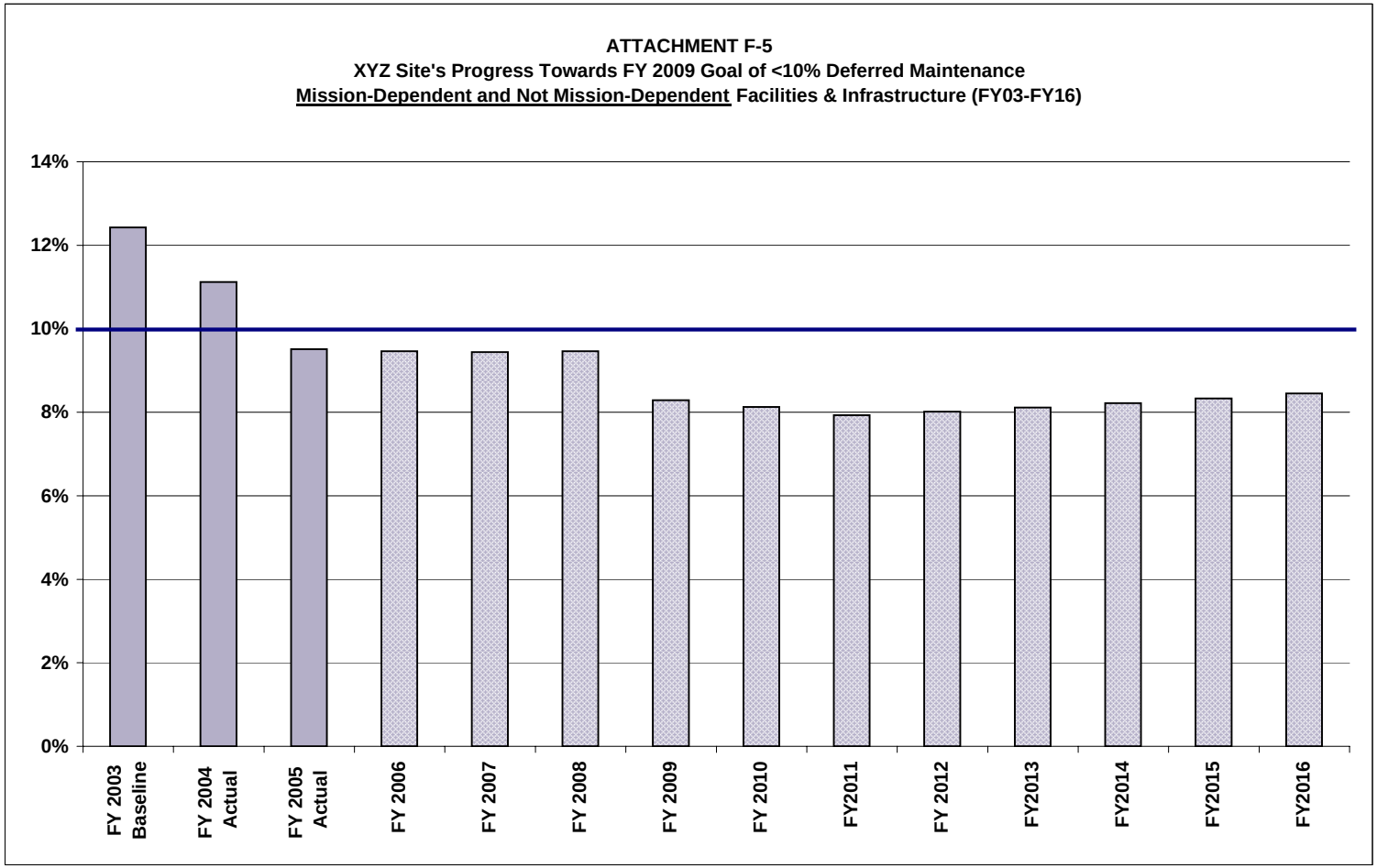
ATTACHMENT F-4
INPUT SHEET FOR Attachment F-4 – LANL's Progress Towards FY 2009 Goal of <5% Deferred Maintenance for Mission Critical Facilities and Infrastructure CHART (FY03-FY16)

	FY 2003 Baseline	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY2013	FY2014	FY2015	FY2016
(1) LANL Condition Index for Mission-Critical F&I	8.26%	8.34%	6.59%	6.19%	5.57%	5.04%	4.65%	4.15%	3.55%	3.68%	3.09%	4.76%	4.90%	5.05%



ATTACHMENT F-5
INPUT SHEET FOR Attachment F-5 – LANL's Progress Towards FY 2009 Goal of <10% Deferred Maintenance for Mission-Dependent and Not Mission-Dependent Facilities and Infrastructure CHART (FY03-FY16)

	FY 2003 Baseline	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY2013	FY2014	FY2015	FY2016
(1) LANL Condition Index for Mission-Dependent and Not Mission-Dependent F&I	12.43%	11.12%	9.51%	9.46%	9.44%	9.46%	8.29%	8.13%	7.93%	8.02%	8.11%	8.22%	8.33%	8.45%



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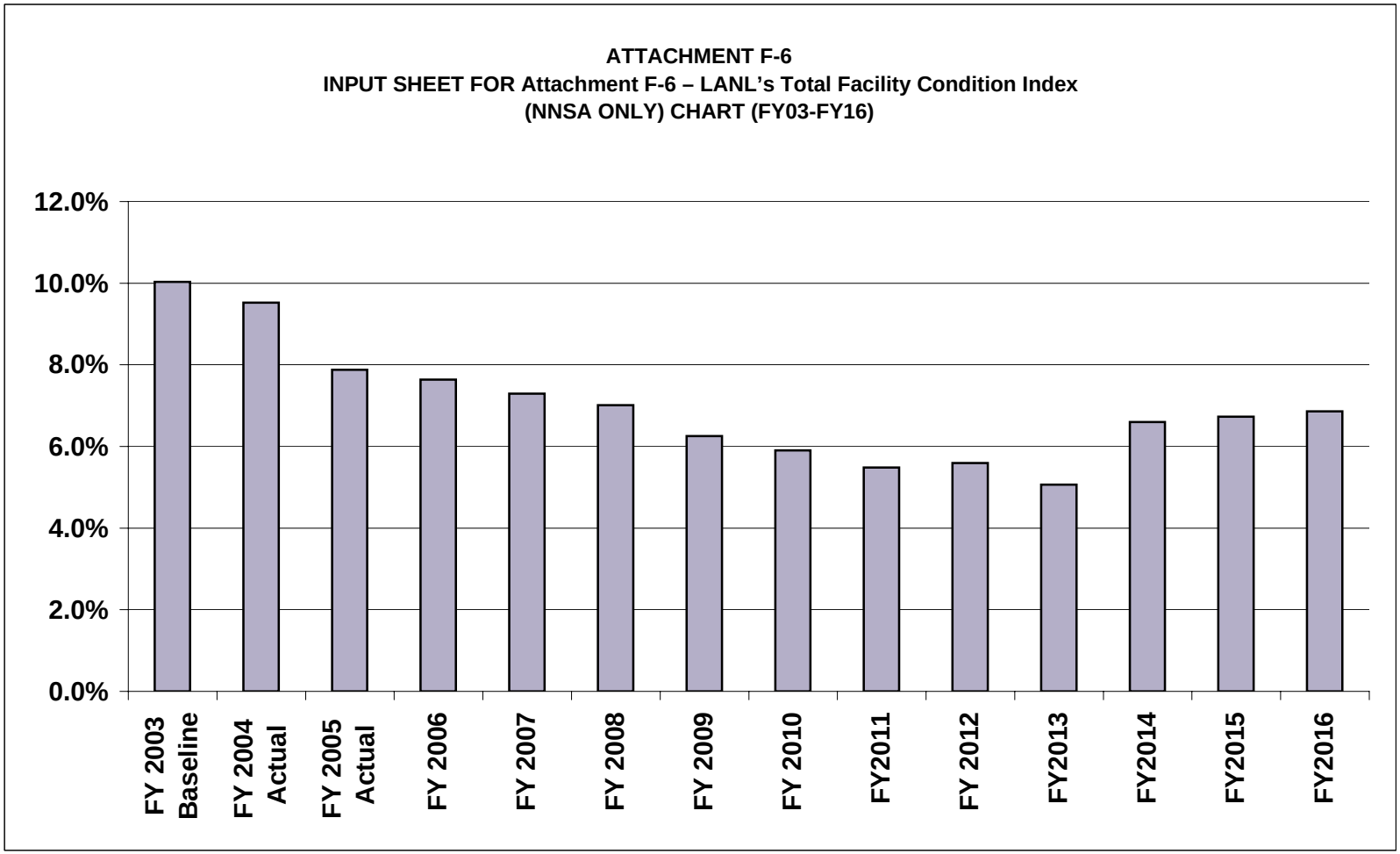
ATTACHMENT F-6
INPUT SHEET FOR Attachment F-6 – LANL's Total Facility Condition Index (NNSA ONLY) CHART (FY03-FY16)

	FY 2003 Baseline	FY 2004 Actual	FY 2005 Actual	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY2011	FY 2012	FY2013	FY2014	FY2015	FY2016
(1) LANL	10.0%	9.5%	7.9%	7.6%	7.3%	7.0%	6.3%	5.9%	5.5%	5.6%	5.1%	6.6%	6.7%	6.9%



Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2002		03-0030	Not Mission Dependent	Replace Damaged Roof			Y	Y	$ 3,233
2003	TA-3-32 & TA-3-34 Revitalization (MST)	03-0034	Not Mission Dependent	Replace Electrical System at End of Useful Life	FIRP	2010	Y	Y	$ 605
2003	TA-3-32 & TA-3-34 Revitalization (MST)	03-0034	Not Mission Dependent	Replace HVAC System at End of Useful Life	FIRP	2010	Y	Y	$ 533
2003		03-0035	Not Mission Dependent	Replace Damaged Window Subsystem			Y	Y	$ 1,159
2003	TA-16 and -48 HVAC Systems Deficiencies	16-0204	Not Mission Dependent	Replace HVAC System at End of Useful Life	FIRP	2011	Y	Y	$ 752
2003	TA-50 Waste Treatment Plant Deficiencies 1A (Mission Essential)	50-0002	Mission Critical	Replace Constricted Effluent System at End of Useful Life	FIRP	2011	Y	Y	$ 3,229
2003		53-0002	Mission Critical	Replace Cooling Towers at Reduced Capacity and End of Useful Life			N	N	$ 596
2003	Bldg 53-0003 HVAC System Deficiencies (ME)	53-0003	Mission Critical	Replace Cooling System at End of Useful Life	FIRP	2007	Y	Y	$ 683
2003	Roof System Deficiencies (ME)	53-0003	Mission Critical	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$ 3,492
2004		03-0038	Not Mission Dependent	Replace Roof at End of Useful Life			Y	Y	$ 3,482
2004		03-0066	Not Mission Dependent	Replace Electrical System at End of Useful Life			Y	N	$ 4,915
2004		03-0132	Not Mission Dependent	Replace Electrical System at End of Useful Life			N	N	$ 6,155
2004		03-0216	Not Mission Dependent	Replace Electrical System at End of Useful Life			N	N	$ 785
2004	Radiography Facility Upgrades (TA-8-23)	08-0023	Mission Critical	Replace Roof at End of Useful Life	FIRP	2007	Y	Y	$ 665
2004		16-0260	Mission Critical	Replace Vacuum System at End of Useful Life			N	N	$ 581
2004	Roof System Deficiencies (ME)	35-0125	Not Mission Dependent	Replace Roof at End of Useful Life	FIRP	2008	Y	Y	$ 759

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2004	Non-FIRP D&D	43-0041	Not Mission Dependent	Replace Degraded Structure at End of Useful Life	OTHER	2009	Y	Y	$ 707
2004		43-0434	Not Mission Dependent	Replace Road Deck at End of Useful Life			Y	Y	$ 5,514
2004	Electrical Infrastructure Safety Upgrade (TA-48-1)	48-0001	Not Mission Dependent	Replace Electrical System at End of Useful Life	FIRP	2009	Y	Y	$ 4,704
2004		48-0001	Not Mission Dependent	Replace HVAC System at End of Useful Life			N	N	$ 4,425
2004		50-0002	Mission Critical	Replace Sludge Storage System at End of Useful Life			Y	Y	$ 16,725
2004	Bldg 53-0002 HVAC System Deficiencies	53-0002	Mission Critical	Replace HVAC System at End of Useful Life	FIRP	2007	N	Y	$ 1,710
2004	TA-09, -22, -35, -39 and -53 Electrical Systems Deficiencies (ME)	53-0003	Mission Critical	Replace Defective Emergency Lighting System	FIRP	2006	N	Y	$ 575
2004	Bldg 53-0003 Hot Water Distribution System Deficiencies	53-0003	Mission Critical	Replace Degraded Heating Hot Water System Piping at End of Useful Life	FIRP	2008	Y	Y	$ 2,231
2004		53-0003	Mission Critical	Replace Electrical System at End of Useful Life			Y	Y	$ 2,091
2004	Bldg 53-0007 HVAC System Deficiencies	53-0007	Mission Critical	Replace Ventilation System to Meet Current Demand	FIRP	2009	Y	Y	$ 1,229
2004		53-0028	Mission Critical	Replace Roof at End of Useful Life			Y	Y	$ 2,733
2004	Bldg 53-0030 Electrical Distribution Systems Deficiencies (ME)	53-0030	Mission Critical	Replace degraded Electrical System to Supply Current Demand	FIRP	2007	Y	Y	$ 659

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2004	Bldg 55-0004 Electrical Distribution System Deficiencies	55-0004	Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$ 669
2004	Bldg 55-0004 Roof System Deficiencies (ME)	55-0004	Mission Critical	Replace Roof at End of Useful Life	FIRP	2009	Y	Y	$ 5,017
2005		03-0132	Not Mission Dependent	Replace Roof at End of Useful Life			Y	Y	$ 3,666
2005		16-0460	Not Mission Dependent	Replace HVAC System at End of Useful Life			N	N	$ 615
2005		48-0001	Not Mission Dependent	Replace Rad Liquid Waste Line at End of Useful Life and to Meet Current Demand			Y	Y	$ 1,254
2005	TA-16 and -55 Electrical Systems Deficiencies (Mission Essential)	50-0001	Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2011	N	Y	$ 2,556
2005	TA-50 HVAC Systems Deficiencies (Mission Essential)	50-0001	Mission Critical	Replace HVAC System at End of Useful Life	FIRP	2011	N	Y	$ 3,506
2005	TA-50 Waste Treatment Plant Deficiencies - 1A (Room 60 Modifications)	50-0001	Mission Critical	Replace Pre-Treatment System for Waste Treatment Plant at End of Useful Life	FIRP	2006	Y	Y	$ 5,707
2005		52-0001	Not Mission Dependent	Replace HVAC System at End of Useful Life			Y	Y	$ 755
2005	Bldg 53-0003 Electrical Distribution System Deficiencies	53-0001	Mission Dependent, but not Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2008	Y	Y	$ 2,162
2005		53-0006	Not Mission Dependent	Replace Cooling System to Meet Current Demand			N	N	$ 627

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2005	Electrical System Deficiencies (Mission Essential)	55-0004	Mission Critical	Replace Trolley System at End of Useful Life	FIRP	2011	Y	N	$ 3,282
2005	Internal Construction Deficiencies (Mission Essential	55-0004	Mission Critical	Replace Trolley System at End of Useful Life	FIRP	2011	Y	N	
2005		59-0001	Not Mission Dependent	Replace HVAC System at End of Useful Life			Y	Y	$ 1,197
2006		53-0001	Mission Dependent, but not Mission Critical	Replace HVAC System at End of Useful Life			N	N	$ 3,318
2006		55-0004	Mission Critical	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance			Y	N	$ 1,605
2006	TA-53 and -55 Mechanical Systems Deficiencies (ME) - B	55-0004	Mission Critical	Replace Hazardous Waste Line at End of Useful Life	FIRP	2008	N	Y	$ 681
2007		03-0035	Not Mission Dependent	Replace HVAC System at End of Useful Life			Y	Y	$ 743
2007		03-0123	Not Mission Dependent	Replace Electrical System at End of Useful Life			Y	Y	$ 769
2007	Electrical System Deficiencies (ME)	53-0003	Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2007	Y	Y	$ 4,163
2007		55-0004	Mission Critical	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance			N	N	$ 1,480
2008		03-0030	Not Mission Dependent	Replace Degraded HVA Units at End of Useful Life			Y	N	$ 584
2008		03-0066	Not Mission Dependent	Replace Electrical System at End of Useful Life			Y	Y	$ 2,962
2008		03-0066	Not Mission Dependent	Replace HVAC System at End of Useful Life			N	N	$ 5,147
2008		03-0142	Not Mission Dependent	Replace HVAC System to Meet Current Demand			N	N	$ 1,861

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2008	Classified Parts Storage	16-0302	Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2008	N	Y	$ 718
2008	Electrical Infrastructure Safety Upgrade (TA-35-2)*	35-0002	Not Mission Dependent	Replace Electrical System at End of Useful Life	FIRP	2010	N	Y	$ 1,289
2008		46-0024	Not Mission Dependent	Replace Electrical System at End of Useful Life			Y	N	$ 623
2008	Electrical System Deficiencies (Mission Essential)	55-0004	Mission Critical	Replace Electrical System at End of Useful Life	FIRP	2011	Y	N	$ 16,315
2008	TA-55 Heating and Cooling Systems Deficiencies (ME)	55-0006	Mission Critical	Replace Chiller Subsystem at End of Useful Life	FIRP	2010	Y	Y	$ 2,415
2008		7142010800	Not Mission Dependent	Replacement of Degraded Natural Gas Distribution Lines at End of Useful Life			Y	Y	$ 7,954
2007		7111010371	Not Mission Dependent	Replacement of 115kV Transmission System at End of Useful Life			N	N	$ 1,121
2006		22-0091	Mission Critical	Replace Roof at End of Useful Life			N	N	$ 770
2007		35-0002	Not Mission Dependent	Replace HVAC System at End of Useful Life			N	N	$ 1,768
2005		18-0030	Replace Roof at End of Useful Life		FIRP	2008	Y	Y	$535
2005		48-0001	Replace Rad Liquid Waste Line at End of Useful Life and to Meet Current Demand		FIRP	2008	Y	Y	$1,223
2005	TA50/TA54 WM MITIGATION - Labor	50-0001	Replace Electrical System at End of Useful Life		CGRP	2005	N	Y	$2,450

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2005		50-0001	Replace Facility Windows beyond End of Useful Life		Unfunded	TBD	N	N	$599
2005		50-0001	Replace HVAC System at End of Useful Life		FIRP	2007	N	Y	$3,355
2005		50-0001	Replace Pre-Treatment System for Waste Treatment Plant at End of Useful Life		FIRP	2006	Y	Y	$6,868
2005		52-0001	Replace HVAC System at End of Useful Life		FIRP	2008	Y	Y	$722
2005		53-0001	Replace Electrical System at End of Useful Life		FIRP	2006	Y	Y	$2,108
2005		53-0006	Replace Cooling System to Meet Current Demand		FIRP	2008	N	Y	$611
2005		55-0004	Replace Trolley System at End of Useful Life		Unfunded	TBD	Y	N	$3,199
2005		55-0008	Replace Emergency Generator System at End of Useful Life		FIRP	2004	Y	Y	$1,019
2005		59-0001	Replace HVAC System at End of Useful Life		FIRP	2008	Y	Y	$1,167
2006		53-0001	Replace HVAC System at End of Useful Life		Unfunded	TBD	N	N	$3,234

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2006		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance		Unfunded	TBD	Y	N	$3,057
2006		55-0004	Replace Hazardous Waste Line at End of Useful Life		FIRP	2005	N	Y	$664
2007		03-0035	Replace HVAC System at End of Useful Life		FIRP	2008	Y	Y	$711
2007		03-0123	Replace Electrical System at End of Useful Life		FIRP	2008	Y	Y	$750
2007		53-0003	Replace Electrical System at End of Useful Life		FIRP	2006	Y	Y	$4,058
2007		55-0004	Replace Fire Alarm System at End of Useful Life and to Ensure Code Compliance		Unfunded	TBD	N	N	$1,443
2008		03-0030	Replace Degraded HVA Units at End of Useful Life		Unfunded	TBD	Y	N	$569
2008		03-0066	Replace Electrical System at End of Useful Life		FIRP	2009	Y	Y	$2,839
2008		03-0066	Replace HVAC System at End of Useful Life		FIRP	2008	N	Y	$4,925

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2008		03-0102	Replace Cooling System at End of Useful Life		FIRP	2009	Y	Y	$679
2008		03-0141	Replace Chiller System at End of Useful Life		FIRP	2008	Y	Y	$529
2008		03-0142	Replace HVAC System to Meet Current Demand		FIRP	2009	N	Y	$1,815
2008		16-0300	Replace Electrical System at End of Useful Life		Unfunded	TBD	N	N	$617
2008		16-0302	Replace Electrical System at End of Useful Life		FIRP	2009	N	Y	$686
2008	EISU TA-35-2	35-0002	Replace Electrical System at End of Useful Life		FIRP	2005	N	Y	$1,236
2008		46-0024	Replace Electrical System at End of Useful Life		Unfunded	TBD	Y	N	$597
2008		50-0037	Replace HVAC System at End of Useful Life		Unfunded	TBD	N	N	$598
2008		53-0003	Replace Boilers at Expected End of Useful Life		FIRP	2008	Y	Y	$675
2008		55-0004	Replace Electrical System at End of Useful Life		Unfunded	TBD	Y	N	$15,905

Attachment F-7
Replacement-in-Kind Projects Over $500K

Optimum Year for Funding (1)	Project Name (2)	Facility ID (FIMS) (3)	Mission Dependency (4)	Description of Deficient Subsystems for Replacement-in-Kind (5)	Funding Source (6)	Planned Fiscal Year for Funding (7)	Identified in FY 2003 Baseline (Y or N) (8)	Within Current FYNSP Constraints (Y or N) (9)	Projected Cost ($K) (10)
2008		55-0006	Replace Chiller Subsystem at End of Useful Life		FIRP	2007	Y	Y	$2,354
2008		7142010800	Replacement of Degraded Natural Gas Distribution Lines at End of Useful Life		FIRP	2009	Y	Y	$7,754