SNL. 05

National Nuclear Security Administration
Sandia Site Office
P.O. Box 5400
Albuquerque, New Mexico 87185-5400

OCT 2 5 2005

Mr. John Kieling, Program Manager
Permits Management Program
New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Dr. East, Bldg 1
Santa Fe, NM 87505

Dear Mr. Kieling:

On behalf of the Department of Energy (DOE) and Sandia Corporation (Sandia), DOE is submitting the enclosed information to the New Mexico Environment Department (NMED). The enclosures consist of updates to the Comprehensive Part B Permit Request for RCRA-regulated waste storage and treatment operations at Sandia National Laboratories/New Mexico (SNL/NM).

The updates reflect Sandia's recent decision not to modify the Radioactive and Mixed Waste Management Facility (RMWMF). Sandia and DOE had planned to make physical modifications to the RMWMF in stages during the next three years to increase capacity, while maintaining existing RMWMF waste management operations. The modified facility was to be called the Consolidated Waste Management Facility (CWMF). Information regarding the CWMF has been deleted from the enclosed sections of the Part B Permit Request.

The corrections and updates affect several pages in twelve sections of the Part B Permit Request:

- Covers and inside title page
- Table of Contents and Overview
- General Part A (DOE and Sandia submitted Revision 8.0 of the General Part A to NMED in March 2005; that information is included in this submittal for completeness, together with updated information regarding active environmental permits in Appendix A of the General Part A)
- General Part B
- General Part B, Appendix A (Site-Wide Description)
- General Part B, Appendix B (Waste Analysis Plan)
- General Part B, Appendix C (Site-Wide Inspection Plan)
- General Part B, Appendix E (Site-Wide Contingency Plan)
- General Part B, Appendix F (Site-Wide Closure Plan)
- Module III (Radioactive and Mixed Waste Management Facility)
- Module VI (Manzano Storage Bunkers)

SNL1165

OCT 2 5 2005

This submittal includes two attachments. Each is discussed below.

Attachment A: Redline/Strikeout Copies of Revised Pages
The revised pages are included in redline/strikeout format.

Attachment B: Clean Copy of Revised Pages
Please insert these revised pages into your copies of the Part B Permit Request (instructions are included on the cover of Attachment B).

DOE and Sandia are available to provide additional information as needed. If you have any questions regarding this submittal, please contact David Rast of my staff at (505) 845-5349.

Sincerely,

Patty Wagner
Manager
Sandia Site Office

Enclosures

cc w/enclosures:
J. Bearzi, NMED-HWB
W. Moats, NMED-HWB
C. Amindyas, NMED-HWB
L. King, EPA Region 6
M. Gardipe, AL, ERD
M. Reynolds, DOE/SSO
C. Voorhees, NMED-OB

cc w/o enclosures:
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F. A. Figueroa, SNL, MS 0112, 10000
A. J. Blumberg, SNL, MS 0141, 11100
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J. L. Moya, SNL, MS 1037, 6330
J. J. Thompson, SNL, MS 1151, 6339
A. S. Reiser, SNL, MS 1151, 6339
SNL ES&H and Security Record Center, MS 0651, 9612
SSO Legal File

Revision of Comprehensive Part B Permit Request
EPA ID No. NM5890110518
Technical and Administrative Updates

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Francisco A. Figueroa
Vice President, Infrastructure Operations and Business Management, and Chief Financial Officer
Sandia Corporation
Albuquerque, New Mexico
Co-Operator

10/12/05
Date signed

Patty Wagner
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Owner and Co-Operator

10/24/5
Date signed

Attachment A

Sandia National Laboratories
Comprehensive Part B Permit Request
NM5890110518

Technical and Administrative Updates

Redline / Strikeout Format

- **Table of Contents**
- **Overview**
- **General Part A (RCRA ID Form, Permit Information Form, Appendices A and B)**
- **General Part B**
- **General Part B, Appendix A (Site-Wide Description)**
- **General Part B, Appendix B (Waste Analysis Plan)**
- **General Part B, Appendix C (Site-Wide Inspection Plan)**
- **General Part B, Appendix E (Site-Wide Contingency Plan)**
- **General Part B, Appendix F (Site-Wide Closure Plan)**
- **General Part B, Module III (Radioactive and Mixed Waste Management Facility)**
- **General Part B, Module VI (Manzano Storage Bunkers)**

Table of Contents (Continued)

Appendices (Continued)

D Site-Wide Personnel Training Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units

E Site-Wide Contingency Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units

F Site-Wide Closure Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units

Modules

I	HWMF	Hazardous Waste Management Facility
II	TTF	Thermal Treatment Facility
III	RMWMF~~/CWMF~~	Radioactive and Mixed Waste Management Facility~~/Consolidated Waste Management Facility~~
IV	Reserved	
V	AHCF	Auxiliary Hot Cell Facility
VI	MSB	Manzano Storage Bunkers

OVERVIEW

1.0 BACKGROUND

Sandia National Laboratories (SNL) is a multi-purpose engineering and science laboratory owned by the U.S. Department of Energy (DOE) and co-operated by Sandia Corporation (Sandia), a subsidiary of Lockheed Martin, and the DOE. Sandia designs non-nuclear components for the nation's nuclear weapons, performs a wide variety of energy research and development projects, and works on assignments that respond to national security threats. Sandia National Laboratories/New Mexico (SNL/NM) is located on Kirtland Air Force Base (KAFB) southeast of Albuquerque, New Mexico. SNL/NM consists of five technical areas (TAs) and several remote testing areas situated in the eastern half of the 80-square-mile KAFB.

Sandia generates wastes that are regulated under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act and implementing regulations, specifically the New Mexico Administrative Code (NMAC) Title 20, Chapter 4. In this Part B permit request, these wastes are referred to as RCRA-regulated wastes (i.e., wastes that meet the regulatory definition of hazardous or mixed wastes). RCRA-regulated wastes are generated during SNL/NM operations and ongoing corrective actions for solid waste management units (SWMUs). The corrective actions are conducted under the SNL/NM Environmental Restoration (ER) Project.

Since November 19, 1980, Sandia/DOE have managed RCRA-regulated wastes at SNL/NM under the applicable requirements of Title 40 of the Code of Federal Regulations, Parts 260-270, and with the requirements of NMAC Title 20, Chapter 4, as they became effective. Sandia/DOE operations include:

- **Chemical Waste Landfill (CWL).** Sandia/DOE operated the CWL in the southeastern corner of SNL/NM TA-III for disposal of RCRA-regulated wastes under interim status until 1985. Sandia/DOE are closing the landfill under interim status according to a closure plan approved by the New Mexico Environment Department (NMED). Two voluntary corrective measures (VCM) have been performed at the CWL: a vapor extraction VCM, and a landfill excavation VCM. The CWL is a regulated unit under RCRA. Groundwater assessment and monitoring information for the CWL is addressed in this comprehensive Part B permit request. Sandia/DOE will prepare corrective measures documentation as required by the closure plan. Sandia/DOE has ~~will also~~ prepared a post-closure care permit application ~~in spring of 2005,~~ as a supplement to this Part B application.

- **Hazardous Waste Management Facility (HWMF).** The HWMF consists of several buildings within a fenced area located south of SNL/NM TA-I. The HWMF is used for storage and packaging of RCRA-regulated wastes. The wastes are transported to off-site RCRA-permitted facilities for treatment, storage, and/or disposal. These wastes are generated during SNL/NM operations and corrective action activities. The Part B hazardous waste operating permit for the HWMF was issued in August 1992 and expired on August 6, 2002. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for the renewal of the HWMF operating permit. Sandia/DOE ~~have~~ revised the request in response to NMED's comments dated June 25,

2004~~.~~. The complete updated request for renewal of the HWMF operating permit is included in the~~this~~ November 2004 submittal.

- **Thermal Treatment Facility (TTF).** The TTF consists of a burn cage with ancillary equipment located in a fenced area south of Building 6715 in the northern part of SNL/NM TA-III. The TTF is used for thermal treatment of explosive wastes generated by SNL/NM operations. RCRA-regulated treatment residues (ash) are transported to off-site permitted facilities for treatment, storage, and/or disposal. The Part B hazardous waste operating permit for the TTF was issued on November 4, 1994. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for the renewal of the TTF operating permit. Sandia/DOE ~~have~~ revised the request in response to changes in TTF operations and NMED's comments dated June 25, 2004. The ~~complete updated~~ request for renewal of the TTF operating permit was~~is~~ included in this November 2004 submittal. Additional updates reflecting minor changes in TTF operations were submitted in July 2005.

- **Radioactive and Mixed Waste Management Facility (RMWMF)~~ / Consolidated Waste Management Facility (CWMF)~~.** The RMWMF consists of several buildings within a fenced area located at the southeastern corner of SNL TA-III, west of the CWL. The RMWMF is used for storage, treatment, and packaging of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. RCRA-regulated wastes and treated residues are transported to off-site permitted facilities for treatment, storage, and/or disposal. The RMWMF is operated under interim status. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a Part B permit application for operation of the RMWMF, which superseded the application submitted to the NMED in December 1996. Sandia/DOE ~~have~~ revised the application in response to NMED's comments dated June 25, 2004.

  Sandia/DOE planned to make physical modifications to the RMWMF in stages during the next three years to increase capacity. ~~Existing RMWMF waste management operations will be maintained during that time.~~ The modified facility was to ~~will~~ be called the Consolidated Waste Management Facility. Sandia/DOE planned to ~~will~~ continue the same general operations at the CWMF (storage, repackaging, and treatment of RCRA-regulated wastes) that are conducted at the existing RMWMF.

  On September 7, 2005, Sandia/DOE decided not to proceed with the plans for modification of the RMWMF. The application for operation of the RMWMF in this comprehensive Part B permit request has been further modified to reflect the original RMWMF~~future CWMF and the planned modifications~~ and incorporates minor technical changes and updates that were submitted to NMED in March and July 2005. The application for the ~~existing~~ RMWMF ~~and future CWMF~~ is included in this October 2005~~November 2004~~ submittal.

- **High Bay Waste Storage Facility (HBWSF).** The HBWSF is an area within Building 6596 in SNL/NM TA-V. The HBWSF was used for storage and packaging of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. RCRA-regulated wastes were transported to off-site permitted facilities for treatment, storage, and/or disposal. The HBWSF is operated under interim status. The comprehensive Part B permit request submitted to NMED in February 2002 included a Part B permit application for operation of the HBWSF, which superseded the application submitted to the NMED in December 1996. Sandia/DOE withdrew the Part B permit

application for the HBWSF in April 2003 and most recently submitted a closure plan to NMED in April 2004. NMED approved the plan in December 2004. Sandia/DOE are currently closing~~continue to operate~~ the Unit under interim status~~ and will close it following NMED approval of the closure plan~~.

- **Auxiliary Hot Cell Facility (AHCF).** The AHCF is located in Building 6597 in SNL/NM TA-V. The AHCF will be used for treatment, packaging, and storage of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included an application for operation of the AHCF. Sandia/DOE ~~have~~ revised the application in response to NMED's comments dated June 25, 2004. The complete updated application for operation of the AHCF is included in the~~is~~ November 2004 submittal.

- **Manzano Storage Bunkers (MSB).** The MSB are a set of Units used for storage of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. The seven bunkers within the MSB are located within the former Manzano Base in the eastern part of KAFB. RCRA-regulated wastes are typically transported to other SNL/NM Units for storage and/or treatment before being transported to permitted off-site facilities for further treatment, storage, and/or disposal. The MSB are operated under interim status. The comprehensive Part B permit request submitted to NMED in February 2002 included a Part B permit application for operation of the MSB, which superseded the application submitted to the NMED in December 1996. Sandia/DOE ~~have~~ revised the application in response to NMED's comments dated June 25, 2004. The complete updated application for operation of five bunkers in the MSB is included in the~~is~~ November 2004 submittal.

  Two of the bunkers provided extra capacity that was not needed, and they were never used for storage of RCRA-regulated wastes under interim status. Sandia/DOE withdrew the Part B permit application for those two bunkers in April 2003. In December 2003, Sandia/DOE submitted a request to NMED for closure of the two bunkers. Sandia/DOE continue to operate the two Units under interim status until NMED approves the closure request.

- **Corrective action for SWMUs at SNL/NM.** Sandia/DOE have identified numerous SWMUs throughout SNL/NM, and, until issuance of a Compliance Order by the NMED in April 2004, conducted corrective action under Module IV of the Part B Permit issued by the U.S. Environmental Protection Agency (EPA) under the 1984 Hazardous and Solid Waste Amendments to RCRA. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included the required information for SWMUs and Areas of Concern (AOCs) that qualify to be on the permit as determined by NMED. Sandia/DOE updated the information in response to NMED's comments and included the updated information in the April 2003 submittal.

  Corrective action activities are now conducted under the terms of the Compliance Order on Consent between DOE, Sandia, and NMED, dated April 29, 2004.

- **Corrective Action Management Unit (CAMU).** The CAMU was used for staging, treatment, and containment of remediation wastes generated during ER Project activities. The CAMU included staging areas for bulk and containerized waste, a treatment pad, and a containment cell. The CAMU is located at SNL/NM SWMU 107 in the southeastern corner of SNL/NM TA-III, northwest of the CWL and the RMWMF. The

5-year authorization to operate the CAMU under Permit Module IV was issued by EPA on September 25, 1997, and expired on September 20, 2002. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for renewal of the operating authorizations associated with the CAMU. Sandia/DOE completed treatment and containment operations at the CAMU in early 2003, and certified closure of the Unit on October 15, 2003. The CAMU consisted of the following:

- CAMU Temporary Unit (TU) for soil stabilization operations. The temporary unit was one of two treatment units used to treat remediation wastes at the CAMU. Sandia/DOE closed the TU in early 2003, and withdrew it from the comprehensive Part B permit request in August 2003.

- CAMU Low Temperature Thermal Desorption Unit (LTTD) Unit. The LTTD unit was the second of two treatment units used to treat remediation wastes at the CAMU. Sandia/DOE closed the LTTD in early 2003, and withdrew it from the comprehensive Part B permit request in May 2003.

- CAMU Containment Cell. The containment cell holds the remediation wastes. Sandia/DOE constructed a cover on the cell and completed closure in 2003. The CAMU is now maintained under the post-closure care conditions of the CAMU permit application. A comprehensive, stand-alone permit application for CAMU post-closure care was transmitted to the NMED on July 3, 2003. When approved, the post-closure care permit application will be incorporated into the SNL/NM Part B permit application.

2.3 Part 3

Part 3 consists of a revised discussion of the groundwater information for regulated units (the CWL is the only such unit at SNL/NM). The discussion was revised in response to NMED comments dated September 9, 2003.

2.4 Part 4

Part 4 consists of updated information about SWMUs at SNL/NM. It includes three sections:

- An introduction, including a description of the Sandia/DOE process for identifying SWMUs;
- A summary of the required information for each SWMU and AOC that qualifies to be on the permit as determined by NMED; and
- A summary of supplemental information about Canyons Groundwater, Technical Area III/V Groundwater, and Tijeras Arroyo Groundwater (TAG).

2.5 Part 5

Part 5 has not been updated at this time (November 2004). It consists of the requests for the renewal of authorization to operate the Corrective Action Management Unit (CAMU), its staging areas for bulk and containerized waste, the treatment pad, and the containment cell, that was submitted to NMED in February 2002. Part 5 will consist of the post-closure care plan for the CAMU containment cell when the plan is approved by the NMED. In addition, this Part will be amended to contain the post-closure care permit application for the CWL~~, expected in spring of 2005~~.

Sandia National Laboratories/New Mexico General Part A Permit Renewal Request/Application

Revision ~~8~~9.0

~~February~~October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

LIST OF FIGURES

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~~Existing~~ Radioactive and Mixed Waste Management Facility, East Side of Building 6920
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~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6921
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Manzano Storage Bunkers, Type B, Front View of Bunker 37034
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Manzano Storage Bunkers, Type D, Front View of Bunker 37045
Manzano Storage Bunkers, Type D, Front View of Bunker 37055
Manzano Storage Bunkers, Type D, Front View of Bunker 37057

EPA ID No.	N	M	5	8	9	0	1	1	0	5	1	8

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-regulated hazardous wastes handled at you site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed for waste codes.

12. Comments (See instructions on Page 33)

Facility latitude: 35 degrees, 01 minutes, 45 seconds North

Facility longitude: 106 degrees, 32 minutes, 30 seconds West

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See instructions on page 33)**

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Owner: Patty Wagner, Manager, DOE/SSO	
	Co-Operator: Patty Wagner, Manager, DOE/SSO	
	Co-Operator: Francisco A. Figueroa~~Les E. Shephard~~, Vice President, Sandia Corporation	

8. Process Codes and Design Capacities (Continued) *See Appendix B*

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
1	S 0 1	570,386.0	G	012	
2	T 0 4	945.0	U	006	
3	T 0 4	52.0	J	004	
4					
5	X 0 1	20.8	G	001	
	~~S 0 1~~	~~future capacity: 683,755.0~~	~~G~~	~~012~~	

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes (See instructions on page 37 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes)

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
2	T 0 4	120	U	002	Chemical Deactivation, gallons per day
2	T 0 4	895	U	002	Macroencapsulation, gallons per day (volume equivalent)
2	T 0 4	605	U	002	Stabilization, gallons per day
3	T 0 4	10	J	001	Thermal Deactivation, pounds per hour
3	T 0 4	40	J	002	Physical Treatment, pounds per hour
3	T 0 4	2	J	001	Amalgamation, pounds per hour

APPENDIX A

ACTIVE ENVIRONMENTAL PERMITS

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12~~03~~/31/04

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
SEWER WASTEWATER				
General	2069 A-6	7/1/03	12/31/07	COA
General	2069 F-6	08/01/03	01/31/08	COA
Microelectronics Development Laboratory	2069 G-5 Renewal Submitted	06/01/02	05/31/05	COA
General	2069 I-54 ~~Renewal Submitted~~	~~10/14/03~~02/01/04	~~extended~~07/31/08	COA
General	2069 K-54	~~03/01/02~~11/17/04	~~10/31/04~~12/31/08	COA
SURFACE DISCHARGE				
Pulsed Power Development Facilities (Discharge Plan)	DP-530	09/21/01	09/21/06	NMED
STORM WATER				
National Pollution Discharge Elimination System "Multi-sector General" Permit	NMR05A961	02/01	09/30/05	EPA
NPDES CONSTRUCTION PERMITS				
CINT CORE Facility Construction Project	NMR15DC23	10/21/03	06/30/06	EPA
MESA	NM0002376	01/28/02	07/31/09	EPA
ECIM Exterior Communication Infrastructure Modernization Project	NMR15DC79	03/01/04	06/30/06	EPA
Aerial Cable Facilities Renovations	NMR15DD44	03/12/04	05/30/05	EPA
Building 755	NMR15DK40	08/09/04	04/15/05	EPA
TA-I Waterline Rehabilitation Project	NMR15DR15	09/09/04	10/30/05	EPA
Photovoltaics Parking Lot	NMR15DV49	11/05/04	06/30/05	EPA
Building 956 -Lot A	NMR15DW01	11/12/04	05/30/05	EPA
TA-II &TA-IV Improvments		12/08/04	06/30/05	EPA
NPDES CONSTRUCTION PERMIT WAIVERS				
Building 702 Construction	NMLEW108	11/07/04	06/15/05	EPA
Building 758 Construction	NA	12/21/04	07/08/05	EPA
Building 1090 (pending)	NMR15E170	02/15/04	09/30/05	EPA
~~Storm Drain, Sanitary Sewer, and Domestic Water System Modernization~~	~~NMR10B507~~	~~06/29/99~~	~~08/04~~	~~EPA~~
~~NPDES construction permit for the Joint Computational Engineering Laboratory~~	~~NM0002377~~	~~04/20/02~~	~~03/04~~	~~EPA~~
~~Center for Integrated Nanotechnologies~~	~~b~~	~~10/03~~	~~6/06~~	~~EPA~~
~~SCA/CUB~~	~~b~~	~~9/02~~	~~8/03~~	~~EPA~~

NOTE:

a Applied for permit renewal, not yet received.

b Permit number not issued yet.

COA = City of Albuquerque
NMED = New Mexico Environment Department
EPA = U.S. Environmental Protection Agency
UST Bur. = Underground Storage Tank Bureau

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12~~03~~/31/04 (Continued)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
ECOLOGICAL				
New Mexico Department of Game and Fish, for Scientific/Educational Purposes, Authorization for Taking of Protected Wildlife	2931	01/01/02	12/31/04~~2~~[a]	New Mexico Department of Game and Fish
Fish and Wildlife Special Purpose Salvage Permit (for migratory birds)	MB040780-0	05/30/01	12/31/04~~3~~	U.S. Fish and Wildlife Service
Fish and Wildlife Service Special Purpose Relocate Permit	MB090256-0	06/25/04	12/31/04	U.S. Fish and Wildlife Service
UNDERGROUND STORAGE TANKS				
~~9,750 gal emergency generator fuel~~	~~6383~~	~~07/1/03~~	~~06/30/04~~	~~NMED, UST Bur.~~
20,000 gal oil storage tank	1368~~6384~~	~~07/1/03~~08/23/04	06/30/05~~4~~	NMED~~, UST Bur.~~
20,000 gal oil storage tank	1369~~6385~~	~~07/1/03~~08/23/04	06/30/05~~4~~	NMED~~, UST Bur.~~
ABOVEGROUND STORAGE TANKS				
~~1,024,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~508,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~213,898 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~209,421 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~45,490 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~44,129 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
50,000 gal storage tank	1370	08/23/04	06/23/05	NMED
50,000 gal storage tank	1370	08/23/04	06/23/05	NMED
10,000 gal storage tank	1370[b]	~~07/01/03~~08/23/04	06/30/045	NMED
10,000 gal storage tank	1370[b]	~~07/01/03~~08/23/04	06/30/045	NMED
10,000 gal storage tank	1370[b]	~~07/01/03~~08/23/04	06/30/045	NMED
1,500 gal storage tank	1370	08/23/04	06/23/05	NMED
2,000 gal storage tank	1370	08/23/04	06/23/05	NMED
~~75,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~75,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~75,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
~~250,000 gal storage tank~~	[b]	~~07/01/03~~	~~06/30/04~~	~~NMED~~
25,000 gal storage tank	1370[b]	~~07/01/03~~08/23/04	06/30/045	NMED

NOTE:
[b] Permit number not issued yet.
NMED = New Mexico Environment Department

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12~~03~~/31/04 (Continued)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
RCRA				
RCRA Part B Operating Permit for the Hazardous Waste Management Facility Module I - General Permit Conditions Module II - General Facility Conditions Module III - Containers	NM5890110518-1	08/06/92	08/06/02 [c]	NMED
RCRA Part B Operating Permit Module IV - Hazardous and Solid Waste Amendments Portion for Solid Waste Management Units	NM5890110518-1	08/26/93	09/20/02 [c]	EPA/NMED
RCRA Part B Operating Permit for the Thermal Treatment Facility Module I - General Permit Conditions Module II - General Facility Conditions Module III - Containers	NM5890110518-2	12/04/94	12/04/04 [c]	NMED
General Part A Permit Request Storage and/or treatment of the hazardous component of mixed waste at ten waste management Units.	NM5890110518	First submitted 8/90 Rev. 5, 04/16/03	Pending Review (No expiration date)	NMED
Class III Permit Modification for the Management of Hazardous Remediation Waste in the Corrective Action Management Unit (CAMU), Technical Area III	NM5890110518	09/25/97	09/20/02 [c] 4/19/04 [d]	NMED
Comprehensive Part B Permit Request Storage and/or treatment of RCRA-regulated waste at nine waste management Units.	NM5890110518	02/06/02 [c]		NMED
TSCA				
Risk-Based Approval Request under 40 CFR 761.61(c); Risk-Based Method for Management of PCB Materials; Chemical Waste Landfill and CAMU		06/26/02	No expiration date[d]	EPA

NOTE:

[a] Applied for permit renewal; not yet received
[c] Submitted application for renewal on 02/06/2002, undergoing NMED review. Application has been revised in response to NMED comments.
[d] CAMU closure report submitted in 4/19/04, undergoing agency review.
EPA = U.S. Environmental Protection Agency
NMED = New Mexico Environment Department
RCRA = Resource Conservation and Recovery Act
TSCA = Toxic Substances Control Act

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12~~03~~/31/04 (Concluded~~tinued~~)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
AIR (Open Burn Permits)				
Lurance Burn Site (9830)	04-001	01/05/04	12/31/04	COA
9920 and Sled Track	04-002	01/05/04~~e~~	12/31/04	COA
Thermal Treatment Facility (permit must be submitted to NMED within 30 days of receipt)	~~76-OB-5-2003~~04-003	01/05/04~~03/18/04~~	12/31/04	COA
Explosive testing (above ground)	04-004	01/05/04	12/31/04	COA
Explosive testing (D test)	04-008	01/15/04	12/31/04	COA
Burn Site (Large Pool Fire Tests)	04-009	01/15/04~~e~~	12/31/04	COA
Burn Site/Sled Track	04-010	01/15/04~~e~~	12/31/04	COA
Fire Extinguisher (Fire Training)	04-012	06/01/04~~e~~	12/31/04	COA
Explosive Testing	04-021	06/02/04~~e~~	12/31/04	COA
5000 foot Track Bunker	04-031	08/17/04	12/31/04	COA
Water Impact Facility	04-033	09/03/04	12/31/04	COA
Burn Site	04-037	09/28/04~~e~~	12/31/04	COA
AIR (Permits & Registrations)				
Hammermill Facility	144	08/28/85	Biennial update	COA
Fire Laboratory used for the Authentication of Modeling and Experiments	196	05/19/88	Registration†	COA
Neutron Generator Facility	374- M1~~I~~	07/17/98	Biennial update	COA
Neutron Generator Recertification	396	05/07/96	Biennial update	COA
Standby diesel generators (four)	402	05/07/96	Biennial update	COA
Radioactive & Mixed Waste Management Facility	415- M1	05/10/97~~11/24/99~~	Biennial update	COA
Isotope Production Facility	428	07/08/96	Biennial update	COA
Title V Operating Permit	515 (pending)	Submitted [a] 03/1/96	Pending (5 yr renewal)	COA
Classified Waste Landfill	560	12/17/96	Biennial update	COA
Classified Waste Landfill	NESHAP	06/96	Approval ††	EPA
Advanced Manufacturing Processes Laboratory	646	01/23/97	Biennial update	COA
Portable Burn Pools	647	05/05/97	Biennial update	COA
Chemical Waste Landfill (CWL) Excavation	540	5/19/99	Registration †	COA
High Energy Radiation Megavolt Electron Source-III	NESHAP	6/29/88	Approval ††	EPA
Advanced Manufacturing Prototype Facility	1406	11/6/00	Registration †	COA
Microelectronics Development Laboratory	1678	12/23/02	Biennial update	COA
Emergency Generator	924	5/5/98	Biennial update	COA
Processing and Environmental Technology Laboratory	925-M1	03/05/01	Biennial update	COA
Processing and Environmental Technology Laboratory	936	~~pending registration~~05/05/04	Registration †	COA
Steam Plant	1705	11/10/04	Biennial update	COA

NOTE:

[a] Applied for permit renewal; not yet received

~~e~~ COA issues open burn permits annually. Sandia/DOE applied for this permit for calendar year 2004.

† Registration = Certificate, no permit required.

†† Approval = EPA does not issue a permit.

EPA = U.S. Environmental Protection Agency

APPENDIX B

LOCATION-SPECIFIC PROCESS CODE LISTINGS, DESIGN CAPACITIES, ANNUAL QUANTITIES, FIGURES, AND PHOTOGRAPHS

LOCATION-SPECIFIC PROCESS CODE LISTINGS, DESIGN CAPACITIES, AND ANNUAL QUANTITIES

Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the ~~Existing~~ Radioactive and Mixed Waste Management Facility (RMWMF) ~~and Future Consolidated Waste Management Facility (CWMF)~~

Description	~~Existing RMWMF~~ Capacity	~~Future CWMF Capacity~~	Associated Structure/Building
Line 1 S01 Container Storage [a]			
Container storage area	13,420 gallons	~~57,070 gallons~~	Building 6920
Container storage area	7,810 gallons	~~7,810 gallons~~	Building 6921
Container storage area	83,160 gallons	~~83,160 gallons~~	Building 6925
Container storage area	83,160 gallons	~~73,419 gallons~~	Building 6926
Container storage area	1,100 gallons	~~1,100 gallons~~	Modular Storage Building TP150
Container storage area	1,100 gallons	~~1,100 gallons~~	Modular Storage Building TP153
~~Container storage area~~	~~—~~	~~5,000 gallons~~	~~Additional Modular Storage Building~~
~~Container storage area~~	~~—~~	~~5,000 gallons~~	~~Additional Modular Storage Building~~
Container storage area	19,800 gallons	~~15,840 gallons~~	Asphalt area N, E, and W of Building 6920
Total S01	**209,550 gallons**	~~**322,919 gallons**~~	

~~Sandia/DOE will physically modify the existing RMWMF during the next three years to increase capacity; the modified facility will be called the CWMF. RWMWF operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA regulated wastes).~~

See footnotes at end of section

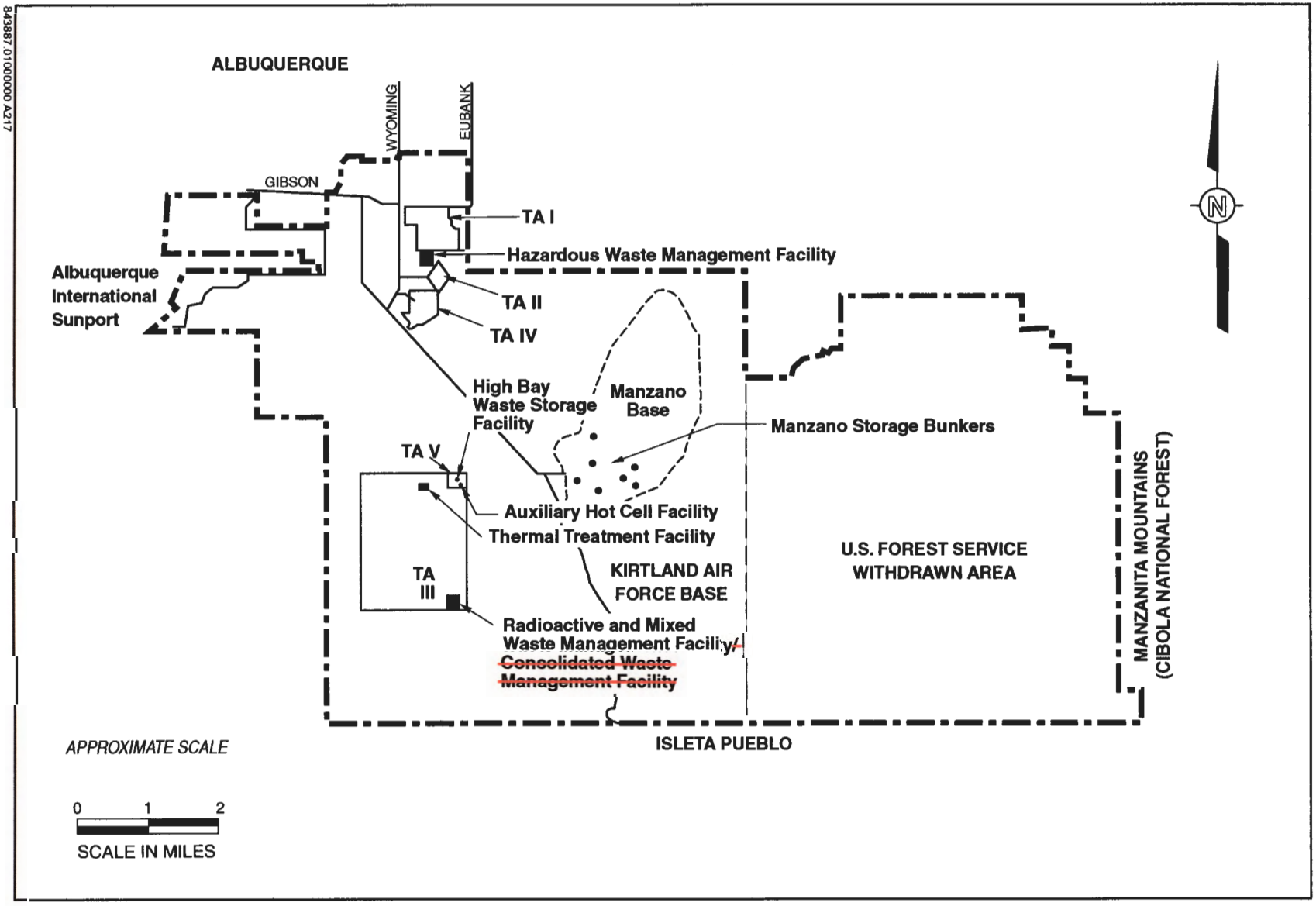
Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the ~~Existing~~ Radioactive and Mixed Waste Management Facility (RMWMF) ~~and Future Consolidated Waste Management Facility (CWMF)~~ (Continued)

Description	Capacity ~~(Existing RMWMF and Future CWMF)~~	Annual Quantity ~~(Existing RMWMF and Future CWMF)~~	Associated Structure/Building
Line 3 T04 Other Treatment (in containers) [c, d, e]			
Chemical deactivation	65 gallons/day	3,000 gallons/year	Building 6920, Building 6921
Macroencapsulation	840 gallons/day	6,000 gallons/year	Building 6920, Building 6921, Building 6925
Stabilization	550 gallons/day	6,000 gallons/year	Building 6920, Building 6921
Thermal deactivation	10 pounds/hour	150 pounds/year	Building 6920, Building 6921
Amalgamation	2 pounds/hour	100 pounds/year	Building 6920, Building 6921
Total T04	**780 gallons/day and 12 pounds/hour**	**15,000 gallons/year and 250 pounds/year**	

Description	Capacity ~~(Existing RMWMF and Future CWMF)~~	Annual Quantity ~~(Existing RMWMF and Future CWMF)~~	Associated Structure/Building
Line 4 T04 Other Treatment (physical treatment) [f]			
Physical treatment	20 pounds/hour	4,000 pounds/year	Building 6920, Building 6921
Total T04	**20 pounds/hour**	**4,000 pounds/year**	

See footnotes at end of section

FIGURES



843887.01000000.A217

Figure B-2

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

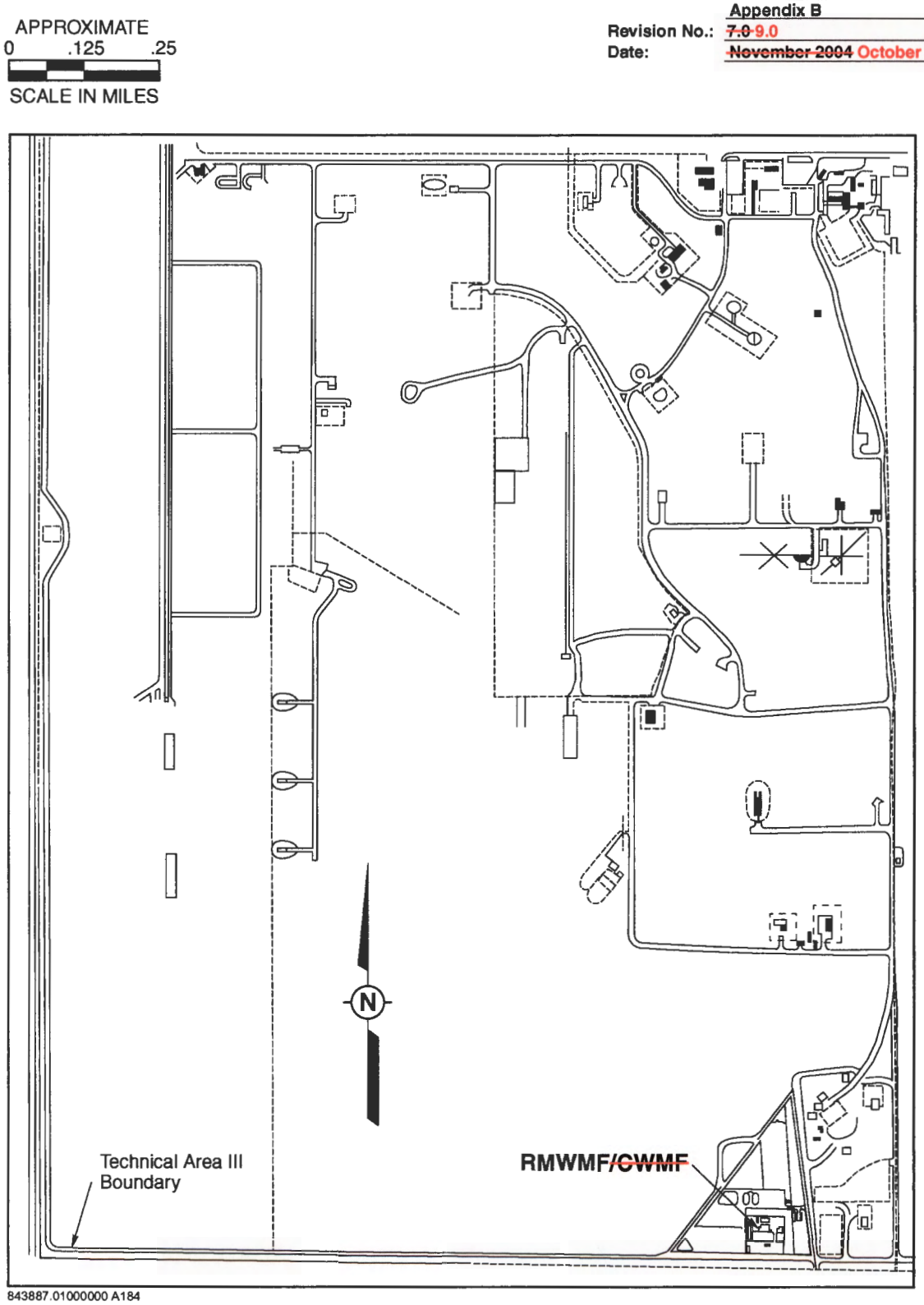


Figure B-8
Location of the Radioactive and Mixed Waste Management Facility/~~Consolidated Waste Management Facility~~ in Technical Area III

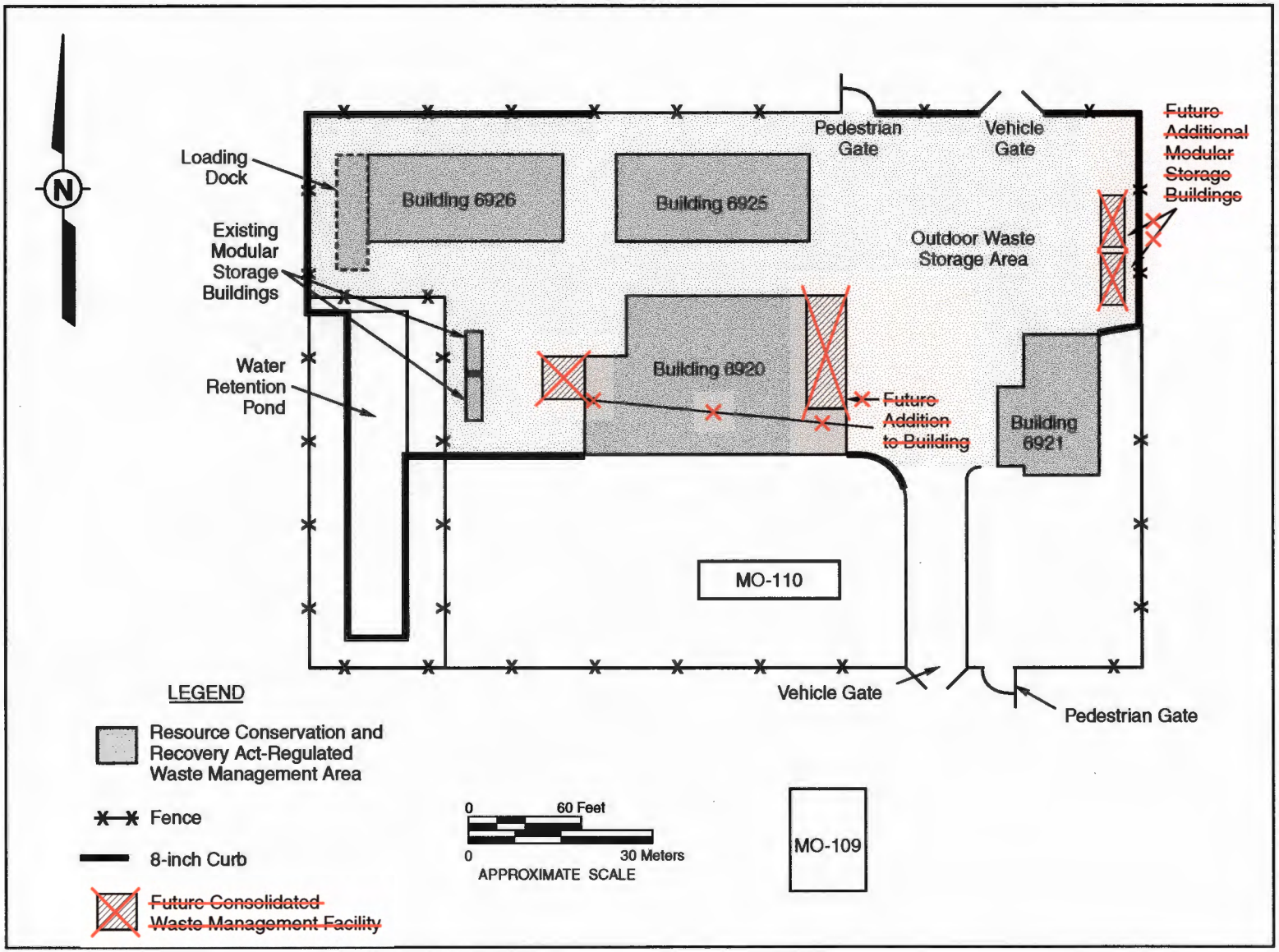


Figure B-9
Radioactive and Mixed Waste Management Facility/~~Consolidated Waste Management Facility~~, Resource Conservation and Recovery Act-Regulated Waste Management Areas

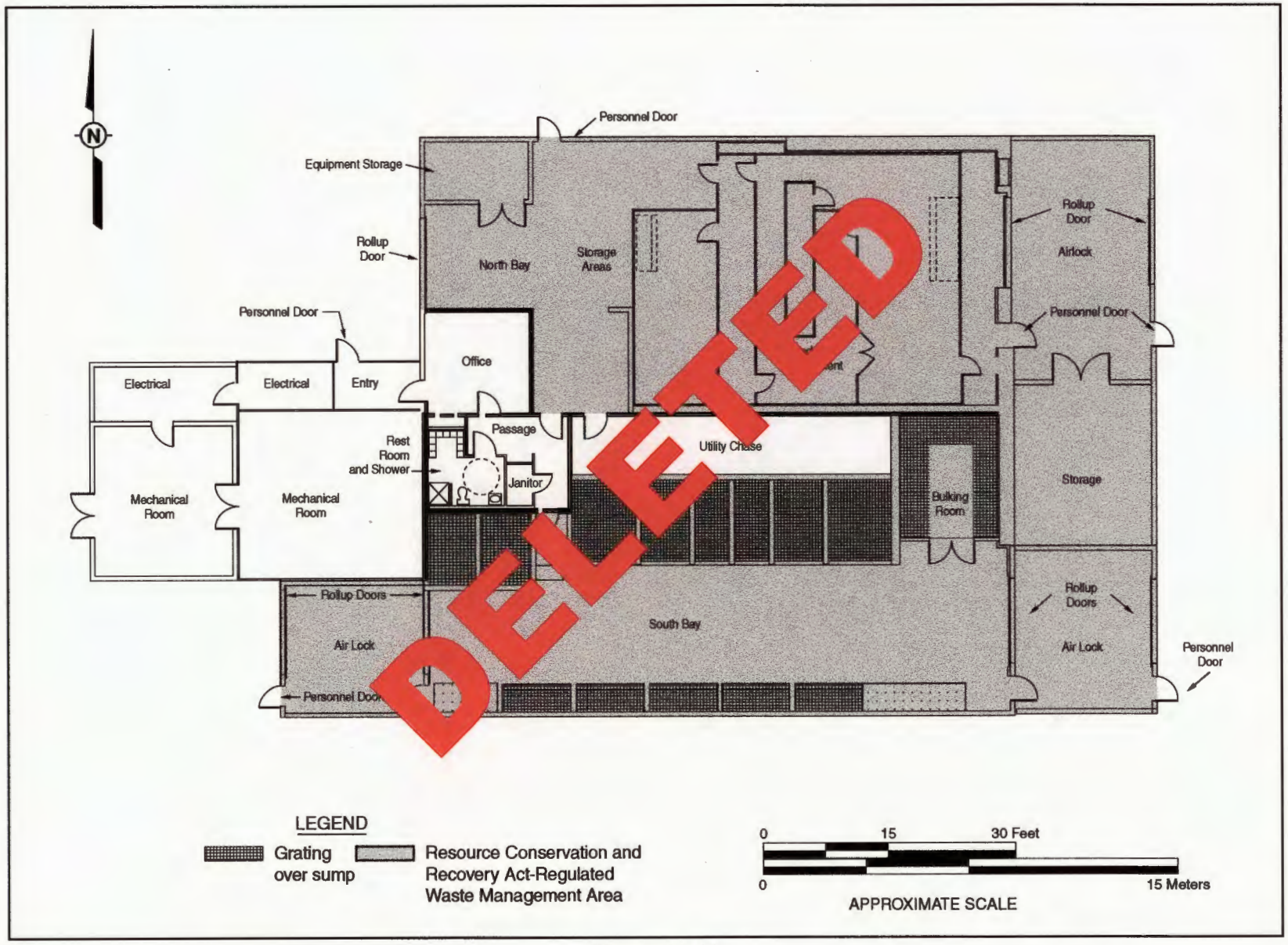


Figure B-11
Consolidated Waste Management Facility, Building 6920,
Resource Conservation and Recovery Act-Regulated Waste Management Areas

843887.01000000 A176

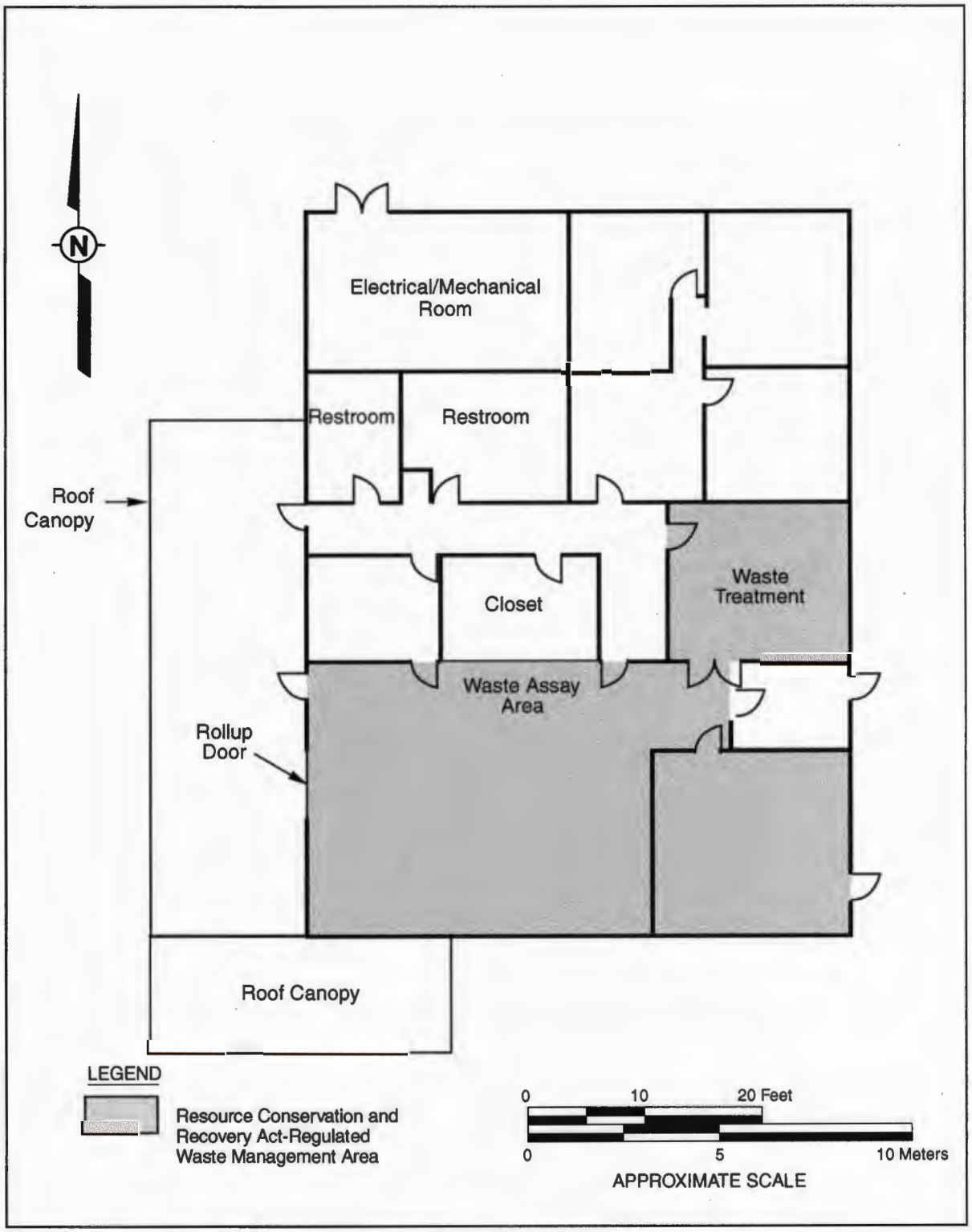


Figure E-~~12~~ 11
Radioactive and Mixed Waste Management Facility~~/~~
~~Consolidated Waste Management Facility~~, Building 6921,
Resource Conservation and Recovery Act-Regulated Waste Management Areas

843887.01000000 A186

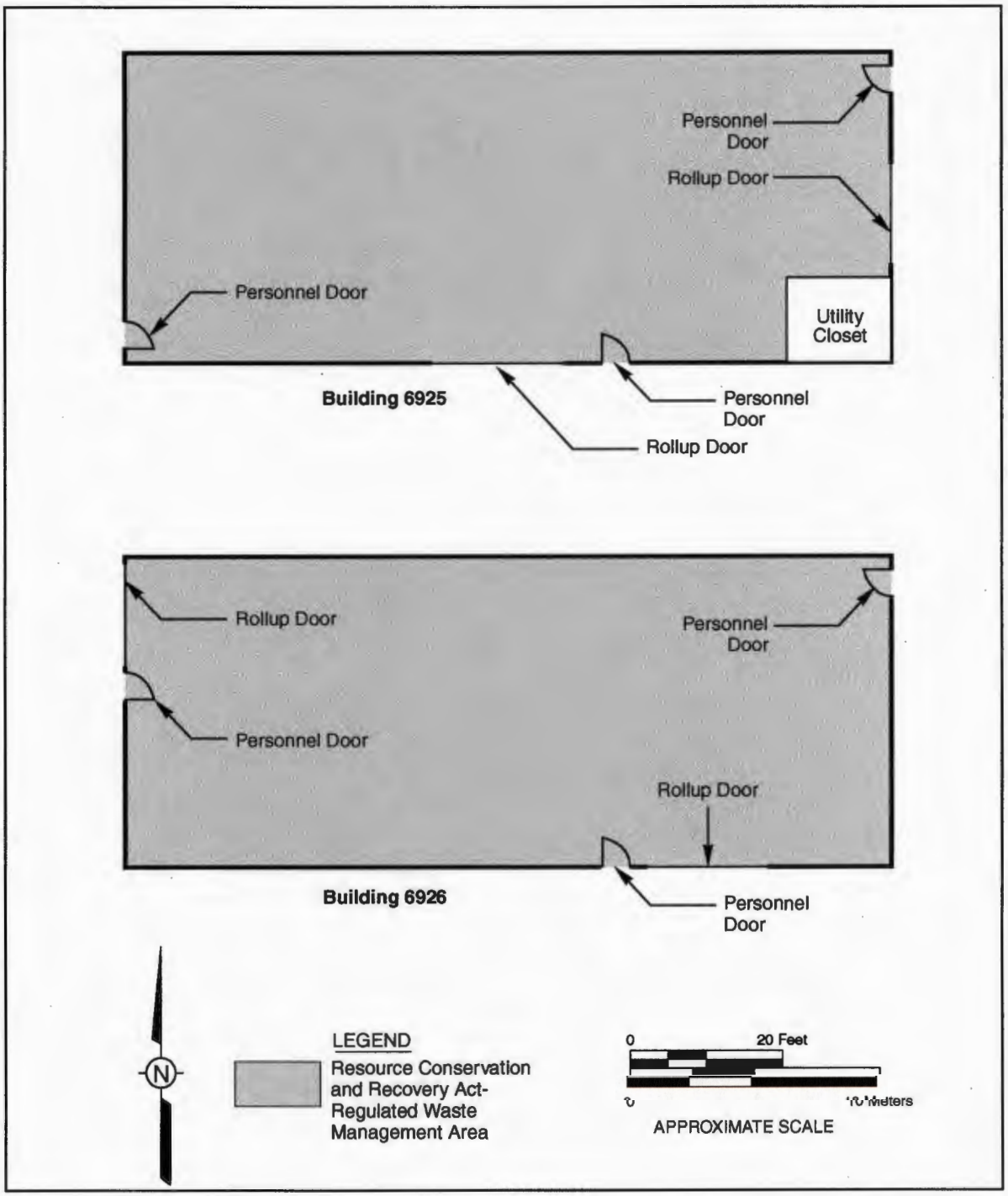


Figure ~~B-13~~ 12

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

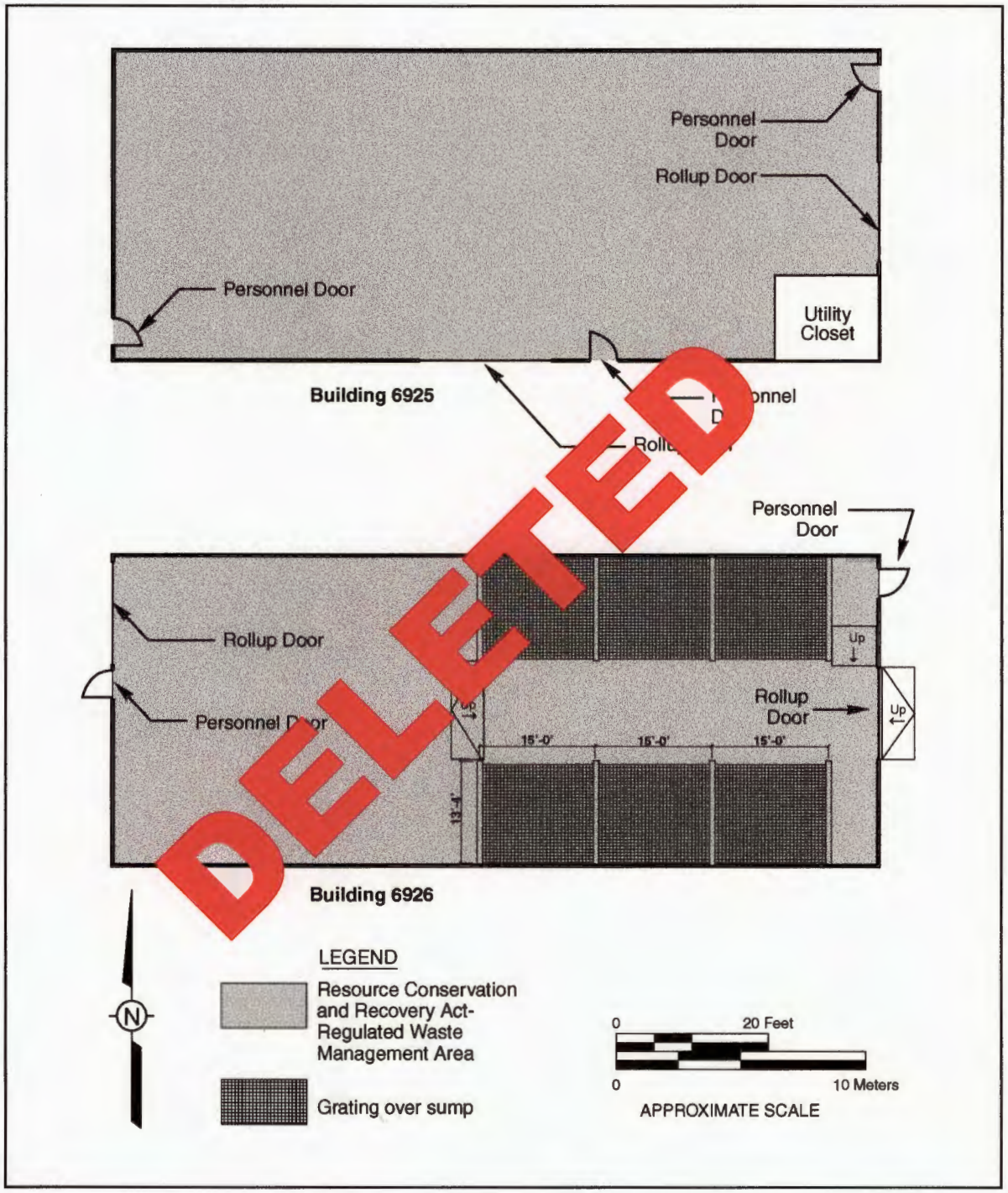


Figure B-14

Consolidated Waste Management Facility, Building 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

843887.01000000 A183

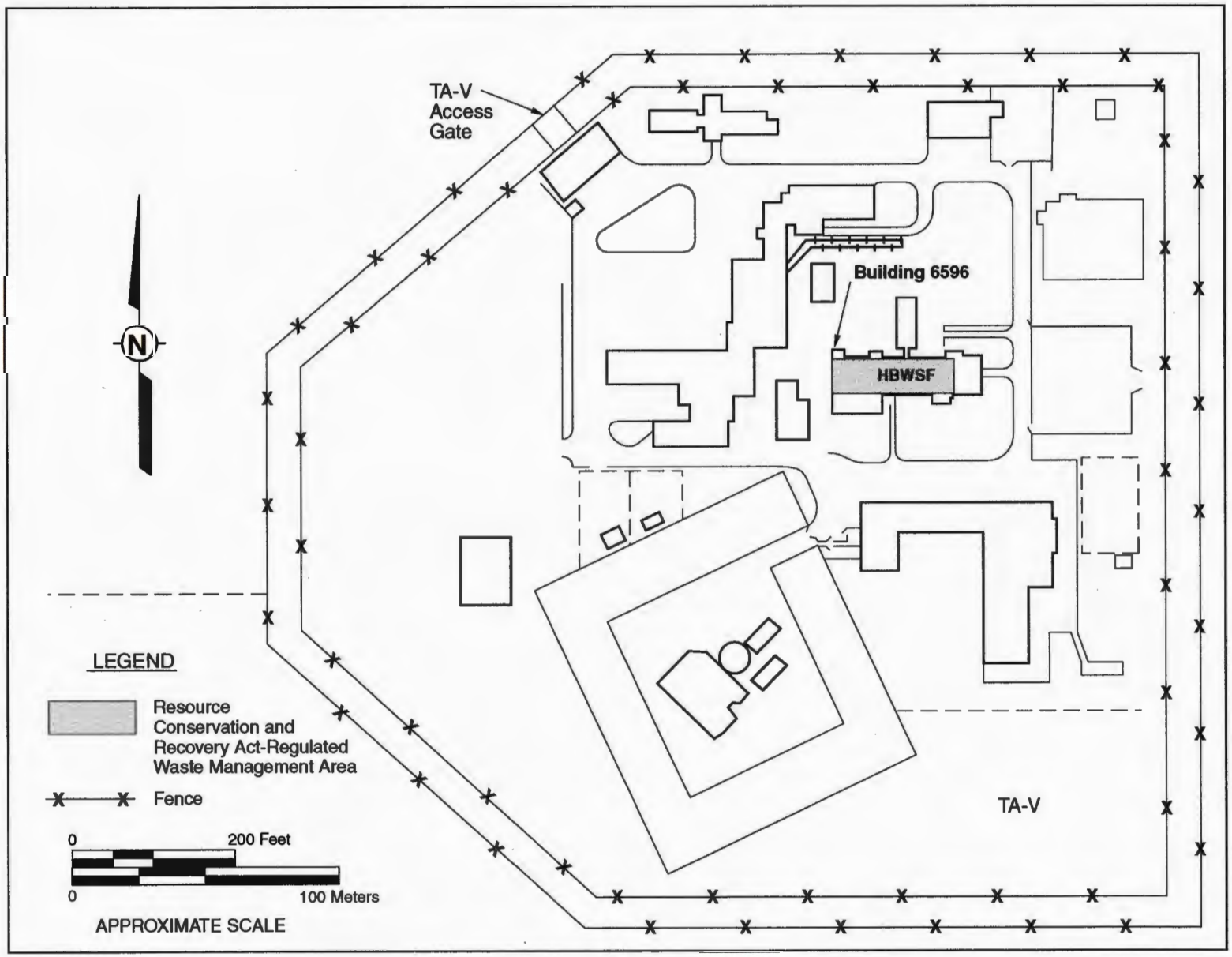


Figure E-~~15~~ 13
Location of the High Bay Waste Storage Facility (HBWSF) in Technical Area (TA) V

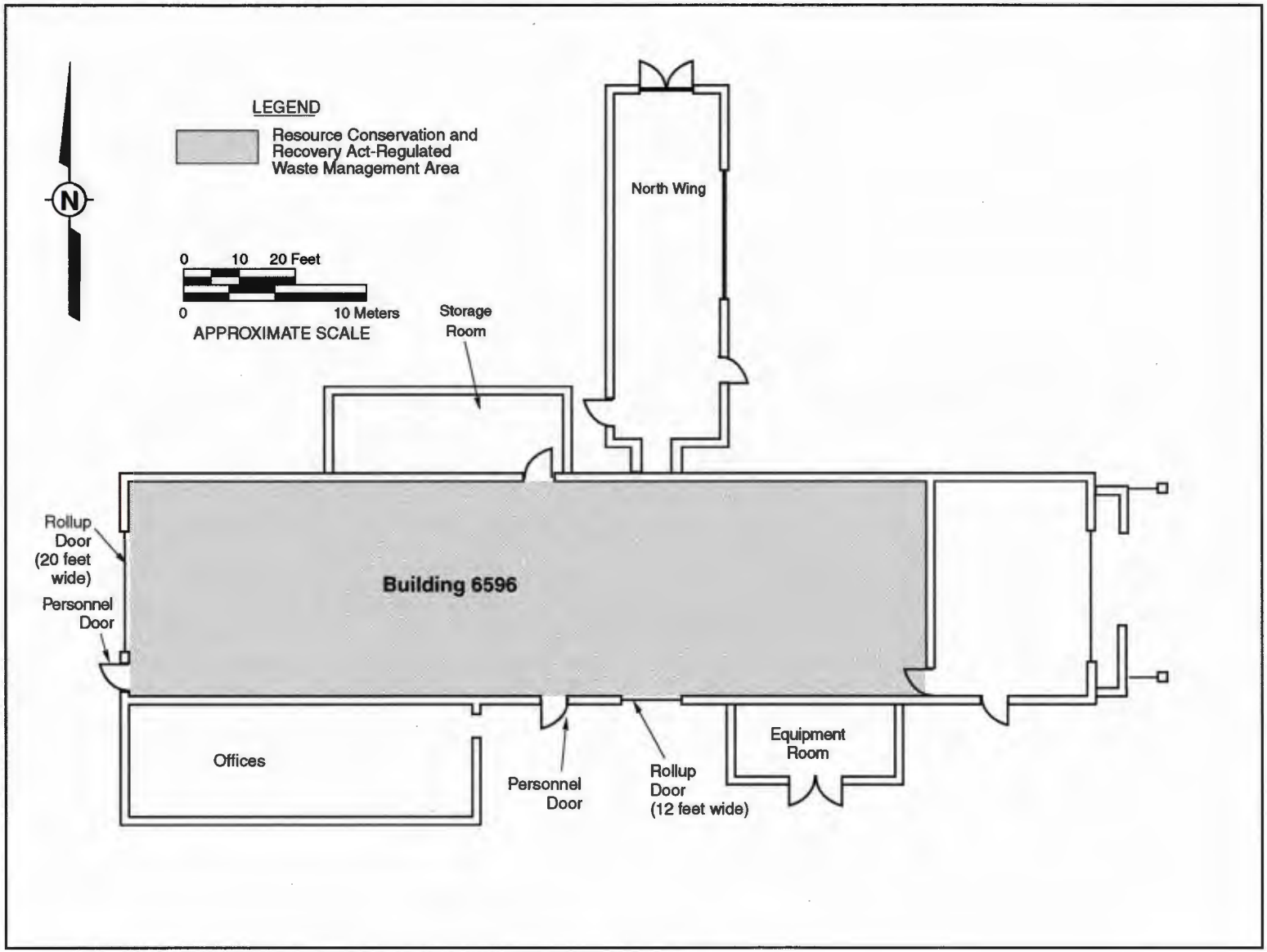


Figure B-~~16~~ 14
High Bay Waste Storage Facility,
Resource Conservation and Recovery Act-Regulated Waste Management Area

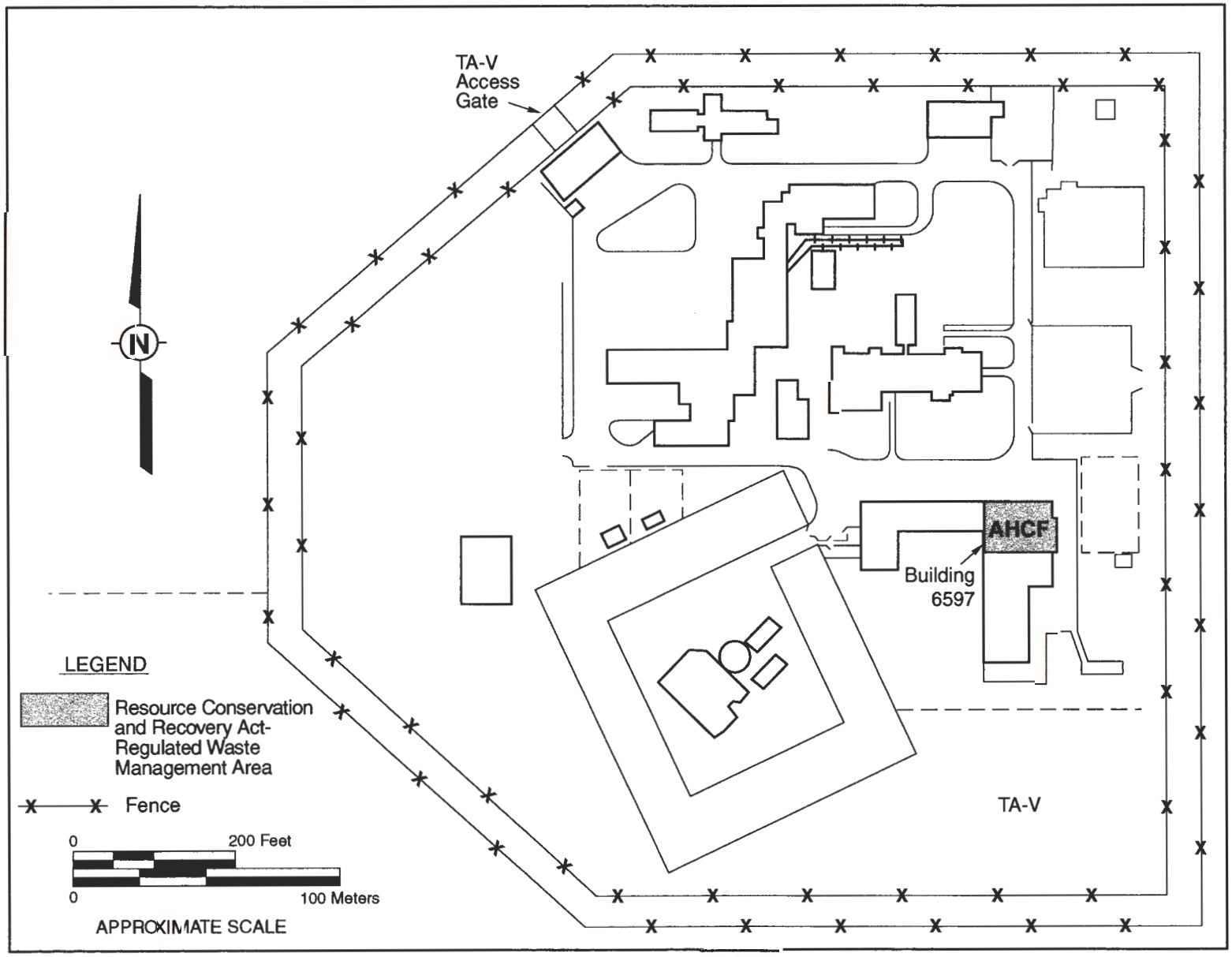
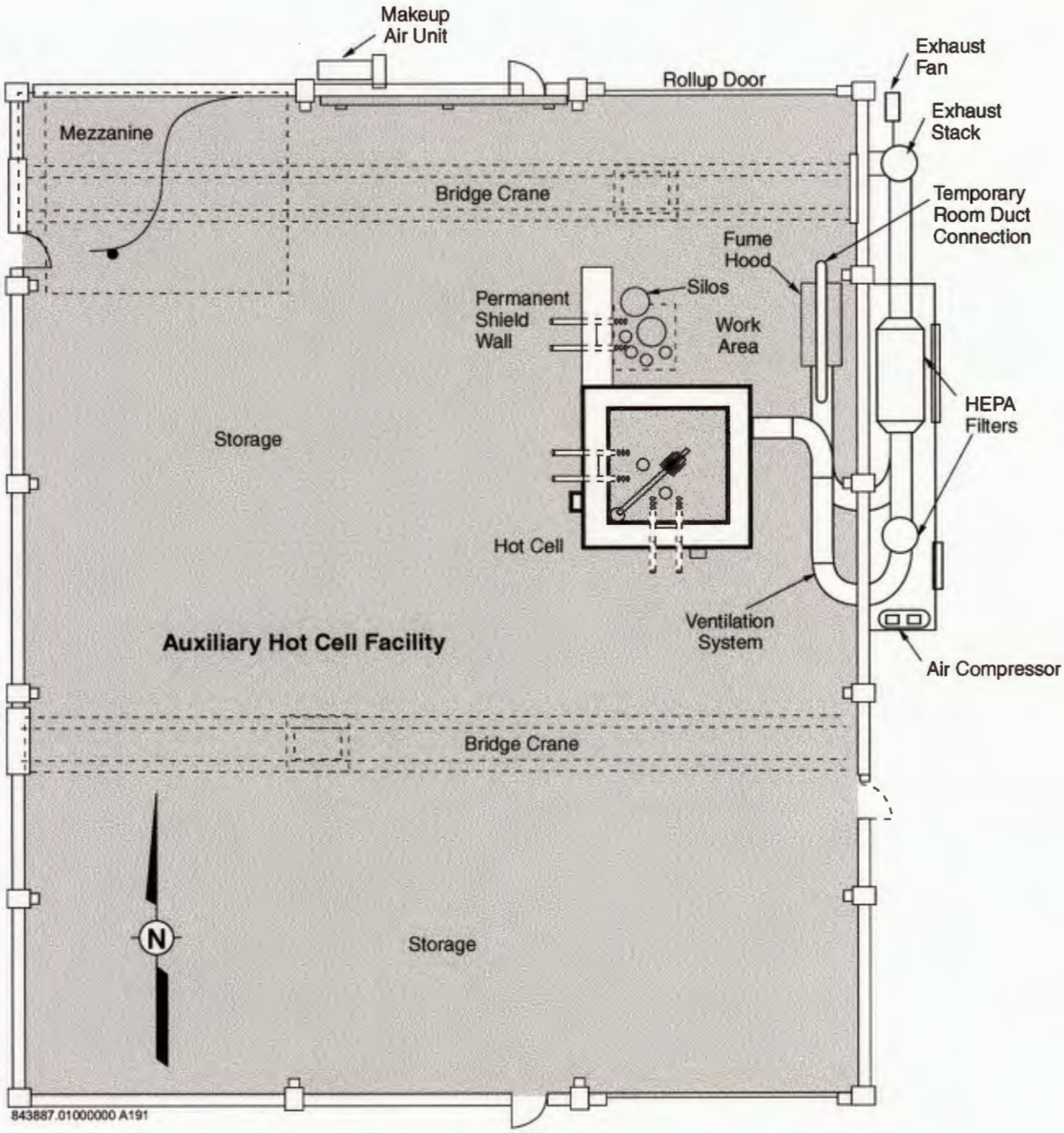


Figure E-~~17~~ 15
Location of the Auxiliary Hot Cell Facility (AHCF) in Technical Area (TA) V



LEGEND

Resource Conservation and Recovery Act-Regulated Waste Management Area

APPROXIMATE SCALE

0 7.5 15

SCALE IN FEET

Figure B-~~18~~ 16

Auxiliary Hot Cell Facility, Resource Conservation and Recovery Act-Regulated Waste Management Areas

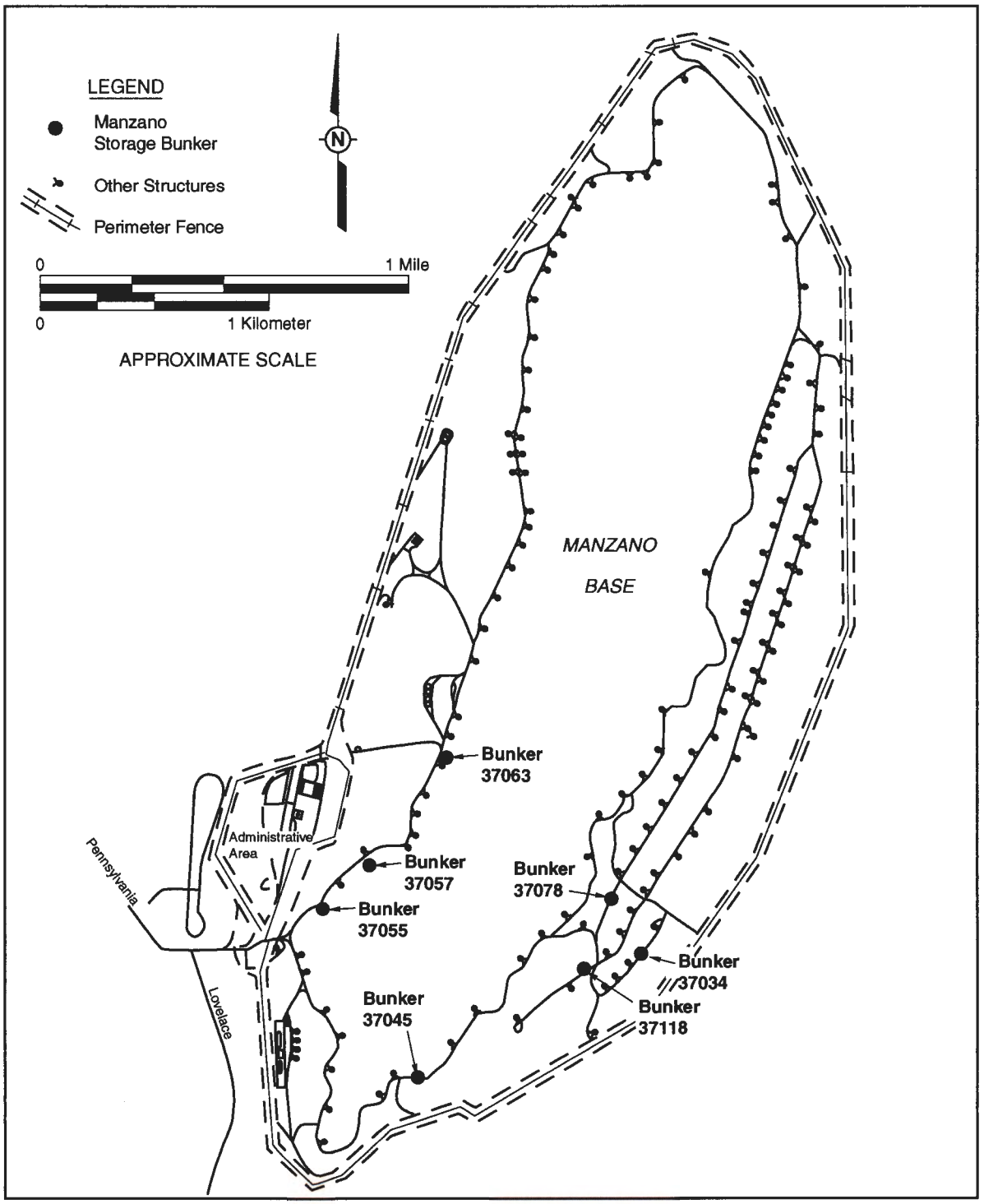


Figure B-~~19~~ 17

Location of the Manzano Storage Bunkers at Manzano Base

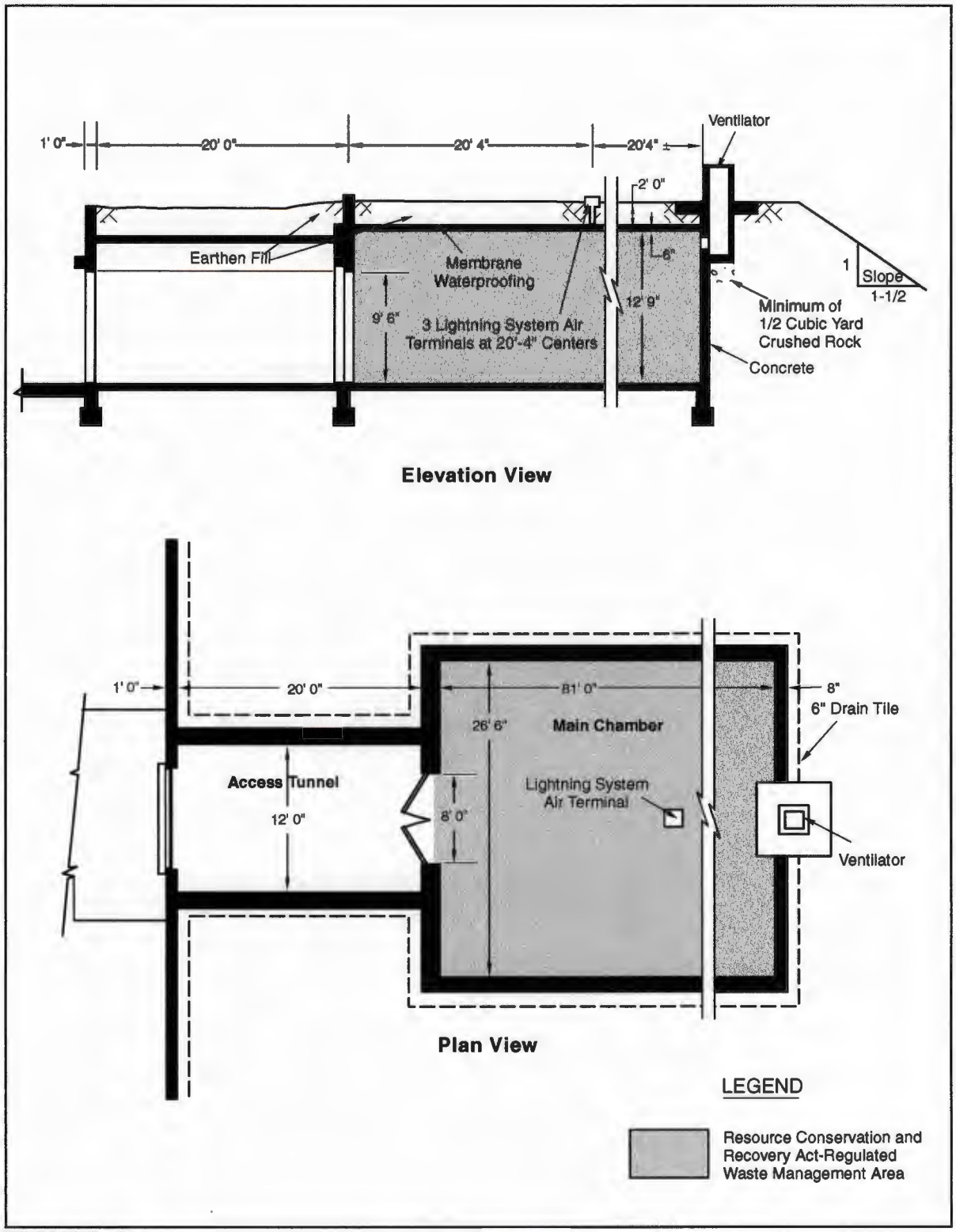


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Figure B-~~20~~ 18
Manzano Storage Bunkers, Type B, Bunkers 37034 and 37063

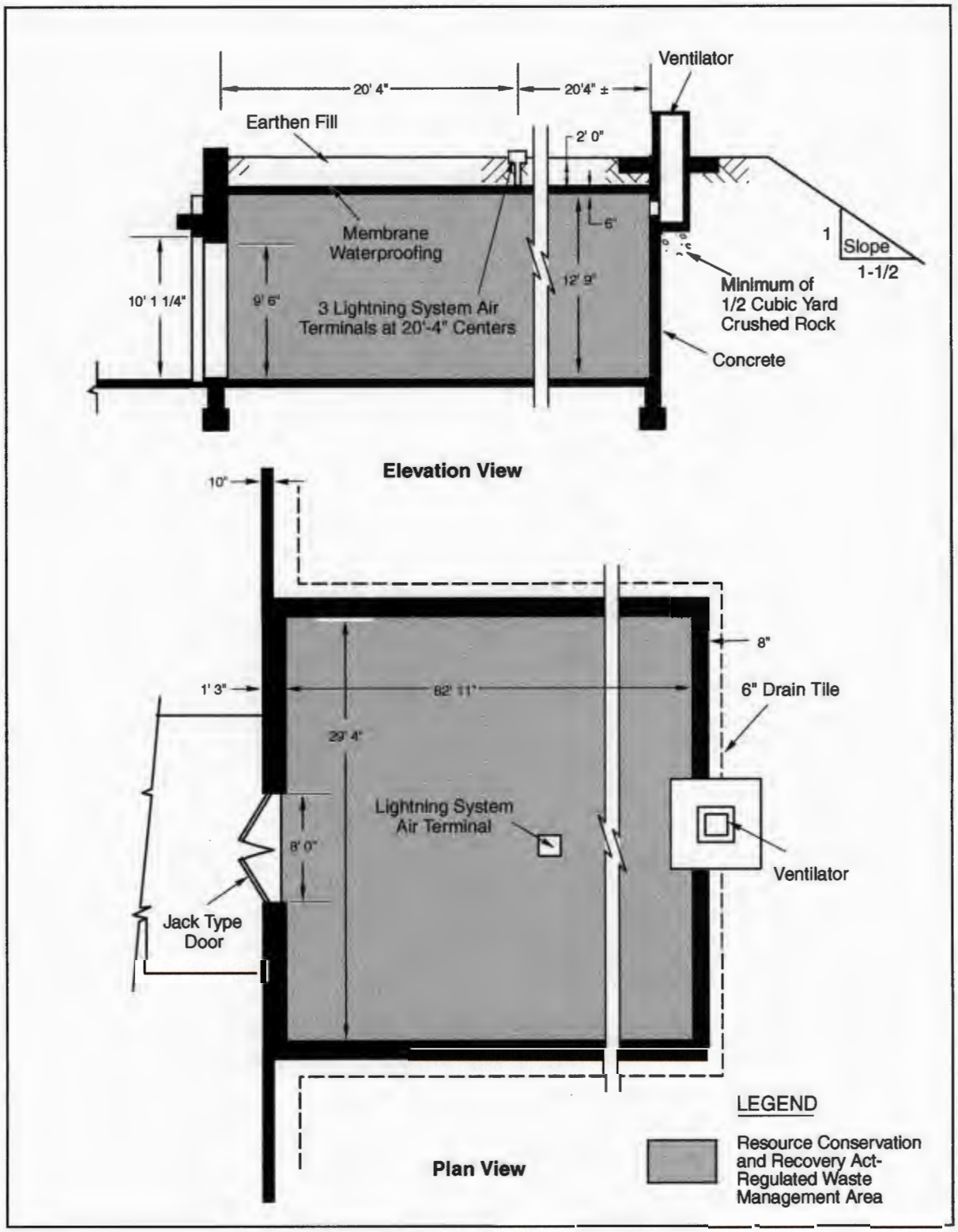


Figure E-~~21~~ 19
Manzano Storage Bunkers, Type C, Bunkers 37078 and 37118

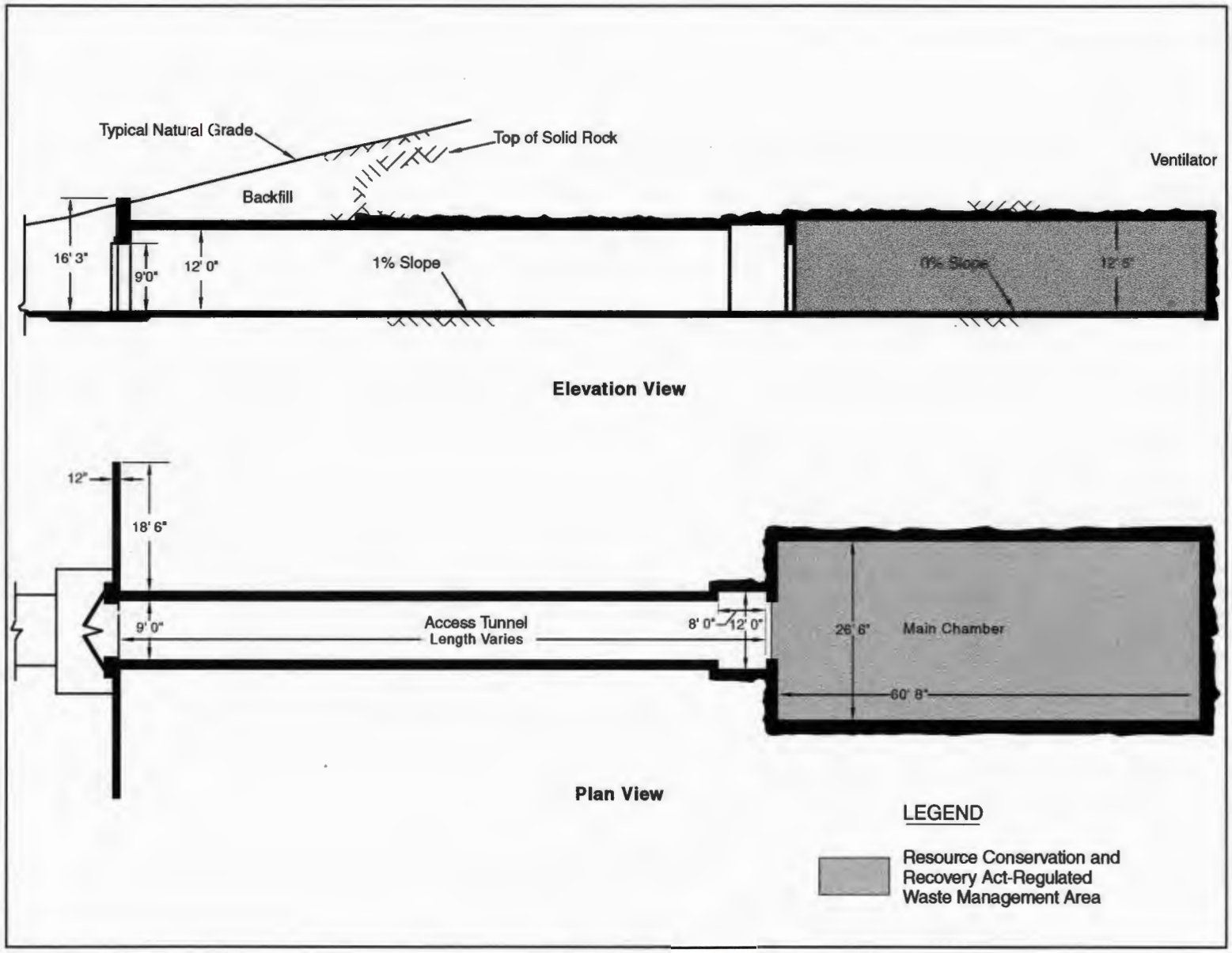


Figure B-~~22~~ 20
Manzano Storage Bunkers, Type D
Bunkers 37045, 37055, and 37057

PHOTOGRAPHS

~~Existing~~ Radioactive and Mixed Waste Management Facility, East Side of Building 6920
Photograph Taken on December 5, 2001
Process Codes: S01, T04

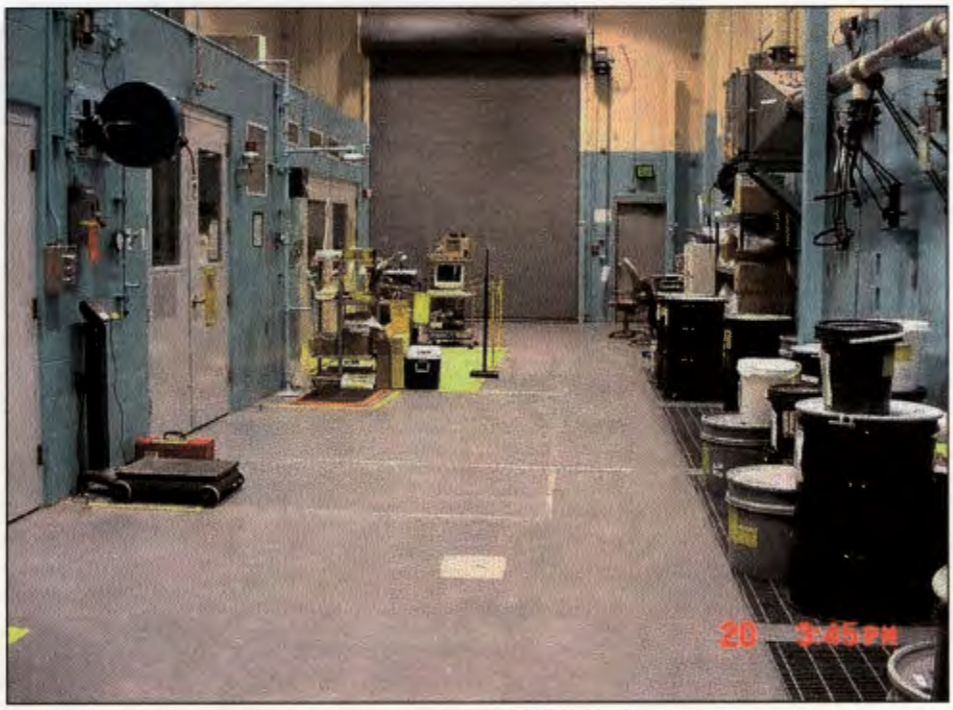
~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~Building 6920 will be modified and renovated to increase capacity. Modifications will include additional enclosed storage on the east end of the building. The addition will extend east as far as the wall of the existing work area on the left, and north to the existing edge of the building (on the right). The addition will be equipped with a rollup door and personnel door similar to the existing doors.~~

~~Existing~~ Radioactive and Mixed Waste Management Facility, West Side of Building 6920
Photograph Taken on December 5, 2001
Process Codes: S01, T04

~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~Future CWMF modifications to Building 6920 include additional utility rooms (mechanical and electrical) on the west end of the building. The existing mechanical room is visible on the left, the additional room will extend to the west.~~

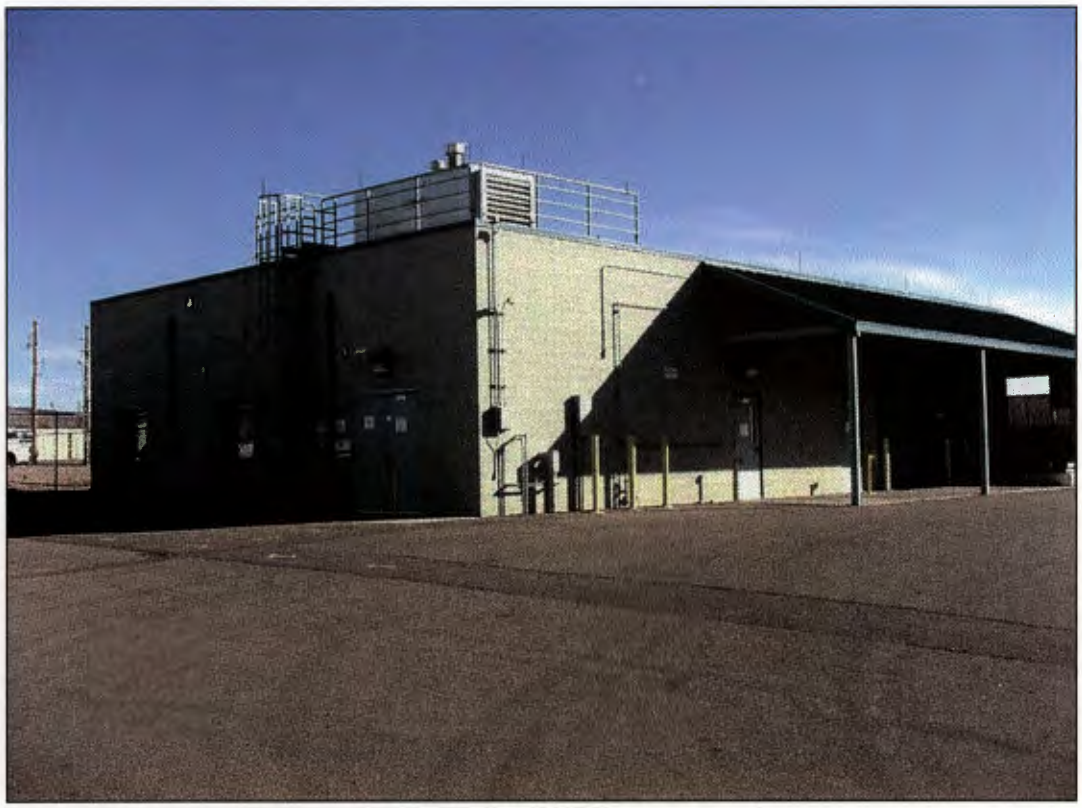


~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6920, South Bay
Photograph Taken on December 20, 2001
Process Codes: S01, T04

The south bay ~~of the existing RMWMF~~ is used for storage of RCRA-regulated wastes in containers and for treatment. The doors to three of the four rooms in the south bay are visible at the left edge of the picture. Treatment operations typically occur in these rooms. The roll-up door at the far (east) end of the room leads to an additional storage/work area. Containers of liquid RCRA-regulated waste are stored over the secondary containment sump shown on the right in the photograph. Containers of solid RCRA-regulated waste may also be stored over the sump.

~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~The south bay will be renovated to increase storage capacity for the future CWMF. The rooms on the left will be replaced with storage bays equipped with recessed secondary containment sumps. RCRA-regulated wastes will be stored on shelves in the bays.~~



~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6921
Photograph Taken on December 5, 2001
Process Codes: S01, T04

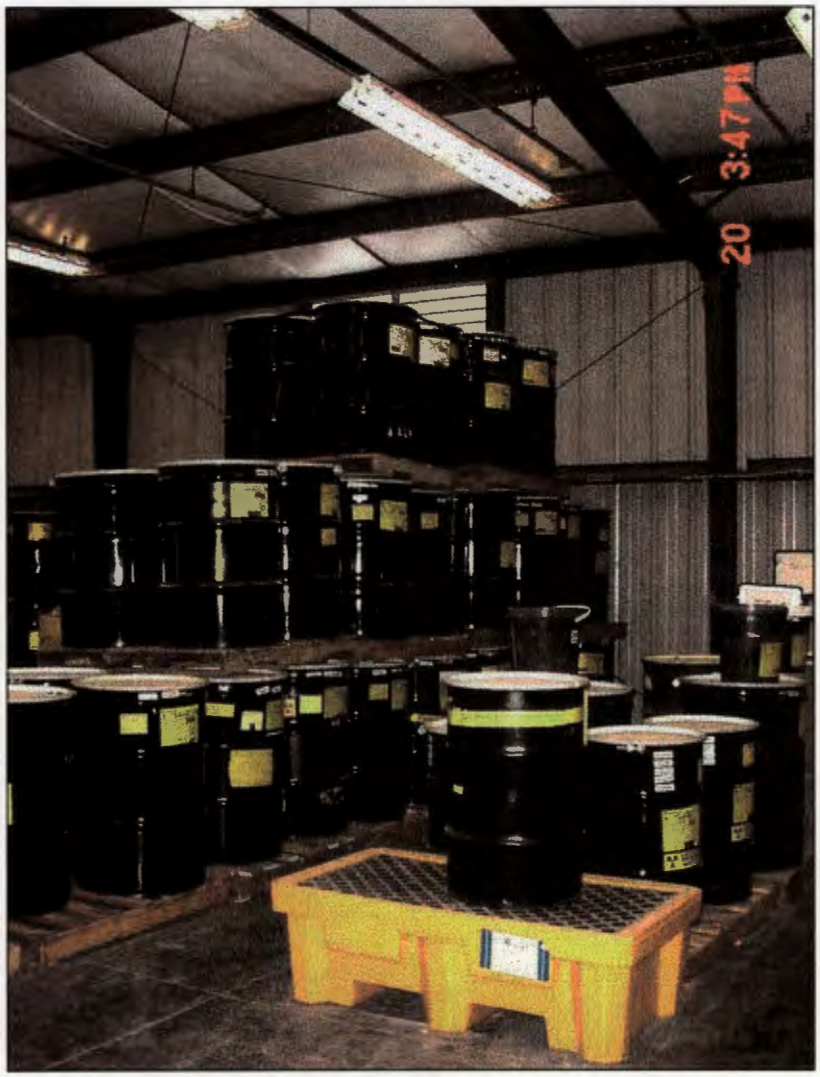
~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~Future CWMF modifications to Building 6921 include some modifications to the utility systems and will not affect waste management areas or waste management activities.~~

~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6925
Photograph Taken on December 5, 2001
Process Codes: S01, T04

~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~Future CWMF modifications to Building 6925 include some modifications to the utility systems and will not affect waste management areas or waste management activities.~~



~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6925, Interior
Photograph Taken on December 20, 2001
Process Codes: S01, T04

The drum in the front of the row on the right contains liquid RCRA-regulated waste and is stored on a portable spill containment pallet.

~~Existing~~ Radioactive and Mixed Waste Management Facility, Building 6926
Photograph Taken on December 5, 2001
Process Codes: S01

~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA regulated wastes).~~

~~Future CWMF modifications to Building 6926 include renovating the interior and modifying utility systems. The roll up door and personnel doors visible in the photograph will be relocated to the east (right) end of the building. The modified building interior will contain seven separate storage bays equipped with secondary containment sumps.~~

~~Existing~~ Radioactive and Mixed Waste Management Facility, Modular Storage Buildings
Photograph Taken on December 5, 2001
Process Code: S01

~~Sandia/DOE will physically modify the existing Radioactive and Mixed Waste Management Facility (RMWMF) between December 2004 and December 2007 to increase capacity. The modified facility will be called the Consolidated Waste Management Facility (CWMF). Current RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

~~Future CWMF modifications include installation of two additional modular storage buildings, similar to the buildings shown here.~~

Sandia National Laboratories/New Mexico General Part B Permit Renewal Request/Application

Revision ~~4~~6.0

~~November 2004~~October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

LIST OF MODULES

Module	Title
I	HWMF-Hazardous Waste Management Facility
II	TTF-Thermal Treatment Facility
III	RMWMF~~/CWMF~~-Radioactive and Mixed Waste Management Facility~~/Consolidated Waste Management Facility~~
IV	Reserved
V	AHCF-Auxiliary Hot Cell Facility
VI	MSB-Manzano Storage Bunkers

ACRONYMS AND ABBREVIATIONS

µg/m^3	microgram(s) per cubic meter
20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
A/BCAQCB	Albuquerque/Bernalillo County Air Quality Control Board
AHCF	Auxiliary Hot Cell Facility
ALARA	as low as reasonably achievable
ARPA	Archeological Resources Protection Act
ASTM	American Society for Testing and Materials
CMU	concrete masonry unit
~~CWMF~~	~~Consolidated Waste Management Facility~~
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DQO	data quality objective
DR	disposal request
EC	Emergency Coordinator
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ER	Environment Restoration
ERO	Emergency Response Organization
^{o}F	degree(s) Fahrenheit
ft	foot/feet

ACRONYMS AND ABBREVIATIONS (Continued)

ft^2	square foot/feet
ft^3	cubic foot/feet
HEPA	high efficiency particulate air
HSWA	Hazardous and Solid Waste Amendments
HWMF	Hazardous Waste Management Facility
IC	Incident Commander
ICS	Incident Command System
ID	inner diameter
in.	inch(es)
KAFB	Kirtland Air Force Base
KOP	knowledge of process
lb/ft^2	pound(s) per square foot/feet
LDR	land disposal restriction
m^3	cubic meter(s)
mi	mile(s)
mph	mile(s) per hour
MSB	Manzano Storage Bunkers
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NMED	New Mexico Environment Department
~~OKSO~~	~~Office of Kirtland Site Operations~~
ppmw	part(s) per million by weight

Table 1
Resource Conservation and Recovery Act – Regulated Waste Management Units Included in Part 2 of Comprehensive Part B Permit Request

Name	Acronym	Location, Size	Types of Operations	Types of Waste	Operating Status	Permit Status
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. 1.35 acres	Storage, Repackaging	All wastes listed in General Part A	Existing, operational	Permit expired August 6, 2002. Submitted renewal request February 6, 2002. Requesting that permit be updated and renewed for continued operation.
Thermal Treatment Facility	TTF	Northern part of TA-III. 196 square feet	Treatment	Ignitable, reactive, toxic, and listed wastes	Existing, on standby	Permit expires November 4, 2004. Submitted renewal request February 6, 2002. Requesting that permit be updated and renewed for continued operation.
Radioactive and Mixed Waste Management Facility~~/ Consolidated Waste Management Facility~~[a]	RMWMF~~/ CWMF~~	Southeast corner of TA-III. 3.11 acres	Storage, Treatment, Repackaging	All wastes listed in General Part A	Existing, operational	Interim status. Requesting that permit be issued using updated information provided in this application.
Auxiliary Hot Cell Facility	AHCF	TA-V. 5578 square feet	Storage, Treatment, Repackaging	All wastes listed in General Part A	Existing, expected to start operations in 2006~~5~~	Added under interim status. Requesting that permit be issued using information provided in this application.
Manzano Storage Bunkers (set of 5 Units)	MSB	In Manzano Area on KAFB. 0.4 acres occupied by 5 bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	All wastes listed in General Part A	Existing, operational	Interim status. Requesting that permit be issued using updated information provided in this application.

~~[a] Sandia/DOE will physically modify the existing RMWMF during the next three years to increase capacity; the modified facility will be called the CWMF. RWMWF RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

All containers are kept closed unless wastes are being added, removed, inspected, sampled, repackaged, or treated as noted in Section 1.2.2.

Ignitable and reactive wastes are labeled and separated from other wastes. Such wastes may be stored in designated WMAs at each Unit, as described in the Unit-specific modules. Open flames and welding activities are prohibited in the vicinity of ignitable or reactive wastes at all Units. If the wastes cannot be removed from the area before such activities take place, the wastes are protected by a non-combustible barrier before and during work. Hot surfaces, frictional heat, sources of sparks, and radiant heat (e.g., heat-generating wastes) are also prohibited in the vicinity of ignitable and reactive wastes. Unit personnel are not allowed to operate forklifts or other motorized equipment in the vicinity of open containers of ignitable or reactive wastes unless such equipment is designed for use in flammable environments.

Spark-proof tools may be used to open and close containers holding ignitable or reactive wastes. When large quantities of flammable or reactive liquids are transferred from one container to another, grounding procedures are typically used. During such operations, each container is connected to a grounding cable that remains in place during liquid transfer to dissipate static charge created by liquid flow.

Smoking is not allowed within any Unit. "No Smoking" signs are conspicuously placed at the entrance to each Unit, as required by 20 NMAC 4.1.500/40 CFR 264.17(a) [10-1-03].

Ignitable and reactive wastes are stored under controlled conditions as needed to prevent spontaneous combustion. For example, pyrophoric wastes (liquids or solids that can ignite in contact with air without an external ignition source) are stored in closed containers under oil or other inert liquid, or in sealed containers under an inert gas, to prevent contact with air and moisture.

Water-reactive wastes may be stored in WMAs equipped with automatic water sprinkler systems. When water-reactive wastes are present in such WMAs, Unit personnel will isolate the wastes with water-resistant barriers such as cabinets or overpack drums to keep water from coming into contact with the waste.

Buildings and areas where operations include open containers of ignitable or reactive wastes are equipped with intrinsically safe (spark-proof) electrical systems. All other buildings are equipped with electrical systems that meet applicable codes (e.g., storage of hazardous materials).

1.1.2.2 Precautions to Prevent Uncontrolled Reactions (20 NMAC 4.1.500/40 CFR 264.17[b, c], 40 CFR 264.176, 40 CFR 264.177 and 40 CFR 264.17[b])

Unit personnel rarely mix incompatible wastes together or with other materials. Personnel perform treatment of ignitable and reactive wastes at the TTF, ~~existing~~ RMWMF~~/future CWMF~~, and AHCF. As described in Section 8.0 of Modules II, III, and V, Unit personnel plan such activities carefully to prevent reactions that could:

8.0 TREATMENT

Sandia/DOE perform and plan to perform limited treatment of RCRA-regulated wastes at some SNL/NM Units (i.e., TTF, ~~existing~~ RMWMF~~/future CWMF~~, AHCF). Treatment will be performed to render RCRA-regulated wastes nonhazardous and/or safer to manage on site and/or dispose of off site. Treatment operations requiring a permit are described in Section 8.0 of the Unit-specific module for each Unit where treatment is performed.

8.1 Handling and Treatment of Unstable Wastes

Because of the nature of Sandia/DOE activities, there are a number of chemicals that are used in various laboratories that, with age or improper storage, may become explosive, unstable, or dangerous to handle. Examples of such chemicals include unknown or damaged compressed gas or liquid cylinders; or expired, sensitized chemicals, such as picric acid, crystallized ether, tetrahydrofuran, heavy metal azides, or organic peroxides. Unit personnel may be required to handle and dispose of unstable chemicals.

If the material has deteriorated such that handling the chemical would pose an imminent and substantial threat of a release that could be harmful to human health or the environment, on-site stabilization may be performed to render the material nonhazardous. Treatment may include venting of known, nonhazardous gas cylinders or stabilizing (e.g., rehydrating) the chemical. Unknown gas cylinders are not vented to the atmosphere; however, a sample of the gas may be taken and analyzed to characterize the gas. According to 20 NMAC 4.1.500/ 40 CFR 264.1(g)(8) [10-1-03], and 20 NMAC 4.1.900/40 CFR 270.1(c)(3)(i) [10-1-03], treatment of this type is exempt from permitting requirements and from 20 NMAC 4.1.500/40 CFR 264. Once the material has been stabilized and is safe to handle, it will be disposed of according to normal procedures through the appropriate Unit.

8.2 Preventing Releases to the Atmosphere (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC)

Subpart AA

Sandia/DOE do not use any of the processes identified in 20 NMAC 4.1.500/40 CFR 264, Subpart AA [10-1-03] for the treatment of RCRA-regulated wastes. Therefore, the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart AA [10-1-03] do not apply to SNL/NM.

Subpart BB

During treatment, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations $\geq$ 10 percent by weight in process equipment identified in 20 NMAC 4.1.500/ 40 CFR 264, Subpart BB [10-1-03] except during treatment at the TTF. Sandia/DOE

occasionally manage such waste using process equipment identified above at the existing RMWMF/future CWMF and AHCF.

Equipment at the Units is used less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052-.1060 as noted in 20 NMAC 4.1.500/40 CFR 264.1050(f). A list of the equipment will be maintained in the Unit records, as described in Section 9.0.

Subpart CC

RCRA-regulated wastes are treated in containers at the existing RMWMF/future CWMF and AHCF. Such wastes and treatment processes may be subject to 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03], "Air Emission Standards for Tanks, Surface Impoundments, and Containers," based on applicability criteria specified in 20 NMAC 4.1.500/40 CFR 264.1080 [10-1-03]. These standards are not applicable to:

1. Containers that held RCRA-regulated waste prior to December 6, 1996, and to which no RCRA-regulated waste has been added on or after December 6, 1996;

2. Containers having a design capacity of less than or equal to 0.1 cubic meter (m^3) or approximately 26 gallons;

3. Containers used solely for on-site management of RCRA-regulated waste placed in the Unit as a result of implementing remedial activities under corrective action authorities;

4. Containers used solely for the management of radioactive mixed waste; or

5. Containers equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation (20 NMAC 4.1.500/40 CFR 264.1080[b] [10-1-03].

Furthermore, a container is exempt from the 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03] container standards in 20 NMAC 4.1.500/40 CFR 264.1086 [10-1-03] if:

- The RCRA-regulated waste in a container has an average volatile organic concentration at the point of waste origin of less than 500 parts per million by weight (ppmw), or

- The organic content of all RCRA-regulated waste entering a container has been reduced by an organic destruction or removal process achieving any one of the conditions specified in 20 NMAC 4.1.500/40 CFR 264.1082(c)(2)(i)-(vi) [10-1-03] (20 NMAC 4.1.500/40 CFR 264.1082 [10-1-03]), or

- The RCRA-regulated waste in the container meets the treatment standards in 20 NMAC 4.1.800/40 CFR 268.40 for organic hazardous constituents present in the waste.

12.0 CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Francisco A. Figueroa~~Les E. Shephard~~ Date Signed
Vice President, Infrastructure Operations and Business Management ~~Energy, Information, and Infrastructure Surety~~
and Chief Financial Officer
Sandia Corporation
Albuquerque, New Mexico
Co-Operator

Patty Wagner Date Signed
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Albuquerque, New Mexico
Owner and Co-Operator

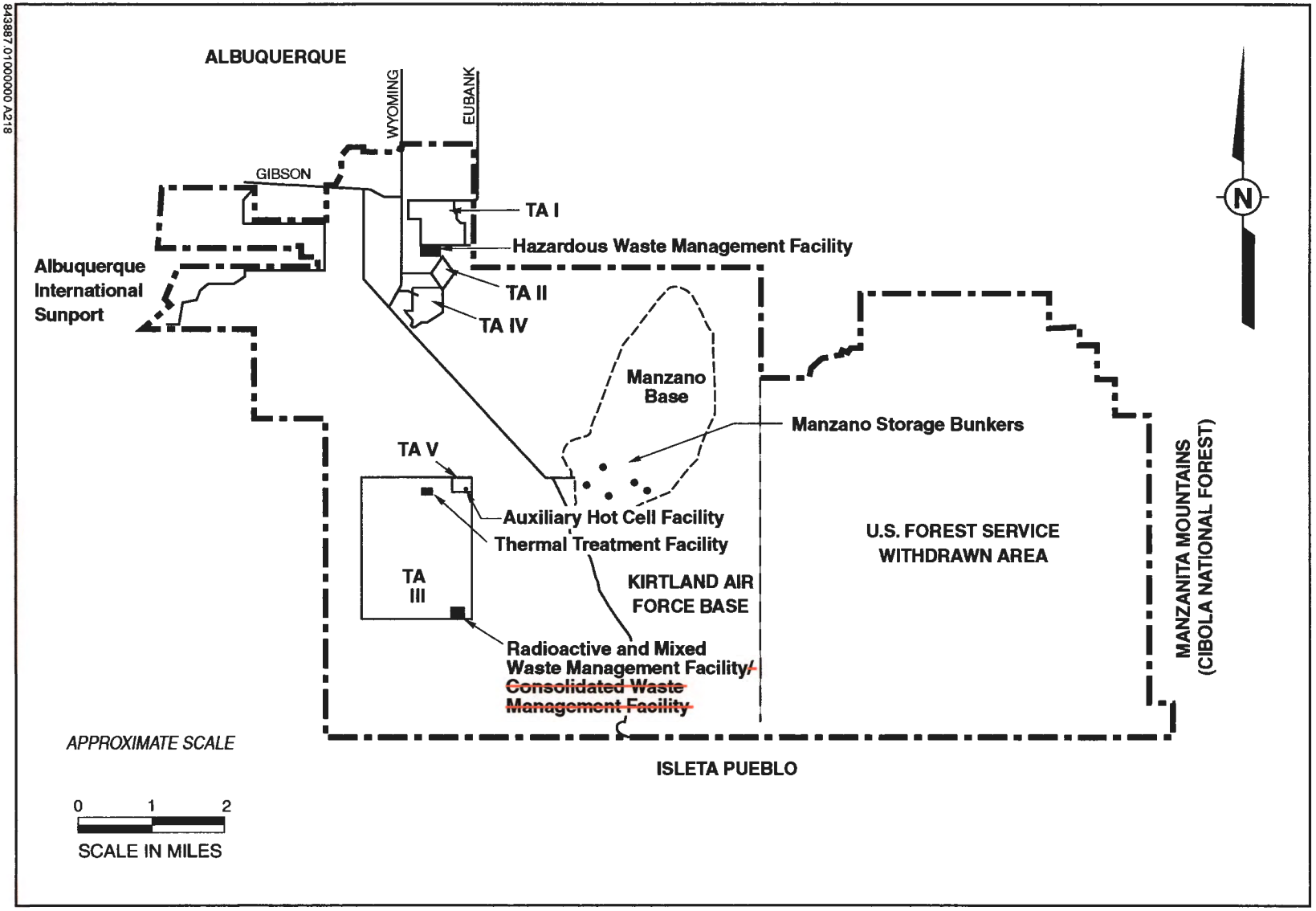


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Figure 1

Sandia National Laboratories/New Mexico
Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units in Relation to Kirtland Air Force Base

APPENDIX A

SITE-WIDE DESCRIPTION FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
AHCF	Auxiliary Hot Cell Facility
~~CWMF~~	~~Consolidated Waste Management Facility~~
DOE	U.S. Department of Energy
ft	foot/feet
HWMF	Hazardous Waste Management Facility
KAFB	Kirtland Air Force Base
MSB	Manzano Storage Bunkers
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
TA	Technical Area
TTF	Thermal Treatment Facility
Unit	RCRA-regulated waste management unit
USFS	U.S. Forest Service

Table A-1
RCRA-Regulated Waste Management Units

Unit Name	Acronym	Location, Size	Types of Operations	Operating Status
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. 1.35 acres	Storage, Repackaging	Existing, operational
Thermal Treatment Facility	TTF	Northern part of TA-III. 196 square feet	Treatment	Existing, on standby
~~Consolidated Waste management Facility/~~Radioactive and Mixed Waste Management Facility[a]	~~CWMF/~~ RMWMF	Southeast corner of TA-III. 3.11 acres	Storage, Treatment, Repackaging	Existing, operational[a]
Auxiliary Hot Cell Facility	AHCF	TA-V. 5578 square feet	Storage, Treatment, Repackaging	Existing, expected to start operations in 2006~~3~~
Manzano Storage Bunkers (Set of five Units)	MSB	In Manzano Area on KAFB. 0.4 acres occupied by bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	Existing, operational

~~[a] Sandia/DOE will physically modify the existing RMWMF during the next three years to increase capacity; the modified facility will be called the CWMF. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

SNL/NM (U.S. Environmental Protection Agency Identification Number NM5890110518) is a multidisciplinary laboratory engaged in research and development of weapons and alternative energy sources. SNL/NM is managed by Sandia, a wholly-owned subsidiary of Lockheed Martin, for the DOE, with work also performed for others. Activities at SNL/NM fall under North American Industry Classification System Numbers 92811 (National Security) and 54171 (Research and Development in the Physical, Engineering, and Life Sciences).

The major Sandia/DOE research and administration functions are located at five Technical Areas (TAs), designated I through V. TAs I, II, and IV are located north of Tijeras Arroyo and Arroyo del Coyote (Figures A-2 and A-3). TAs III and V occupy contiguous tracts of land south of Tijeras Arroyo and west of Arroyo del Coyote.

A.2 SECURITY PROCEDURES AND EQUIPMENT (20 NMAC 4.1.900/40 CFR 270.14[b][4]; 20 NMAC 4.1.500/40 CFR 264.14)

In accordance with 20 NMAC 4.1.500/40 CFR 264.14(a) [10-1-03], an owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of a facility. The following sections describe the security provisions provided at SNL/NM to prevent unknowing or unauthorized entry onto the active portions of Units.

A.4.3 Floodplain Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][iii through v]; 20 NMAC 4.1.500/40 CFR 264.18[b])

SNL/NM is located near the middle of the upper Rio Grande basin that originates in southern Colorado. SNL/NM occupies generally flat, gently west-sloping mesa land located between the Rio Grande Valley to the west and the Manzano and Manzanita Mountains to the east. The nearest surface water body is the Rio Grande, located about 7 miles west of SNL/NM.

The locations of the 100-year floodplains of Tijeras Arroyo and Arroyo del Coyote are shown in Figure A-2. The floodplain portion of Figure A-2 was derived from a U.S. Army Corps of Engineers map (COE, 1979), prepared using Federal Emergency Management Administration guidelines that are equivalent to the mapping techniques used to prepare Federal Insurance Administration floodplain maps. None of the SNL/NM Units are located within a 100-year floodplain, as defined in 20 NMAC 4.1.500/40 CFR 264.18(b)(2)(i) [10-1-03], and as regulated under 20 NMAC 4.1.500/40 CFR 264.18(b)(1) [10-1-03] and 20 NMAC 4.1.900/ 40 CFR 270.14(b)(11)(iv) [10-1-03]. Therefore, all SNL/NM Units are compliant with the floodplain standards.

A.5 TOPOGRAPHIC MAPS (20 NMAC 4.1.900/40 CFR 270.14[b][19])

Figure A-2 is provided to meet the requirements of the 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03]. Figure A-2 is a topographic map of KAFB that shows the SNL/NM TAs and includes the following:

- Map scale and date
- The 100-year floodplain area
- Surface water bodies, including intermittent streams
- Wind roses
- Map orientation (north arrow)
- Legal boundaries of the SNL/NM facility
- Access control features (i.e., fences and gates)
- Groundwater monitoring, withdrawal, and water supply wells both on site and off site at KAFB and SNL/NM in the vicinity of the Units
- Buildings and other structures (e.g., access and internal roads)
- Locations of the HWMF, TTF, ~~existing~~ RMWMF~~/future CWMF~~, AHCF, and MSB.
- Areas of residential land use within KAFB.

These items are also shown on topographic maps in the Unit-specific modules. The Unit-specific maps show Unit features and the area surrounding each Unit in greater detail.

A.5.1 Wells (20 NMAC 4.1.900/40 CFR 270.14[b][19][ix])

There are no injection wells at SNL/NM. Groundwater monitoring wells and withdrawal wells located at SNL/NM are shown in Figure A-2. None of the wells shown in Figure A-2 are expected to be influenced by activities at any SNL/NM RCRA-regulated waste management Unit because waste management activities occur in contained areas. KAFB water-supply wells, City of Albuquerque wells, and other wells located within 1,000 ft of the KAFB boundaries are shown on Figure A-2.

A.5.2 Wind Rose (20 NMAC 4.1.900/40 CFR 270.14[b][19][v])

A network of meteorological towers is used to monitor weather conditions at SNL/NM. Data indicate that the overall prevailing winds at SNL/NM are from the east, except that winter winds at the 100-ft elevation are from the north. Rapid night time ground cooling after sunset on cloudless or near-cloudless nights produces strong temperature inversions in which temperature increases with elevation (an atmospheric condition resulting from a reversal of the normal temperature lapse rate). This rapid cooling effect generates nighttime drainage winds out of the mountains, which are strongest at the mouths of the larger canyons. Nighttime winds in these areas are typically from the east and southeast, while daytime winds are typically from the southwest, west, and northwest. It also appears that Tijeras Arroyo diverts surface air flow between TAs III and V on the south and TAs I, II, and IV, and Albuquerque on the north (SNL/NM 2002, 2004). The channeling of wind through Tijeras Canyon can be seen by comparing the wind roses from these two areas (SNL/NM, 2002). Figure A-2 shows wind roses that summarize wind speeds and directions for TA-II (near the HWMF), the southeast corner of TA-III (near the ~~existing~~ RMWMF~~/future CWMF~~), and the northeast corner of TA-III (near the AHCF and TTF). Wind roses are also shown on the Unit-specific topographic maps.

A.5.3 Surrounding Land Use (20 NMAC 4.1.900/40 CFR 270.14[b][19][iv])

Albuquerque is the largest population center in Bernalillo County and also the closest population center to KAFB and SNL/NM. According to Census 2000 data, the total population of the Albuquerque metropolitan area is 448,607 (U.S. Census Bureau, 2000). This population includes permanent residents of KAFB living in the KAFB housing areas. An additional 108,071 people live outside the Albuquerque metropolitan area but within Bernalillo County (U.S. Census Bureau, 2000).

SNL/NM is essentially surrounded by KAFB, with co-use agreements on some portions of KAFB. An additional 22,500-acre area to the east of KAFB has been withdrawn from the U.S. Forest Service (USFS) for the exclusive use of KAFB. High explosive tests, explosives storage, and other operations are buffered and barricaded by the mountainous terrain toward the eastern edge of this withdrawal area. Areas to the west and south, by agreements with the State of New Mexico and Isleta Pueblo, serve as buffer zones for other test operations.

Land use in the vicinity of SNL/NM and KAFB is urban to the northwest, north, and northeast. Undeveloped grazing land of Isleta Pueblo is located to the south. Undeveloped public grazing land lies to the west and southwest of KAFB and the buffer zones.

The urbanized area immediately northeast, north, and northwest of SNL/NM is predominantly residential, with commercial development along more heavily-traveled streets. Military (i.e., KAFB) housing is located north of F Street (adjacent to the northern edge of SNL/NM TA-I). Additional military housing is located west of Pennsylvania Avenue, north of Hardin Blvd (west of SNL/NM TA-1), as shown on Figure A-2. Albuquerque International Sunport is located west of the northern part of KAFB. Figure A-8 shows land uses for the areas adjacent to and within KAFB boundaries.

Some areas of KAFB and SNL/NM are within flight paths for aircraft that are taking off and landing at the Albuquerque International Sunport. Sandia/DOE studied the likelihood and potential impact of airplane crashes into SNL/NM facilities (DOE, 1999). The analysis covered several operations and facilities throughout SNL/NM, including the ~~existing~~ RMWMF and facilities near the HWMF and the AHCF. Such accidents were determined to be very unlikely; the annual probability varies from 2.8 in 1,000,000 at the ~~existing~~ RMWMF~~/future CWMF~~ to 90 in 1,000,000 near the HWMF.

The SNL/NM facility is comprised of five TAs and several additional test areas spread over 17,845 acres, which are under diverse land ownership. SNL/NM occupies 2,842 acres owned by the DOE and an additional 15,003 acres that have been made available through a series of land-use agreements or permits among DOE-Albuquerque Operations, DOE Transportation Safeguards Division, KAFB, USFS, Bureau of Land Management, State of New Mexico, Phillips Laboratory (a private contractor), DOE Central Training Academy, and Isleta Pueblo.

The HWMF is approximately 2 miles south of Interstate 40 and 6 miles east of Interstate 25 and downtown Albuquerque. At their nearest points, the AHCF and the TTF are approximately 3 miles south of Interstate 40 and 6.5 miles east of Interstate 25 and downtown Albuquerque. The MSB are approximately 5 miles south of Interstate 40 and 7.5 miles east of Interstate 25 and downtown Albuquerque. The ~~existing~~ RMWMF~~/future CWMF~~ is approximately 5.5 miles south of Interstate 40 and 6.5 miles east of Interstate 25 and downtown Albuquerque. Land use in the vicinity of each RCRA-regulated Unit is predominantly or completely industrial. There are no residential areas within 1 mile of any of the SNL/NM Units. The closest residences are in Zia Park, a KAFB residential area located approximately 1 mile west of TA-I and approximately 3.9 miles north-northwest of TA-V.

A.5.4 Drainage Control Features (20 NMAC 4.1.900/40 CFR 270.14(b)(8)(ii)

Drainage control features (e.g., run-on/runoff, drainage barriers, storm water discharge) are shown on figures provided in each Unit-specific module.

A.5.5 Waste Management Areas

Locations of the waste management areas at each SNL/NM Unit are shown on figures provided in each Unit-specific module.

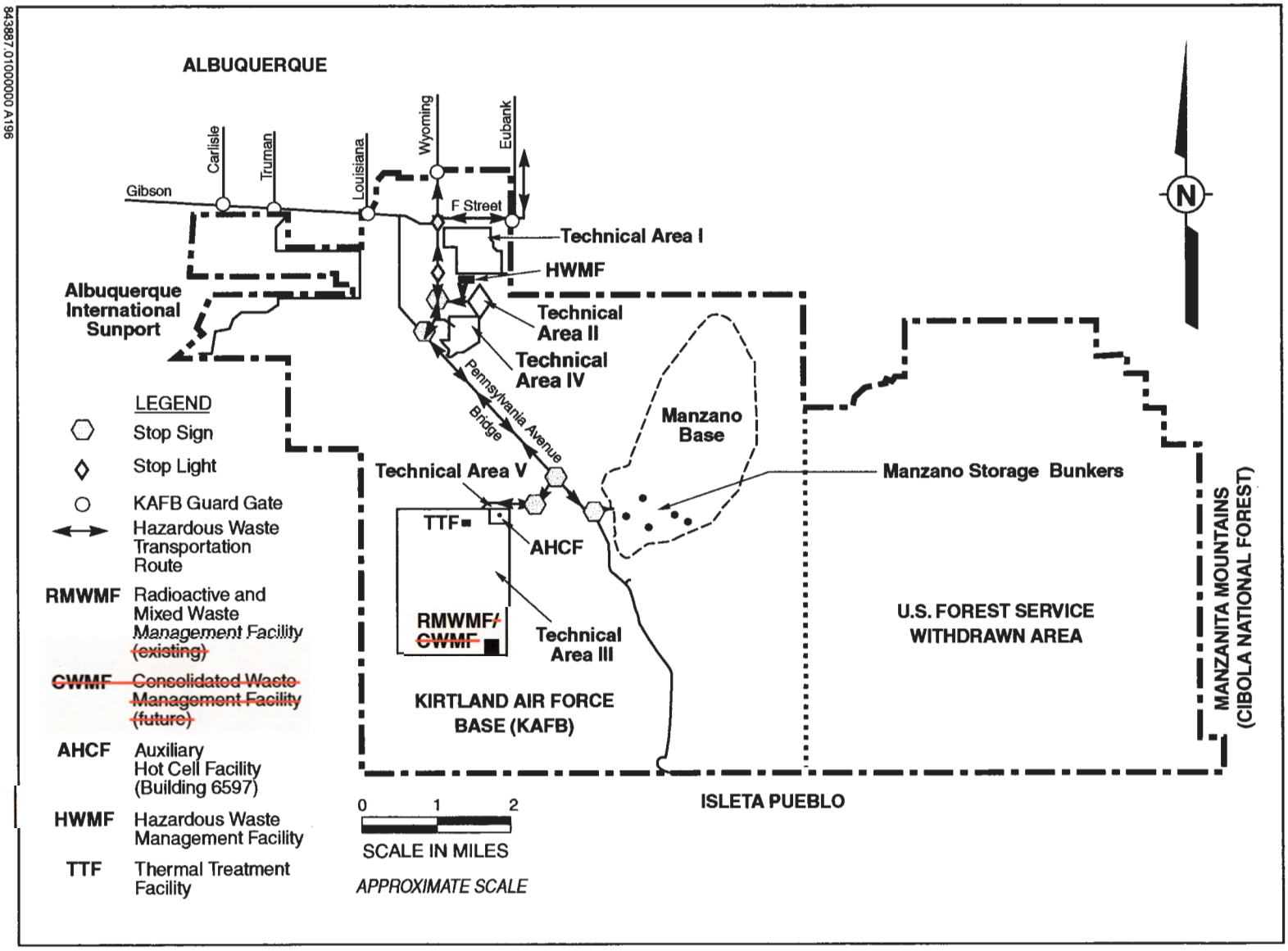

Figure A-4
Resource Conservation and Recovery Act-Regulated Waste Transportation Routes, Sandia National Laboratories/New Mexico

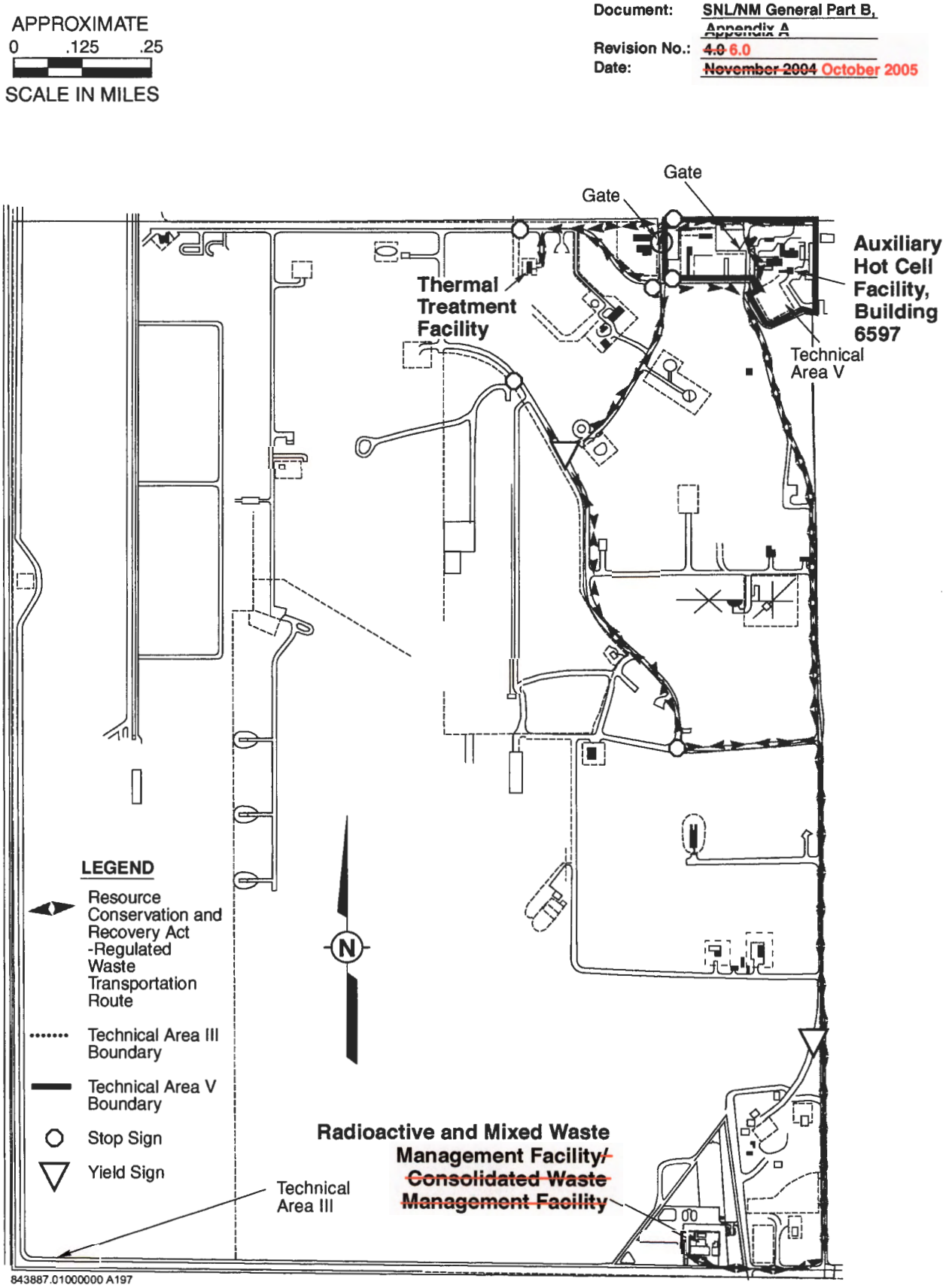

Figure A-6
Resource Conservation and Recovery Act-Regulated Waste Transportation Routes in Technical Areas III and V

APPENDIX B

SITE-WIDE WASTE ANALYSIS PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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ABBREVIATIONS AND ACRONYMS

20 NMAC 4.1.*XX*	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *XX*
40 CFR *XXX.XX*	Code of Federal Regulations, Title 40, Part *XXX*, Section *XXX.XX*
AHCF	Auxiliary Hot Cell Facility
ASTM	American Society for Testing and Materials
~~CWMF~~	~~Consolidated Waste Management Facility~~
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DR	disposal request
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FFCO	Federal Facilities Compliance Order
KAFB	Kirtland Air Force Base
LDR	land disposal restriction
MSDS	Material Safety Data Sheet
PETN	pentaerythritol tetranitrate
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
R&D	research and development
RMWMF	Radioactive and Mixed Waste Management Facility
RTL	regulatory threshold limit
Sandia	Sandia Corporation

- ~~Future Consolidated Waste Management Facility (CWMF) at the existing RMWMF: The CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes) following physical modifications to RMWMF facilities;~~

- Auxiliary Hot Cell Facility (AHCF): Container storage and repackaging of RCRA-regulated wastes and treatment of RCRA-regulated wastes in containers; and

- Manzano Storage Bunkers: Container storage of RCRA-regulated wastes.

The General Part A lists the EPA Hazardous Waste Numbers that may* be assigned to the wastes stored in containers at SNL/NM Units1. The General Part A also lists the EPA Hazardous Waste Numbers that may* be assigned to the wastes that will be treated in containers or the miscellaneous unit at SNL/NM.

B.1.2 SNL/NM Waste-Generating Processes and Activities

RCRA-regulated waste is generated at SNL/NM from design, development, and testing of weapon systems and components; material research; pulsed power research; reactor safety research; support activities; RCRA corrective action activities (through the Sandia/DOE Environmental Restoration [ER] project); and decontamination and decommissioning (D&D) activities. Sandia/DOE also accept small volumes of RCRA-regulated waste for storage and/or treatment from off-site facilities. Some of the RCRA-regulated waste generated at SNL/NM also meets the definition of low-level or transuranic waste as these terms are defined in DOE Order 435.1-1 (DOE, 1999).

It is not feasible to provide detailed descriptions of all possible wastes that could be managed at one or more of the SNL/NM Units. Table B-1 summarizes information on RCRA-regulated waste types typically generated at SNL/NM. The following sections contain general descriptions of the typical waste types the associated waste-generating processes and/or activities, and the waste forms associated with each type. For the purposes of this WAP, a waste type is a general category used to describe one or more wastes or waste streams that share key features (e.g., type of waste-generating process, waste form). Also for the purposes of this WAP, a waste stream is defined as waste that is routinely generated as part of a well-defined waste-generating process and is distinguishable from other waste by some unique combination of one or more of the following: specific waste source or generating process; EPA Hazardous Waste Numbers; SNL/NM Unit-specific handling requirements; off-site treatment, storage, and disposal facility (TSDF) handling requirements; LDR status; waste compatibility issues; or waste characterization requirements.

1 In this WAP, the term "may" when marked with an asterisk, denotes a statement where the uncertainty implied by "may" instead of "will" is technically accurate and appropriate.

B.1.4 Types of Waste Treated at SNL/NM Units

RCRA-regulated waste is treated at the TTF, which is a miscellaneous unit. RCRA-regulated wastes are treated in containers at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF. Typical RCRA-regulated wastes and waste streams that are treated at SNL/NM Units are described in the following sections. Sandia/DOE personnel use the waste characterization procedures described in this WAP (Section B.2) to determine whether treated wastes and treatment residues are RCRA-regulated wastes, to determine whether they meet the treatment standards in 20 NMAC 4.1 800/40 CFR 268, and to assign appropriate EPA Hazardous Waste Numbers.

B.1.4.1 Waste Treated at the TTF

Explosive (D003) waste treated at the TTF is a silver acetylide/silver nitrate (SASN) mixture that is generated as a result of a specific process that is well defined and well controlled, enabling Sandia/DOE to characterize the waste stream on the basis of knowledge of the process and the raw materials used. SASN is present in the solid and liquid wastes treated at the TTF. The waste also meets the definition of ignitable waste (D001), and often bears EPA Hazardous Waste Numbers D011 and F003, depending on the silver concentration and the presence of spent solvents. The treatment is performed to eliminate the hazardous waste characteristics of reactivity and ignitability. The waste is composed of:

- A liquid or slurry containing varying amounts of acetone, acetonitrile, nitric acid, water, and typically some SASN crystals. The liquid or slurry may* also contain pentaerythritol tetranitrate (PETN), another explosive.

- Solid items that may* contain small quantities of SASN, including paper wipes, cotton rags and swabs, filter elements, incidental silver nitrate that did not react to form SASN, and traces of Viton™ fluoroelastomer. Small quantities of PETN may* also be present on the solids.

Furthermore, the explosive waste thermally treated at the TTF is not:

- Potentially fragment-producing when treated,

- Explosives that are confined,

- Explosives packaged as a unit with items that could become projectiles (e.g., wood, metal, or plastic) when treated, or

- Unknown or uncharacterized explosives.

Specific information about the treatment process is included in Section 8.0 of Module II.

B.1.4.2 Wastes Treated at the ~~Existing~~ RMWMF~~/Future CWMF~~ and AHCF

RCRA-regulated wastes that are treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF may* be

generated from specific R&D processes and activities. Other wastes may* be manufactured items or radioactive mixed wastes that are not amenable to sampling and analysis. Consequently, Sandia/DOE characterize RCRA-regulated wastes and waste streams treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF using process knowledge, supplemented by sampling and analysis as needed. The process knowledge often includes knowledge of the item or a full accounting of the raw materials used in generating the waste. To ensure that detailed and accurate waste characterization exists, the process outlined in Section B.2 is used.

Wastes that are treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF include any of the following:

- Solid items exhibiting the hazardous waste characteristics of ignitability and/or reactivity;
- Solid items (including debris) exhibiting the hazardous waste characteristic of toxicity (excluding the high mercury subcategory) or containing spent solvents or commercial chemical products;
- Liquid wastes and wastewaters exhibiting the hazardous waste characteristics of ignitability, corrosivity, or reactivity; and
- Liquid wastes and wastewaters containing toxicity characteristic (TC) metals .

Treatment processes and the associated treatment goals at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are discussed in Section 8.0 of Modules III and V, respectively. They include:

- Chemical deactivation to eliminate the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity.
- Thermal deactivation to eliminate the hazardous waste characteristic of reactivity in reactive wastes, including explosives other than primary explosives.
- Amalgamation to immobilize elemental mercury into a solid, leach-resistant form.
- Stabilization to immobilize hazardous waste toxicity characteristic metals and/or eliminate free liquids.
- Macroencapsulation to immobilize hazardous constituents.
- Physical treatment to change the physical character of the waste to make it more amenable to subsequent treatment and/or storage, or to reduce waste volume.

The RCRA-regulated wastes to be treated at the ~~existing~~ RMWMF~~/future CWMF~~ and the AHCF typically are assigned one or more of the following EPA Hazardous Waste Numbers: D001-D011, D018-D043, and F001-F005. As noted in the Part A, other RCRA-regulated wastes may* also be treated if the treatment methods are appropriate. The EPA Hazardous Waste Numbers for RCRA-regulated waste to be treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are determined through the characterization process described in Section B.2, in which available knowledge is supplemented by sampling and analysis..

B.1.4.2.1 Waste Treated by Chemical Deactivation

RCRA-regulated wastes are treated by chemical deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF to remove the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity. RCRA-regulated wastes that are chemically deactivated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF generally consist of solids or liquids generated during R&D activities, and are described below.

Laboratory chemical waste consists of commercial chemical products; manufacturing chemical intermediates; solid laboratory materials (such as laboratory wipes); or excess, off-specification, or no longer usable chemical products that may* contain water-reactive metals (such as elemental sodium or lithium); pyrophoric metal powders and particulates; or acidic or alkaline liquids.

Process waste consists of liquid or solid chemicals, solutions, or mixtures that are acidic, alkaline, or oxidizers.

B.1.4.2.2 Waste Treated by Thermal Deactivation

RCRA-regulated wastes are treated by thermal deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ to remove the hazardous waste characteristic of reactivity. These wastes generally consist of solid items and are generated primarily from R&D activities and ER Project activities, and are described below.

Batteries consist of unfired waste thermal batteries that contain reactive material.

- *Explosive waste* consists of explosives and explosive components, and solid items (e.g., paper towels, rags, and wipes) contaminated with static-sensitive explosives. The quantity of explosive (reactive) waste thermally treated at the ~~existing~~ RMWMF~~/future CWMF~~ at any one time will be equivalent to 25 grams of trinitrotoluene or less.

B.1.4.2.3 Waste Treated by Amalgamation

RCRA-regulated wastes are treated by amalgamation at the ~~existing~~ RMWMF~~/future CWMF~~ to immobilize elemental mercury into a solid, leach-resistant form that has minimal potential for emission of mercury vapor. The RCRA-regulated waste that is treated by amalgamation is liquid elemental mercury.

B.1.4.2.4 Waste Treated by Stabilization

RCRA-regulated wastes are treated by stabilization at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF to immobilize hazardous waste toxicity characteristic metals and/or eliminate free liquids.

RCRA-regulated wastes that are stabilized at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF generally consist of liquids, soils, and particulate-type wastes.

Laboratory chemical waste consists of commercial chemical products, manufacturing chemical intermediates, small pieces of solid laboratory materials such as laboratory wipes, or excess, off-specification, or no longer usable chemical products in particulate or liquid forms that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D activities.

Process waste consists of liquid or solid chemicals, solutions, or mixtures that contain or are contaminated with hazardous waste constituents. This waste is generated primarily from R&D activities. The liquids are typically aqueous or oils.

Contaminated soil consists of soils that are contaminated with hazardous waste constituents. This waste is generated primarily from ER Project and other cleanup and excavation operations.

B.1.4.2.5 Waste Treated by Macroencapsulation

RCRA-regulated solid waste items, including debris, are treated by macroencapsulation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF to immobilize hazardous waste constituents.

Debris consists of solid, heterogeneous, compactable and non-compactable solids that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D, D&D, and ER Project activities.

B.1.4.2.6 Waste Treated by Physical Treatment

RCRA-regulated wastes are treated physically at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF to reduce waste volume and change the physical character of the waste to make it more amenable to subsequent treatment and/or storage. RCRA-regulated wastes that are physically treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF generally consist of solid items that exhibit the hazardous waste characteristics of ignitability, reactivity, and/or toxicity, and are described below.

Unknown solids consist of legacy wastes that originated from historical laboratory activities and can be dismantled. Waste items with hazardous waste constituents vary in size. The wastes typically exhibit the characteristics of ignitability, reactivity, and/or toxicity.

Debris consists of solid, heterogeneous, compactable and non-compactable materials, or solid items such as laboratory equipment or other laboratory items that were used in experiments or other processes that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D, D&D, and ER Project activities.

B.2.4.2 Waste to be Treated at the ~~Existing~~ RMWMF~~/Future CWMF~~ and AHCF

Wastes to be treated at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF will be characterized based on acceptable knowledge, supplemented by sampling and analysis if necessary before treatment takes place to meet the objectives noted above. For wastes that will be treated to meet the treatment standards, the characterization includes the presence of UHCs that are reasonably expected to be present if UHCs are part of the treatment standards.

B.2.5 Characterization of Treated Wastes

Treated wastes are characterized through knowledge of process, supplemented by analytical data as needed, using the general process described in Section B.2.1.2. In addition to the objectives listed in Section B.2.1.1, treated wastes and residues are characterized to determine one or more of the following, as applicable, for each waste:

- Whether the characteristic of interest has been treated effectively
- Compliance with applicable treatment standards if compliance is a treatment goal,
- Continued presence of UHCs that are reasonably expected to be present in the waste as generated if compliance with applicable treatment standards is a treatment goal,
- Presence of hazardous waste constituents and characteristics that could have been introduced during treatment,
- Whether the treated waste or residue requires further management as a RCRA-regulated waste, and/or
- Suitability for further treatment by one or more methods available on site to make the waste safer and more amenable to further management on site or off site.

These characterization criteria are summarized in Table B-3.

Characterization for treated wastes and residues derived from treatment processes will include consideration of both listed and characteristic wastes that were present in the untreated wastes. In particular, Sandia/DOE will follow the requirements of 20 NMAC 4.1.200/40 CFR 261.3(g) [10-1-03] in characterizing wastes that are listed solely because they exhibit one or more of the characteristics of ignitability, reactivity, or corrosivity.

Wastes that are treated using technologies specified in 20 NMAC 4.1.800/40 CFR 268.40-45 [10-1-03] will not necessarily be subjected to sampling and analysis. Such treatment technologies include but are not limited to physical treatment, deactivation, and macroencapsulation. In these cases, treatment effectiveness will be determined by visual examination of the treated waste and/or knowledge of the treatment process as discussed in Section 8.0 of Modules II, III, and V. Other treated wastes will be subjected to sampling and analysis to characterize the waste and determine the effectiveness of the treatment as appropriate.

B.2.5.1 Treated Wastes at the TTF

Waste residues from the thermal treatment of explosive (reactive) waste at the TTF include decomposition by-products. The principal by-products are ash (carbon) produced from burned solid items (e.g., paper, filters) and gases (i.e., nitrogen, water vapor, carbon dioxide, carbon monoxide, diatomic oxygen, and traces of nitrous oxides) produced by the decomposition of SASN, PETN, acetone, and acetonitrile. Elemental silver is also present in the ash when SASN is treated at the TTF.

The reactive and ignitable characteristics of the residue at the TTF is assessed by visually screening the residue in the burn pan for the presence of unreacted SASN (and PETN, as applicable).

Ash residue generated as a result of the treatment of explosive waste at the TTF is declared to be hazardous waste (D011) based on knowledge of the constituents and treatment process. Alternatively, Sandia/DOE may* use sampling and analysis to determine the silver content of the residue. The contents of the burn pan are containerized and transferred to one of the other SNL/NM Units for storage and transportation to an off-site TSDF. Sandia/DOE will characterize the residue as needed for further treatment or direct disposal at a permitted off-site TSDF.

Because the TTF is located outside, the steel-lined concrete pad periodically collects water from precipitation; the water drains into the catch tank. Unless waste spills, untreated waste "kicks out" (i.e., is ejected from the burn pan) during treatment, or otherwise contaminates the steel-lined concrete pad, the water collected in the catch tank consists of precipitation. If water collected in the catch tank is known to be contaminated with hazardous waste constituents treated at the TTF, arrangements will be made for disposal into the City of Albuquerque wastewater system with a one-time notice placed in the facility file in accordance with 20 NMAC 4.1.800/40 CFR 268.7(a)(6) [10-1-03]. If the wastewater cannot be discharged into the City of Albuquerque wastewater system, it will be handled through waste management procedures at one of the other SNL/NM Units.

B.2.5.2 Treated Wastes at the ~~Existing~~ RMWMF~~/Future CWMF~~ and AHCF

Effectiveness of treatment is determined one or more ways that are specific to the type of treatment and the waste undergoing treatment. Evaluations are described in detail in Section 8.3 of Modules III and V. Treated wastes and residues resulting from treatment of RCRA-regulated wastes at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are characterized using one or more of the following methods:

- Reactive metals, metal-containing particulates, and oxidizers treated by chemical deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are deactivated using water, a water/alcohol solution, other organic liquid, or portland cement. Alcohol and other organic liquids may* exhibit the characteristic of ignitability, and can typically be characterized using knowledge of the treatment process. Unit personnel use knowledge of process to determine whether the treated waste exhibits the hazardous waste characteristics of reactivity or ignitability, and the flash point test, as needed, for determination of ignitability. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Corrosive aqueous liquids treated by chemical deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are characterized for corrosivity through a pH check. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Reactive wastes treated by chemical deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are characterized for the presence of sulfides and cyanides through a chemical check if their presence caused the waste to be reactive. The treated wastes are analyzed for the presence of UHCs if they will not undergo further treatment on site.

- Reactive batteries and other reactive/explosive items treated by thermal deactivation at the ~~existing~~ RMWMF~~/future CWMF~~ are characterized for reactivity through knowledge of the treatment process and operations. The wastes may* also exhibit the hazardous waste characteristic of toxicity. The treated wastes are characterized for the presence of UHCs through process knowledge or analysis if they will not undergo further treatment. Characterization for the presence of UHCs is not necessary if the wastes will be further treated through macroencapsulation either on site or off site.

- Elemental mercury treated by amalgamation at the ~~existing~~ RMWMF~~/future CWMF~~ is not subject to further analysis.

- Aqueous liquids treated by stabilization at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF (including liquids that have previously been neutralized) are checked for the presence of free liquids. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Oils and organic liquids exhibiting the hazardous waste characteristic of toxicity that are treated by stabilization at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are characterized through process knowledge or sampling and analysis. The treated wastes are analyzed for the presence of the toxicity characteristic constituents and UHCs present or reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Soils and particulates exhibiting one or more of the hazardous waste characteristics of ignitability, reactivity, and toxicity are treated by deactivation and stabilization at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF, and may* contain UHCs. The treated wastes no longer exhibit the characteristics of ignitability and reactivity. The treated wastes are characterized for toxicity (if applicable) through sampling and analysis. The treated wastes are analyzed for the presence of UHCs if they will not undergo further treatment on site.

- Wastes exhibiting the characteristic of toxicity and/or containing or contaminated with spent solvents that are treated by macroencapsulation at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF are visually examined to determine whether treatment met the standards.

- Wastes treated by physical treatment include components containing listed wastes and/or exhibiting the characteristics of ignitability, reactivity, corrosivity, and/or toxicity. After the items are successfully detached and separated from larger items, both items are characterized as described in Section B.2.1.2 to determine whether they are RCRA-regulated wastes.

- Wastes that are treated to reduce the size of individual pieces at the ~~existing~~ RMWMF~~/future CWMF~~ and AHCF do not undergo further characterization because the treatment does not affect hazardous waste constituents or characteristics of the waste.

- Liquids and pressurized containers treated by physical treatment at the ~~existing~~ RMWMF~~/future CWMF~~ are characterized separately following treatment. If the containers are empty, they are no longer RCRA-regulated waste. The collected liquids are characterized in the same manner as mixed and blended wastes (described in Section B.2.3). If the liquids will not undergo further treatment on site, they are characterized to determine compliance with treatment standards applicable to all components, including the presence of UHCs in characteristic wastes.

B.2.6 Verification and Reevaluation Frequencies [20 NMAC 4.1.500/40 CFR 264.13(a)(3)(i) and 264.13(b)(4); 20 NMAC 4.1.800/40 CFR 268.7(b)]

Sandia/DOE will review air emissions data and status at least once every 12 months for RCRA-regulated wastes subject to 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03].

As described in previous sections, initial generators and Unit personnel obtain and evaluate information to characterize individual RCRA-regulated wastes managed at the SNL/NM Units. The evaluation needed for a single waste item depends on the item.

The duration of the characterization and its applicability to wastes generated in the future depends on the type of waste. For example, information about the contents of each container of used laboratory chemicals is applicable only to that container; however, information about the chemical composition and hazardous waste characteristics of batteries is applicable to all batteries of the same type.

The Sandia/DOE waste verification process is designed to provide additional assurance that wastes are adequately characterized for management at the Units. The process applies to the verification of wastes and waste streams received at a Unit and designated for storage and/or treatment prior to off-site disposal. Treated wastes are characterized as described in Section B.2.5, and are not subject to the verification and reevaluation procedures described in this section. Unit personnel involved in verification activities are trained and qualified for the activities they perform.

B.2.6.1 Verification of Wastes

Wastes are selected for further evaluation as part of the verification program using one or more of the following criteria:

- Random selection;
- Adequacy of information previously provided by the initial waste generators;
- Recommendations from Unit personnel;
- Incomplete or inconsistent documentation; and
- Other waste-specific criteria.

APPENDIX C

SITE-WIDE INSPECTION PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

Figure C-1
Resource Conservation and Recovery Act (RCRA)-Regulated Waste Management Unit Daily Inspection Form – Example

1. Area(s) Inspected (i.e., Loading/Unloading Area, Treatment Area) _____
2. Structure(s) Inspected (i.e., HWMF, TTF, RMWMF~~/CWMF~~, AHCF, MSB Bunker #)
3. Inspection Date _____
4. Inspection Time _____ am/pm
5. Inspector Name (print) _____

5. Loading/ Unloading Area(s)[a]	Inspection Criteria	Yes	No	NA ( ) load	Corrective Action Issue	Corrective Action Taken and Closure Date
Loading/Unloading Area[c]	Good condition, safe working surface, no spills					
Waste Handling Equipment[c]	Good condition, operational					
Container(s) Loaded/ Unloaded	Good condition					

6. Treatment Area(s)[b,c]	Inspection Criteria	Yes	No	NA ( ) treat	Corrective Action Issue	Corrective Action Taken and Closure Date
Treatment Area	Good condition					
Treatment Unit and/or Equipment (e.g., hand tools, containers)	Good condition (i.e., no releases or corrosion), maintains established parameters					
Monitoring Equipment	Good condition, operational					

7. Comments and Notes Comment on deficiencies by referencing section and question.

Inspector Signature: _____

Immediately file the completed inspection form in the Unit operating record.

[a] Required on days loading/unloading operations involving RCRA-regulated wastes are conducted.
[b] Required on days treatment operations involving RCRA-regulated wastes are conducted.
[c] Required monthly with facility operating and structural equipment if RCRA-regulated wastes are not managed at Unit during the month.

Figure C-2
Resource Conservation and Recovery Act (RCRA)-Regulated Waste Management Unit Weekly/Monthly Inspection Form – Example

1. Structure(s) Inspected (i.e., HWMF, TTF, RMWMF~~/CWMF~~, AHCF, MSB Bunker #) _____
2. Inspection Date _____ 5. Monthly ☐
3. Inspection Time _____ am/pm Weekly ☐
4. Inspector Name (print) _____

6. Status[a]	Inspection Criteria	Yes	No
RCRA-regulated waste currently stored at Unit	Storage status (Yes–waste present, No–waste not present)		
RCRA-regulated waste currently undergoing treatment at Unit	Treatment status (Yes–waste present, No–waste not present)		

7. Safety & Emergency Equipment[b]	Inspection Criteria	Yes	No	NA ( ) weekly	Corrective Action Issue	Corrective Action Taken and Closure Date
Spill Control Equipment	Present, good condition					
Fire Extinguisher(s)	Present, good condition, charged					
Decontamination Equipment	Present, good condition					
External Communication System	Present, operational					
Internal Communication and Alarm System	Present, operational					
Fire Suppression System (e.g., Water, Dry Chemical)	Present					

8. Security Devices[b]	Inspection Criteria	Yes	No	NA ( ) weekly	Corrective Action Issue	Corrective Action Taken and Closure Date
Facility Fence	Good condition					
Gate(s) and Door(s)	Operational					
Warning Sign(s)	Present, legible					
Lock(s) and Tamper Indication Device(s)	Present, good condition					

Refer to footnotes at end of form.

APPENDIX E

SITE-WIDE CONTINGENCY PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

Table E-1
RCRA – Regulated Waste Management Units Included in Contingency Plan

Name	Acronym	Location, size	Types of operations	Operating hours	Staff
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. Includes Buildings 958, 959. 1.35 acres	Storage, Repackaging	M-F 8:00 am 4:30 pm	Staffed during operating hours
Thermal Treatment Facility	TTF	Northern part of TA-III, south of Building 6715. 196 square feet	Treatment	M-F 7:00 am 5:00 pm	Staffed only during operations at Unit
Radioactive and Mixed Waste Management Facility~~/ Consolidated Waste Management Facility~~[a]	RMWMF~~/ CWMF~~	Southeast corner of TA-III. Includes Buildings 6920, 6921, 6925, and 6926. 3.11 acres	Storage, Treatment, Repackaging[a]	M-Th 7:00 am – 5:30 pm	Staffed during operating hours
Auxiliary Hot Cell Facility	AHCF	TA-V, Building 6597. 5578 square feet	Storage, Treatment, Repackaging	M-F 8:00 am – 4:30 pm	Staffed during operating hours
Manzano Storage Bunkers	MSB	In Manzano Area on KAFB. 0.4 acres occupied by 5 bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	M-Th 7:00 am – 5:30 pm	Staffed only during operations at Unit
Corrective Action Management Unit	CAMU	Southeast corner of TA-III. Includes containment cell located due north of RMWMF~~/CWMF~~.	Post-closure monitoring of containment cell.		Staffed only during monitoring operations at Unit.
Chemical Waste Landfill	CWL	Southeast corner of TA-III. Includes landfill located due east of RMWMF~~/CWMF~~.	Landfill undergoing closure.		Staffed only during closure and monitoring operations at Unit.

~~[a] Sandia/DOE will physically modify the existing RMWMF during the next three years to increase capacity; the modified facility will be called the CWMF. RWMWF RCRA-regulated waste management operations will continue during the modification period. General CWMF operations will continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes).~~

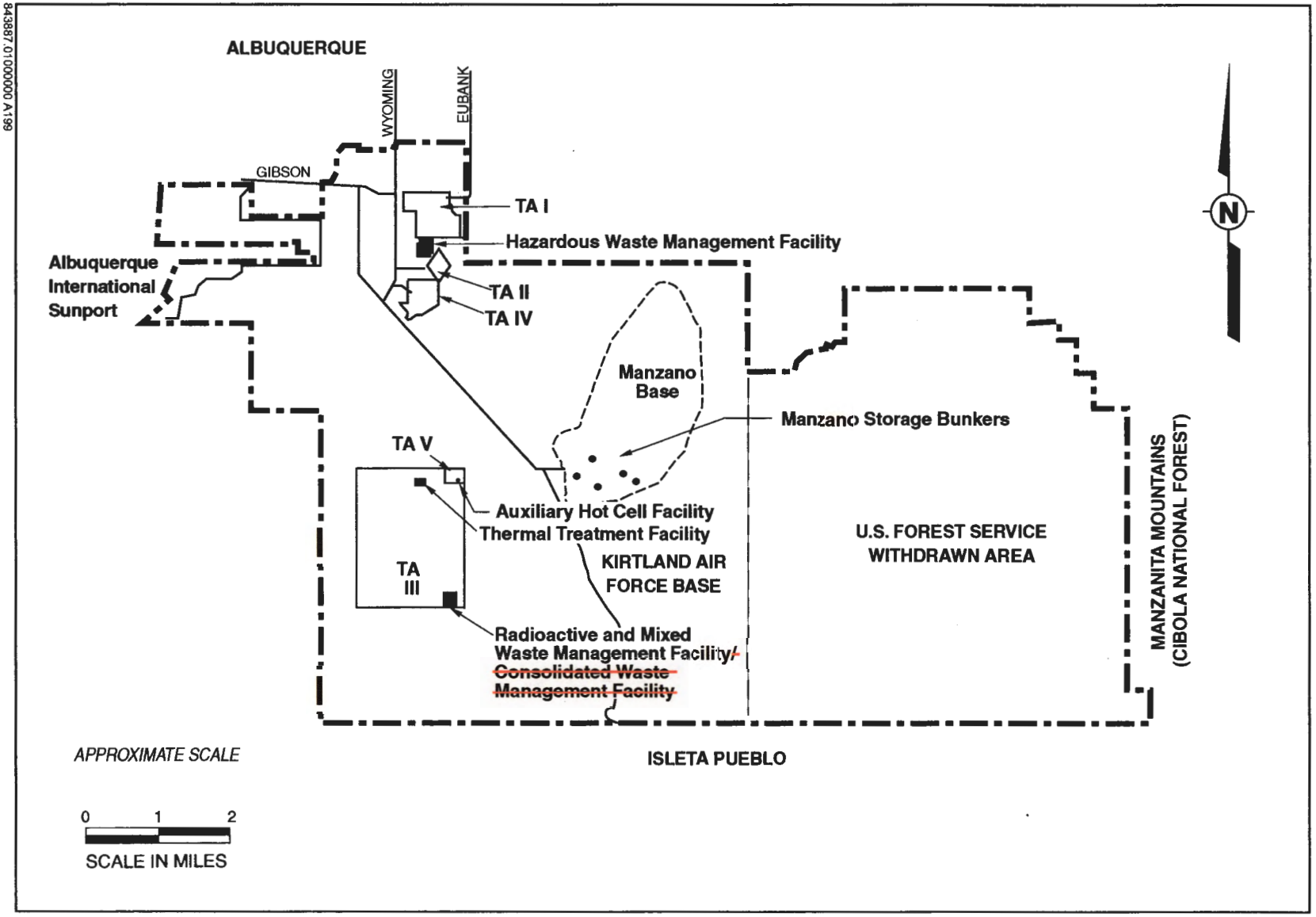

Figure E-1

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

APPENDIX F

SITE-WIDE CLOSURE PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
AHCF	Auxiliary Hot Cell Facility
ASTM	American Society for Testing and Materials
~~CWMF~~	~~Consolidated Waste Management Facility~~
DOE	U.S. Department of Energy
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
HWMF	Hazardous Waste Management Facility
NAAG	National Association of Attorneys General
NMED	New Mexico Environment Department
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
SAP	sampling and analysis plan
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
TSDF	treatment, storage, or disposal facility
TTF	Thermal Treatment Facility
Unit	RCRA-regulated waste management unit
WMA	waste management area

- Only those areas (e.g., floor grids) that do not meet closure criteria (based on results from rinse water sampling) will require further decontamination and verification sampling.

- Before transport off site or use elsewhere on site, all equipment used for closure will be decontaminated via scraping and rinsing with high pressure water, steam, or other appropriate industrial cleaning solution until no visible evidence of contamination is present. Equipment decontamination may be performed in a specific decontamination staging area with adequate containment.

- Used wash water and rinse water may be discharged into the City of Albuquerque sewer treatment system, provided the results of sampling and analysis meet the criteria of the discharge permit.

- Most personal protective equipment, plastic sheeting, and sampling equipment used by personnel performing decontamination activities will be disposable. These materials will be placed in containers and characterized to determine if they are RCRA-regulated wastes, in accordance with all applicable requirements of 20 NMAC 4.1.200/40 CFR 261 [10-1-03].

- Any RCRA-regulated wastes generated during closure (e.g., equipment, contaminated floor sweepings) will be managed in accordance with all applicable requirements of 20 NMAC 4.1.300/40 CFR 262.34 [10-1-03], pending arrangements for transfer to an active SNL/NM Unit or an off-site permitted TSDF.

- Sandia/DOE may propose improved decontamination technologies or an alternative demonstration of decontamination at the time of closure. This information would be submitted to NMED prior to implementation of closure in a revised Unit-specific closure plan.

- Sandia/DOE will continue the long-standing practice of providing radionuclide data to NMED on a voluntary basis, in accordance with: 1) the joint guidance developed by the National Association of Attorneys General (NAAG), (NAAG, 1998), and 2) the data-sharing provisions of the current Agreement-in-Principle between DOE and the State of New Mexico (DOE, 2000).

The following sections describe decontamination procedures applicable to specific types of Units.

F.5.2.1 Treatment Units

The closure processes described below are appropriate for indoor storage areas and for indoor areas at Units where treatment in containers occurs (i.e., the Radioactive and Mixed~~Consolidated~~ Waste Management Facility and the Auxiliary Hot Cell Facility). The closure processes described below are also appropriate for the Thermal Treatment Facility (TTF) treatment equipment. Closure activities (if needed) for areas immediately surrounding the TTF treatment equipment are addressed in the SAP in Section 7.5 of Module II.

Many of the closure processes appropriate for floor surfaces in storage and treatment areas are also appropriate for large pieces of equipment (e.g., fume hoods). The processes for equipment

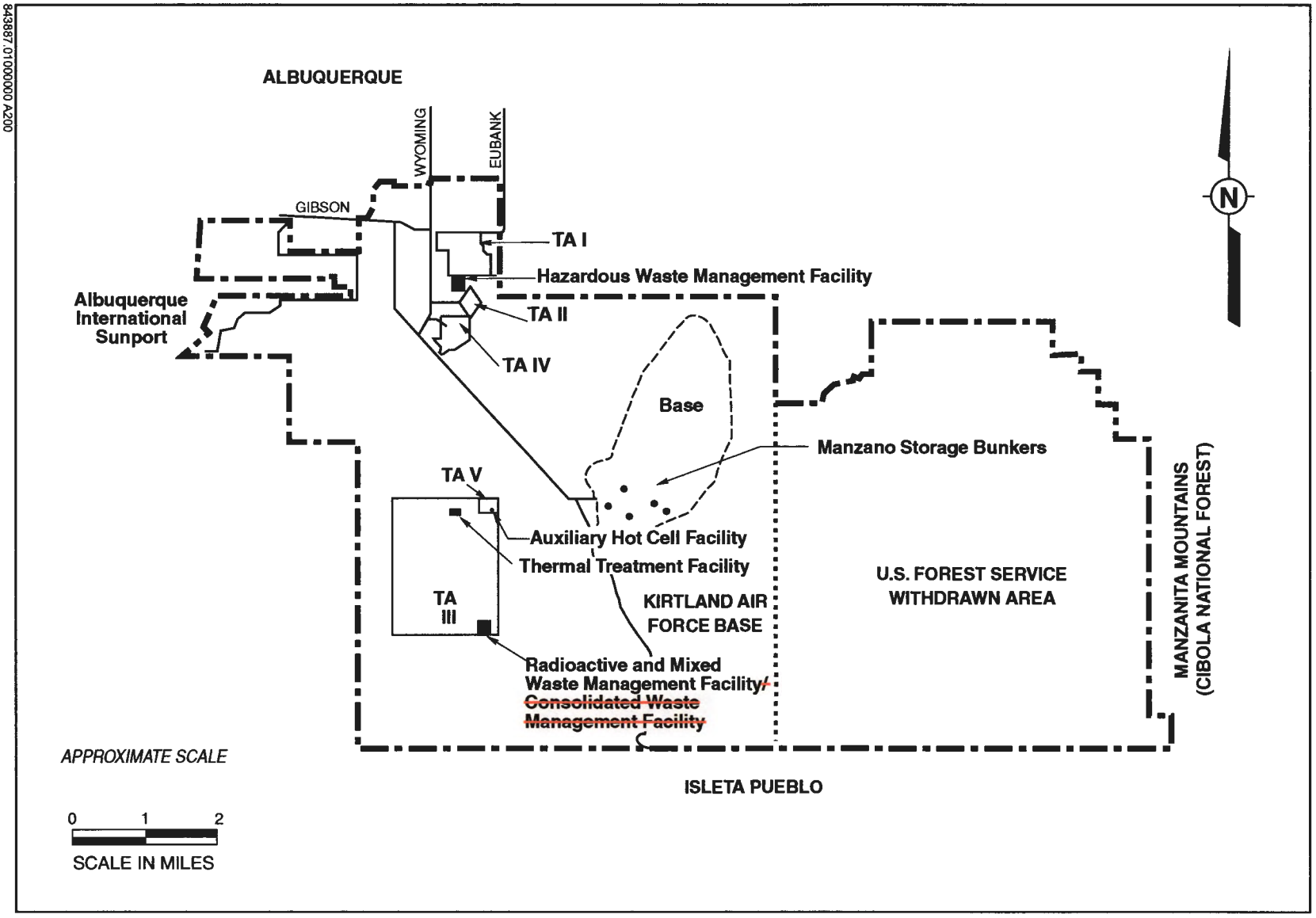

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Figure F-1

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

Sandia National Laboratories/New Mexico Radioactive and Mixed Waste Management Facility~~/Consolidated Waste Management Facility~~ Part B Permit Application

Module III

Revision 46.0

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ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2XX, Section 2*XX.XX*
~~CWMF~~	~~Consolidated Waste Management Facility~~
CMU	concrete masonry unit
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ft	foot/feet
ft^2	square foot/feet
HSWA	Hazardous and Solid Waste Amendments
in.	inch(es)
lb/ft^2	pound(s) per square foot/feet
NMED	New Mexico Environment Department
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
SAP	sampling and analysis plan
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
SWMU	solid waste management unit
TA	Technical Area
TSDF	treatment, storage, and disposal facility
Unit	RCRA-regulated waste management unit
WMA	waste management area

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SANDIA NATIONAL LABORATORIES/NEW MEXICO RADIOACTIVE AND MIXED WASTE MANAGEMENT FACILITY~~/ CONSOLIDATED WASTE MANAGEMENT FACILITY~~ PART B PERMIT APPLICATION

This Sandia National Laboratories/New Mexico (SNL/NM) Radioactive and Mixed Waste Management Facility (RMWMF)~~/Consolidated Waste management Facility (CWMF)~~ Part B Permit Application is submitted to address the New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subparts V and IX (20 NMAC 4.1.500 and .900), revised October 1, 2003 [10-1-03], requirements specific to Resource Conservation and Recovery Act (RCRA)-regulated waste container storage and treatment operations at the ~~existing~~ RMWMF ~~and at the future CWMF~~. 20 NMAC 4.1.500 and .900 adopt by reference, with limited exceptions, all of the Code of Federal Regulations, Title 40, Parts 264 and 270 (40 CFR 264 and 270).

Sandia Corporation (Sandia) and the U.S. Department of Energy (DOE), as co-operators of the SNL/NM site, have prepared and revised this module to provide Unit-specific details that supplement the information provided in the "Sandia National Laboratories/New Mexico General Part B Permit Renewal Request/Application," hereinafter referred to as the General Part B. Together, information provided in this module, in the General Part B, and in the appendices to the General Part B meet the applicable requirements for the RM~~C~~WMF that are specified in 20 NMAC 4.1.500/40 CFR 264 [10-1-03], and 20 NMAC 4.1.900/40 CFR 270 [10-1-03].

Sandia/DOE also prepared the "Sandia National Laboratories/New Mexico General Part A Permit Renewal Request/Application, Rev. 7.0" (SNL/NM, 2004), hereinafter referred to as the General Part A, included as Part 1 of this comprehensive Part B permit request. The General Part A serves as a companion document to the General Part B and Unit-specific Part B modules, including this RM~~C~~WMF Part B Permit Application.

In the General Part A, the General Part B, its appendices, and this module, a Unit to be permitted may sometimes be referred to as a "facility" (e.g., Radioactive and Mixed~~Consolidated~~ Waste Management Facility). The term "facility," as it appears in this context, is used only to denote a building or Unit name and does not imply the regulatory meaning of "facility" as defined in 20 NMAC 4.1.100/40 CFR 260.10 [10-1-03]. However, pursuant to 20 NMAC 4.1.100/40 CFR 260.10 [10-1-03], the SNL/NM site as a whole does meet the regulatory definition of a facility.

Sandia/DOE currently operate the ~~existing~~ RMWMF under interim status in accordance with the terms of the most recent Part A submitted to the New Mexico Environment Department (NMED) (November 29, 2004) and the most recent Part B permit request submitted to NMED (November 29, 2004).

Sandia/DOE planned to make physical modifications to the existing RMWMF during the next three years to increase capacity, and the modified facility would have~~ill~~ been called the Consolidated Waste Management Facility. Sandia/DOE have decided not to make these modifications, and will continue to operate the existing RMWMF under interim status as described above.

The ~~existing~~ RMWMF occupies 3.11 acres in the southeast corner of Technical Area (TA)-III~~; the CWMF will occupy the same space~~. It~~The RMWMF~~ is a fenced compound with several

buildings and waste management areas (WMAs). Operations include storage of RCRA-regulated wastes in containers, repackaging wastes, and treating the wastes as needed to render them more suitable for shipment to off-site treatment and/or disposal facilities. ~~Sandia/DOE will increase capacity of some of the existing WMAs, add two WMAs, and continue RMWMF operations (storage, repackaging, and treatment of RCRA-regulated wastes) at the future CWMF.~~ All of the RCRA-regulated wastes listed in the General Part A may be managed at the ~~existing~~ RMWMF ~~and at the future CWMF~~.

~~The physical modifications are scheduled to occur in stages over the next three years. The existing (RMWMF) waste management operations will continue during that time. Individual buildings and WMAs will not be used while they are undergoing renovation that affects operations in the WMAs. Operations will resume in each WMA when modifications are complete. Both the existing and future facilities and operations are described in this application.~~

1.0 GENERAL UNIT OPERATIONS

This section provides descriptions of the ~~existing~~ RMWMF ~~and future CWMF~~ waste management areas (WMAs) and specific waste management practices. The information in this section complements the information provided in Section 1.0 of the General Part B.

Specific information in this section regarding Unit operations includes: containment systems; requirements for ignitable, reactive, and incompatible wastes; preparedness and prevention; hazards prevention; and container storage of RCRA-regulated wastes. Treatment practices are discussed in Section 8.0 of this module.

The specific information provided and documents referenced in this section, together with the general information provided in Section 1.0 of the General Part B, address the applicable hazardous waste management facility requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts I, AA, BB, and CC [10-1-03], and 20 NMAC 4.1.900/40 CFR 270.14 and 270.15 [10-1-03].

1.1 Designated Waste Management Areas

The location of the ~~CWMF/~~RMWMF at SNL/NM is shown on Figure 1. The location of the ~~CWMF/~~RMWMF within TA-III is shown on Figure 2. The ~~existing~~ RMWMF has six designated WMAs~~; the CWMF includes two additional WMAs~~ (Figure 3). Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and the outdoor waste storage area (i.e., paved areas within the RMWMF fence to the north, east, and west of Building 6920) are included in the RMWMF ~~and the CWMF~~. ~~The CWMF also includes two additional modular storage buildings.~~

In each RMWMF ~~and CWMF~~ WMA (except where noted), containers holding RCRA-regulated liquid wastes are stored on portable spill pallets or pans. These are commercially available units consisting of a tub made of a heavy-duty inert material such as polyethylene or polypropylene with a heavy-duty inert plastic grating cover. They are designed to be resistant and impervious to corrosives, solvents, and other liquids. The containers of liquids (typically 5- to 55-gallon capacity) are stored on the grating. Any liquids released from the containers drain through the grating into the tub. The pallets come in various sizes and capacities, they are designed for use with 55-gallon drums or other standard containers, and they meet the requirements of 20 NMAC 4.1.900/40 CFR 270.15[a] and [b] [10-1-03] and 20 NMAC 4.1.500/40 CFR 264.175(b)(1-3) [10-1-03].

Each pallet has sufficient capacity to hold the contents of the largest container of liquid stored on it. Containers are not stacked on each other on the pallets. Because the spill pallets are designed to hold containers of liquids, the weight of the containers does not exceed the load-bearing capacity of the grating or the pallet.

RCRA-regulated wastes are typically stored inside one of the buildings or inside transportainers in the outdoor storage area. The containers are protected from precipitation by the buildings and transportainers, and by the slope of the asphalt pavement and concrete pads outside the buildings that direct storm water away from the doorways, meeting the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(4).

The following sections provide descriptions of the features, location and capacity of each WMA. Treatment practices are summarized in Section 1.4 and discussed in detail in Section 8.0 of this module.

1.1.1 Building 6920

The principal structure at the ~~existing~~ RMWMF ~~and the future CWMF~~ is Building 6920. ~~The CWMF modifications include renovating the interior of the building, replacing most of the utility systems, and adding new rooms to the east and west ends of the building. The additions include mechanical and electrical rooms on the west end of the building, and new storage and work areas on the east end of the building.~~

The ~~existing~~ floor plan for Building 6920 is presented on Figure 4. ~~The CWMF floor plan for Building 6920 is shown in Figure 5. Existing and future~~ The WMAs in Building 6920 include waste staging, repackaging, and storage areas, and waste treatment areas. Building 6920 is a single-story concrete and steel structure housing approximately 5,000 square feet of RCRA-regulated waste management area. The floors are 6-inch (in.) reinforced, sealed concrete on compacted subgrade sloped to sumps with no outlets. Walls are 8-in. load-bearing concrete masonry unit (CMU) with prefinished metal building panels in some areas. Nongrouted cells of the 8-in. CMU exterior walls are filled with vermiculite insulation. The staging area at the east end of the building has 14-foot (ft) high reinforced concrete walls. The exterior walls are 2-ft thick, interior walls are 1-ft thick, and the shared wall between the north and south parts of the building is 1.5-ft thick. Inner partitions are 8-in. reinforced CMU.

The roof consists of 24-in. deep steel joists with a 1.5 in. metal deck with 3-in. rigid insulation and a single-ply roof membrane. The roof system is a single-ply fully adhered elastomeric system, installed over rigid insulation with factory-laminated fiberglass-coated skin on both sides, and attached to the deck with metal fasteners. Ceilings are exposed and painted.

Building 6920 consists of two bays (north and south) that are isolated from each other by a wall, with an interior airlock and office area near the west end of the building.

~~The additions on the east and west ends of the building will be constructed with pre-manufactured metal walls on a reinforced, sealed concrete slab on compacted subgrade. The roofing system will be the same type as on the existing building. The additional storage and work rooms on the east end of the building will include approximately 1,100 sq ft of area.~~

There are ~~(and will be) several~~seven exterior personnel doors and four cargo entrances to the building, as well as separate entrances to the exterior mechanical and electrical rooms. The personnel doors provide access to the north and south bays and to all sides of the building. There is a cargo entrance (i.e., roll-up door) at each end of each bay. Rollup doors enclose the airlocks on the south bay.

Two enclosed areas within the north bay (shown in Figure 4) are equipped with a negative-pressure exhaust system. There are four small rooms in the south bay (Figure 4). One commercially available fume hood with a negative-pressure ventilation system is located in one of these rooms. Another local ventilation system is located in another of the rooms. The

ventilation system air flow from the north bay passes through a high-efficiency particulate air (HEPA) filter train before being released to the environment through an exhaust stack. The air flow from the systems in the south bay is combined and passes through a separate HEPA filter train before being released to the environment through the exhaust stack. The filters effectively remove particulates entrained in the air flow of each system.

North Bay

~~In the existing RMWMF,~~ W~~w~~aste treatment, storage, and repackaging are performed in the north bay of Building 6920 (Figure 4). The storage capacity of the ~~existing~~ north bay is approximately 6,000 gallons of RCRA-regulated wastes. Treatment currently includes physical treatment and macroencapsulation.

~~In the future CWMF, operations in the renovated north bay will include repackaging, storage, and treatment (physical treatment, macroencapsulation, chemical and thermal deactivation, stabilization, and amalgamation) of RCRA-regulated wastes. The new area at the east end of the building will be used for storage of RCRA-regulated wastes in containers. The capacity of the renovated north bay and new work areas will be approximately 19,070 gallons.~~

The floor in the north bay currently slopes from the doorways toward one or more shallow (6-in.-deep) blind sumps covered with grating. Containers of liquid RCRA-regulated wastes are stored on portable spill pallets or pans. Floors, (including the sumps), and the walls in the WMAs of Building 6920 are sealed with a chemical-resistant epoxy, which withstands degradation by chemical substances and resists wear from forklift traffic. The sumps and pallets meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4). ~~This secondary containment configuration will be maintained in the CWMF.~~

The ~~existing~~ RMWMF north bay includes two enclosed areas (shown in Figure 4) that are equipped with a negative-pressure exhaust system. The exhaust passes through a high-efficiency particulate air (HEPA) filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

~~The CWMF north bay will include two new enclosed areas where personnel will perform repackaging and treatment operations, and some storage. The remaining areas in the north bay will be used for storage. All of the north bay, including the enclosed areas, will be equipped with a negative-pressure exhaust system. The exhaust will pass through a high-efficiency particulate air (HEPA) filter train before being released to the environment through an exhaust stack, in the same manner as the current exhaust system. The filters effectively remove particulates entrained in the air flow.~~

~~Two commercially available fume hoods with negative-pressure ventilation systems will be installed in one of the enclosed areas in the CWMF north bay. Two other local ventilation systems will be installed in the other enclosed area. The exhaust from all local systems will be included with the general exhaust from the north bay.~~

South Bay

~~In the existing RMWMF,~~ ~~W~~waste treatment, storage, and repackaging are performed in the south bay of Building 6920 (Figure 4). Wastes are stored in the main bay and in the airlocks at either end. Treatment in the south bay currently includes chemical and thermal deactivation, stabilization, amalgamation, macroencapsulation, and physical treatment. The current storage capacity of the south bay and airlocks is 7,420 gallons.

~~In the future CWMF, operations in the renovated south bay will include repackaging and storage of RCRA-regulated wastes. In this area, containers of RCRA-regulated wastes will be stored, lab packs will be prepared by placing small containers in to larger containers filled with absorbent material, liquid wastes will be combined and bulked into larger containers, and other wastes will be packaged into appropriate containers for shipment to off-site treatment, storage and disposal facilities (TSDFs).~~

~~The renovated south bay will include the existing main area and two airlocks, eight new storage bays and a new enclosed room (bulking room) used for repackaging and some storage of RCRA-regulated wastes, as shown on Figure 5. Repackaging may also take place in any area of the south bay.~~
The floor in the south bay slopes from the doorways toward one or more shallow (6-in.-deep) blind sumps covered with grating which provide secondary containment. Containers of liquid RCRA-regulated wastes are typically stored over or near the sumps in the south bay or on portable spill pallets or pans. Floors, (including the sumps), and the walls in the WMAs of Building 6920 are sealed with a chemical-resistant epoxy, which withstands degradation by chemical substances and resists wear from forklift traffic. The sumps and pallets meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4).
~~Wastes will be stored in the new bays, the main south bay, and the airlocks at either end. The total storage capacity of the airlocks will be 15,600 gallons. Containers of liquid RCRA-regulated wastes will be stored on portable spill pallets or pans in the airlocks. The storage capacity of the main area, new storage bays, and enclosed bulking room is based on the available secondary containment provided by the building in these areas, as described below.~~

~~The individual storage bays in the south bay will be separated by 10-foot high CMU walls. All the bays and the enclosed room will have recessed concrete floors covered with metal grating. Waste containers will be placed on shelves over the metal grating in the bays and enclosed room. The load-bearing capacity of the grating and the floor will be 320 pounds per square foot (ft^2), and 2000 pounds per ft^2, respectively. Several additional sumps are located along the southern wall of the main south bay in the existing RMWMF; these sumps are also covered with metal grating and will remain in the renovated facility. The entire floor of the south bay and the wall surfaces inside each recessed area (up to the grating) will be covered with an epoxy-based chemical-resistant coating. The coating will form a continuous protective barrier over the concrete and protect the floor from the effects of solvents and corrosive chemicals that may be released from the containers.~~

~~Secondary containment will be provided by the recessed areas. The eight storage bays will vary in size, secondary containment capacity, and waste container capacity. The secondary containment capacity in each storage bay and in the enclosed room will be provided by the recessed area. For example, the recessed area in Bay H will be 9 ft wide by 11 ft long and 4 inches deep, with a net capacity of 233 gallons (part of the volume will be occupied by supports for the grating). The secondary containment capacity is 10% of the stored volume or the volume of the largest container; thus the storage capacity in Bay H will be 2,330 gallons,~~

~~42 55-gallon drums, or an equivalent volume. The secondary containment will meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4).~~

~~Based on the secondary containment capacity, the storage bays, enclosed (bulking) room and main south bay will be limited to the following maximum storage capacity of 55-gallon drums, or equivalent volume, as listed in Table 1.~~

~~**Table 1**~~
~~**Storage Capacity for South Bay of Building 6920, Consolidated Waste Management Facility**~~

~~Bay No.~~	~~Secondary Containment Capacity, Gallons~~	~~Maximum Number of 55-Gallon Drums Stored[a]~~
~~A~~	~~159~~	~~28~~
~~B~~	~~159~~	~~28~~
~~C~~	~~233~~	~~42~~
~~D~~	~~181~~	~~32~~
~~E~~	~~129~~	~~23~~
~~F~~	~~129~~	~~23~~
~~G~~	~~181~~	~~32~~
~~H~~	~~233~~	~~42~~
~~Bulking Room~~	~~337~~	~~61~~
~~South Bay~~	~~499~~	~~90~~

~~[a] Actual limit will be various containers with total volume equivalent to stated number of 55-gallon drums~~

~~In the existing RMWMF, T~~there are four small rooms in the south bay (Figure 4) where personnel typically conduct treatment and storage. One commercially available fume hood with a negative-pressure ventilation system is located in one of these rooms. Another local ventilation system is located in another of the rooms. The exhaust from both of these systems is combined and passes through a HEPA filter train before being released to the environment through the exhaust stack. The filters effectively remove particulates entrained in the air flow of each system.

~~Two commercially available fume hoods will be installed in the enclosed (bulking) room in the CWMF south bay. Each fume hood will be equipped with a negative pressure ventilation system. All of the south bay, including the enclosed room, will be equipped with a negative-pressure exhaust system. The exhaust will be released to the environment through the exhaust stack.~~

1.1.2 Building 6921

The Waste Assay Facility (Building 6921) is located east of Building 6920 (Figure 3) in the RMWMF. ~~The CWMF modifications include some modifications to the utility systems and will not affect the WMAs or waste management activities.~~

Unit personnel treat, repackage, and store wastes in the WMAs. The Building 6921 floor plan is presented on Figure ~~6~~5. Building 6921 is a single-story structure constructed with interior walls of 8-in. CMU and metal studs. The roof is comprised of steel bar joists with metal decking, rigid

insulation, and single-ply membrane roofing. The floors are 6-in.-thick concrete slab-on-grade. The floors in the assay area on the south side of the building are sealed with a chemical-resistant epoxy that extends up the walls for 6 in. The floors in the other two WMAs are also coated. The total WMA is approximately 1,450 ft^2 with a maximum capacity of approximately 7,810 gallons.

Building 6921 (waste treatment area, shown on Figure 5) is equipped with a commercially available fume hood with a negative-pressure ventilation system. The exhaust~~ventilation air flow~~ from the hood passes through a HEPA filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

Treatment in Building 6921 includes chemical and thermal deactivation, stabilization, amalgamation, macroencapsulation, and physical treatment.

1.1.3 Buildings 6925 and 6926

Buildings 6925 and 6926 are~~is~~ used for storage and some treatment of RCRA-regulated waste at the RMWMF. Treatment consists of macroencapsulation (Building 6925).

~~The CWMF modifications to this building include some modifications to the utility systems and will not affect the WMAs or waste management activities.~~

The floor plans for RMWMF Buildings 6925 and 6926 are~~is~~ presented on Figure 6~~7~~. ~~The CWMF floor plan is the same as the RMWMF floor plan; the floor plan for CWMF Building 6925 is presented on Figure 8.~~ Building 6925 has a total storage area of approximately 4,000 ft^2 with a maximum capacity of approximately 83,160 gallons. Building 6926 also has a total storage area of approximately 4,000 ft^2 with a maximum capacity of approximately 83,160 gallons. Each~~It~~ is a prefabricated steel building erected on a reinforced concrete slab floor and foundation. The concrete floors in both buildings are covered with chemical-resistant epoxy coating. Steel rollup doors are located on the south ~~and east~~ wall~~s~~ of each ~~the~~ building, on the east wall of Building 6925, and on the west wall of Building 6926. Personnel doors are located on the east, south, and west sides of each~~the~~ building.

~~1.1.4Building 6926~~

~~Building 6926 is used for storage of RCRA-regulated waste at the RMWMF. The CWMF modifications to this building include renovating the interior of the building and modifying the utility systems.~~

~~The floor plan for RMWMF Building 6926 is presented on Figure 7. Existing Building 6926 has a total storage area of approximately 4,000 ft^2 with a maximum capacity of approximately 83,160 gallons. It is a prefabricated steel building erected on a reinforced concrete slab floor and foundation. The concrete floors are covered with chemical-resistant epoxy coating. Steel rollup doors are located on the south and west walls of the building. Personnel doors are located on the east, south, and west sides of the building.~~

~~In the future CWMF, the roll-up doors and personnel doors will be located on the east and west ends of the building. The renovated building will contain seven separate and recessed waste storage compartments for storage of containers of RCRA-regulated wastes, as shown on Figure 8. Six of the bays will have recessed reinforced concrete floors covered with metal grating. The remaining bay will have a reinforced concrete floor and will be surrounded by a concrete curb inside the existing wall. The bays will be separated by 7-foot-high CMU walls. The entire floor (all bays, walkways, and curbs) and the wall surfaces inside each recessed area (up to the grating) will be covered with an epoxy-based chemical-resistant coating. The coating will form a continuous protective barrier over the concrete and protect the floor from the effects of solvents and corrosive chemicals that may be released from the containers.~~

~~Waste containers will be placed on the metal grating over the secondary containment area in the six small bays. Containers of RCRA-regulated waste will be placed on pallets on the floor in the large bay. The load-bearing capacity of the of the grating and the floor will be 700 pounds per square foot (ft^2), and 2,000 pounds per ft^2, respectively.~~

~~Secondary containment will be provided by the recessed areas. Each of the six small bays (Bays 1, 2, 3, 5, 6, and 7) will be 14.33 ft wide by 12.67 feet long and 4 inches deep, with a net capacity of 332 gallons (part of the volume will be occupied by supports for the grating). The secondary containment capacity is 10% of the stored volume or the volume of the largest container; thus the storage capacity in each small bay will be 3,320 gallons, 60 55-gallon drums, or an equivalent volume.~~

~~The large bay will be 46.67 feet long by 38 feet wide with a 5.75-inch curb; the net containment capacity will be 5,349 gallons (part of the volume will be occupied by entry ramps and storage pallets. The storage capacity will be 53,492 gallons, 972 55-gallon drums, or an equivalent volume.~~

~~The total capacity of CWMF Building 6926 will be approximately 73,419 gallons. The secondary containment will meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b) (1-4).~~

~~1.1.5~~1.1.4 ~~RMWMF~~ Modular Storage Buildings (TP150 and TP153)

There are two modular storage buildings located west of Building 6920 that are used for storage of RCRA-regulated reactive and ignitable/flammable wastes (Figure 3).

The exterior dimensions of each modular storage building are 23-ft long, 9-ft wide, and 8.6-ft high. The structures are constructed for a snow loading of 40 pounds per square foot (lb/ft^2), Uniform Building Code seismic Zone 3, and a wind loading with exposure C open area at 110 miles per hour. The walls and roof of each structure are rated for a 2-hour fire. Each building has two 5-ft wide doors, and each door has a single-point locking mechanism with inside safety release. Each building is vented. The inside walls and ceiling of each building are covered with an epoxy coating which is resistant to reactive wastes.

Each modular storage building has a 5.5-inch-deep integral spill containment reservoir under the entire building; the capacity is 650 gallons. The secondary containment capacity is 10% of the stored volume of the contents of the largest container; thus, the storage capacity based on

secondary containment is 6500 gallons. The secondary containment meets the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4). The reservoirs are constructed of 10-gauge American Society for Testing and Materials A36 steel and are coated with a chemical-resistant epoxy. The building floors are epoxy-coated steel grating. Each building rests on structural supports that elevate it and allow visual checks of the underside of the spill containment reservoir if there is evidence of deterioration on the interior surfaces. The maximum storage capacity at each building is not based on secondary containment. It is approximately 1,100 gallons.

~~1.1.6CWMF Modular Storage Buildings~~

~~Two additional modular storage buildings will be located in the northeast corner of the CWMF compound. These buildings will be the same as or very similar to the existing buildings. They will each be constructed of welded 10- to 12-gauge steel with integral spill containment reservoirs under the entire building. Each will be approximately 20 to 25 feet long, 8 to 10 feet wide, and 8 to 10 feet high with two or three doors. The interior floors and the interior surfaces of the containment reservoirs will have a chemical-resistant coating. Like the existing modular buildings, each additional building will rest on structural supports that will elevate it and allow visual checks of the underside of the reservoir if there is evidence of deterioration on the interior surfaces. The reservoirs will contain 500 gallons of liquid; therefore the maximum capacity of each additional building (based on the secondary containment) will be 5,000 gallons.~~

~~1.1.7~~1.1.5 Outdoor Waste Storage Area

The outdoor waste storage area consists of the asphalt paved areas to the north, east, and west of Building 6920 and within the RMWMF fence (Figure 3). The outdoor waste storage area may be used for containerized storage of RCRA-regulated wastes. It has an area of approximately 48,500 ft^2 with a total storage capacity of approximately 19,800 gallons. The area is curbed and paved with berms on the east end of the site, and slopes toward the water retention pond. In the event of any releases of liquids in the outdoor storage area, the curbing and berms and the retention pond would capture released liquids, including precipitation so that any contaminants would not exit the site.

Containers of RCRA-regulated wastes are typically stored inside enclosed steel transportainers, which are 10- to 40-cubic-yard transportable containers. A transportainer typically has doors at one end and can be lifted onto a large flatbed truck for transportation.

~~The additional modular buildings associated with the CWMF will be located within the outdoor storage area, reducing its total storage capacity to 15,840 gallons.~~

1.2 Unit Operations

The RMWMF ~~and CWMF~~ WMAs are and will be used to store any of the RCRA-regulated wastes bearing U.S. Environmental Protection Agency Hazardous Waste Numbers listed in the General Part A. Many of the wastes may also be treated in the RMWMF WMAs; specific treatment operations are discussed in Sections 1.4 and 8.0 of this Module.

Information regarding operations requiring a permit at all RCRA-regulated Units at SNL/NM is included in Section 1.1 of the General Part B. Additional Unit-specific information is provided in the following sections.

1.2.1 Operation of Containment Systems (20 NMAC 4.1.900/40 CFR 270.14 [b][8][ii] and 270.15[a] and [b]; 20 NMAC 4.1.500/40 CFR 264.175[b][5])

Liquid wastes released from individual containers will accumulate in the spill pallets. Unit personnel begin taking action to evaluate and remove accumulated liquids in the spill pallets and sumps (in Building 6920) upon discovery. Accumulated liquids are cleaned up as described in Section 1.1.1 of the General Part B.

~~In renovated Building 6920 at the CWMF, Unit personnel will inspect containers for integrity when they arrive, before placing them on the shelves in the individual bays. Containers in poor condition will be overpacked into other containers or the RCRA-regulated wastes will be transferred to other containers, as described in Section 1.2.2.1 of the General Part B. The shelves will typically be lined with absorbent pads under removable grating. Containers will be placed on the grating on the shelves, and will be inspected regularly as noted in Section 4.0 of this module and in Appendix C of the General Part B. Released materials will be contained in the absorbent pads and will be cleaned up as described in Section 1.1.1 of the General Part B. These practices will serve to protect the containers on the shelves from contact with liquids.~~

~~In renovated Buildings 6920 and 6926 at the CWMF, Unit personnel will begin taking action to evaluate and remove accumulated liquids in each secondary containment area upon discovery. Accumulated liquids will be cleaned up as described in Section 1.1.1 of the General Part B.~~

1.2.2 Requirements for Ignitable, Reactive, and Incompatible Wastes (20 NMAC 4.1.900/40 CFR 270.14[b][9] and 270.15[d]; and 20 NMAC 4.1.500/40 CFR 264.17, 264.176, and 264.177)

Any of the ignitable or reactive wastes listed in the General Part A may be managed at the RMWMF. Sources of ignition that may be present at the RMWMF are those noted in Section 1.1.2.1 of the General Part B: welding activities, open flames, hot surfaces, frictional heat, radiant heat, sparks, and engines. Unit personnel employ the general precautions and practices described in Section 1.1.2 of the General Part B. Additional RMWMF-specific features, potential ignition and reaction sources, precautions, and practices include:

- The modular storage buildings are grounded by a 10-ft-long grounding rod and cable. They are equipped with a dry chemical fire suppression system to assure that water-reactive wastes will not be exposed to water during fire emergencies.

- Ignitable and reactive wastes are segregated from other wastes and typically stored in the modular storage buildings. The modular storage buildings have exterior signs indicating the presence of ignitable/flammable and reactive wastes.

- Ignitable and reactive wastes may also be stored in Building 6925, and may be kept temporarily in Buildings 6920, 6921, and 6926 for treatment, packaging, and staging for shipment. Individual containers are labeled as described in Section 1.2.1 of the General Part B, and they are kept apart from other wastes.

- Water-reactive wastes are not routinely stored in areas equipped with water sprinklers for fire suppression. They may be managed temporarily in Buildings 6920, 6921, 6925, and 6926 for treatment, packaging, and staging for shipment. If water-reactive wastes are present, they will be isolated from water contact as described in Section 1.1.2.1 of the General Part B, and their location will be identified through the use of signs, labels, or some other method.

- Containers of wastes are labeled and segregated according to compatibility criteria in 20 NMAC 4.1.500/40 CFR 264 Appendix V. The liquids in containers that are stored together on a spill pallet must be compatible with each other. The spill pallet provides an independent containment system. Likewise, only compatible solids are stored together on a pallet. The pallets of wastes are segregated into different rows and areas; each row or area containing only compatible wastes. Ignitable and reactive wastes are segregated from other wastes in this manner.

- Forklifts are not used for waste movement near treatment operations involving ignitable or reactive wastes in Building 6920 to minimize potential sources of ignition while containers are or may be open.

- Wastes are mixed together on a very limited basis during the treatment and repackaging operations at the Unit. Ignitable and reactive wastes are treated or mixed on a case-by-case basis. Unit personnel plan each such operation carefully to identify the hazards and potential consequences. Personnel use waste characterization data and/or published chemical information (e.g., "NIOSH Pocket Guide to Chemical Hazards" [DHHS, 1994] or other chemical or engineering handbook) for each waste in the planning process. Personnel then conduct the operations according to the plan in order to control the hazards and prevent uncontrolled reactions. Treatment operations are described in Section 8.0 of this module.

~~Any of the ignitable or reactive wastes listed in the General Part A may be managed in the future at the CWMF. Sources of ignition that may be present at the CWMF are the same as those in the existing RMWMF, and Unit personnel will employ the same precautions and practices described for the RMWMF. Future features, potential ignition sources, precautions, and practices associated with the CWMF include:~~

- ~~The enclosed room in the south bay of Building 6920 will be used for open container operations (e.g., bulking, sampling) that may involve ignitable or reactive wastes. The ventilation system will be designed to exhaust air from the lower part of the room to minimize accumulation of potentially hazardous vapors. All electrical receptacles and switches elevated less than four feet from the floor will be intrinsically safe (spark proof). The remainder of the south bay will not be used for operations involving open transfer of potentially ignitable or reactive wastes, and will not require specialized exhaust or an intrinsically safe electrical system.~~

- ~~Spontaneously ignitable and water-reactive wastes will be segregated from other wastes and typically stored in the new modular storage buildings. The new modular storage buildings will have exterior signs indicating the presence of ignitable and reactive wastes.~~

- ~~Ignitable and reactive wastes will be stored in any of the buildings, and will be segregated from other wastes within each storage area. The containers will be labeled as described in Section 1.2.1 of the General Part B. In 6920 (north bay), in 6921, and in 6925, Unit personnel will typically place a portable sign near the wastes, use prominent labels, or use another method to assist in identifying them as ignitable and/or reactive. In Building 6920 (south bay), ignitable and reactive wastes will be labeled and segregated in different holding cells according to compatibility criteria in 20 NMAC 4.1.500/40 CFR 264 Appendix V. Each cell will be marked with a sign noting the hazard class(es) of wastes inside. Containers in Building 6926 (including ignitables and reactives) will be labeled. They will be segregated into different bays according to general DOT hazard classes in 49 CFR 172 and 20 NMAC4.1.500/40 CFR 264 Appendix V as appropriate. Each bay will be marked with a sign noting the hazard class(es) of wastes inside. The holding cells and bays will be separated from each other by concrete walls and will have independent containment systems.~~

- ~~Spontaneously ignitable wastes may be managed temporarily in Buildings 6920, 6921, 6925, and 6926 for treatment, packaging, and staging for shipment. Individual containers will be labeled as described in Section 1.2.1 of the General Part B, and they will be kept apart from other wastes.~~

1.2.3 Preparedness and Prevention (20 NMAC 4.1.5.500/40 CFR 264, Subpart C and 20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address required equipment, testing and maintenance of equipment, and access to communications or alarm systems at the ~~existing~~ RMWMF~~/future CWMF~~.

1.2.3.1 Required Equipment (20 NMAC 4.1.500/40 CFR 264.32)

General information about fire hydrants is provided in Section 1.1.3.1 of the General Part B. The fire hydrants at the RMWMF are shown in Figure 1~~2~~4. ~~These fire hydrants will remain at the CWMF.~~

The ~~existing~~ modular storage buildings are grounded by a 10-ft-long grounding rod and cable. ~~The additional modular storage buildings will be equipped with the same type of system.~~

All buildings at the RMWMF are equipped with automatic fire suppression systems, summarized in Table ~~2~~1.

Table 1~~2~~
Fire Suppression Systems at the
Radioactive and Mixed Waste Management Facility

Building	Applicable NFPA Standard[a]	Sprinkler Design Occupancy Classification	System Type	Sprinkler Actuation[b]
6920 (general area)	13	Ordinary/Group 2	Automatic sprinkler, wet pipe	GB/FS
6920 (small rooms)	13	Extra/Group 1	Automatic sprinkler, wet pipe	GB/FS
HEPA filters	15	N/A	Deluge, dry/open	Detection
6921	13	Ordinary/Group 2	Automatic sprinkler, wet pipe	GB/FS
6925	13	Ordinary/Group 2	Automatic sprinkler, dry pipe	GB/FS
6926	13	Ordinary/Group 2	Automatic sprinkler, dry pipe	GB/FS
TP150	17	N/A	Dry chemical	
TP153	17	N/A	Dry chemical	

[a] National Fire Protection Association (NFPA), 2000, 2002
[b] Sprinklers are either glass bulb (GB) or fusible solder (FS) type, typically designed to open at temperatures of 155°F or higher.

~~All buildings at the CWMF will be equipped with automatic fire suppression systems, summarized in Table 3.~~

Information on other required equipment located at the RMWMF ~~and CWMF~~ is provided in Section 6.0 and Table 3 of this module.

1.2.3.2 Testing and Maintenance of Equipment (20 NMAC 4.1.500/40 CFR 264.33)

Information on equipment testing and maintenance at the RMWMF is provided in Appendix C of the General Part B and in Section 4.0 of this module. ~~Information on future equipment testing and maintenance at the CWMF is also provided in Section 4.0 of this module.~~

1.2.3.3 Access to Communications or Alarm Systems (20 NMAC 4.1.500/40 CFR 264.34)

Information about the types and locations of communications or alarm systems at the RMWMF is provided in Section 1.1.3.2 of the General Part B and in Section 6.0 of this module. ~~Information regarding the future CWMF is also provided in Section 6.0 of this module.~~

~~**Table 3**~~
~~**Fire Suppression Systems at the Consolidated Waste Management Facility**~~

~~Building~~	~~Applicable NFPA Standard[a]~~	~~Sprinkler Design Occupancy Classification~~	~~System Type~~	~~Sprinkler Actuation[b]~~
~~6920 (north bay and new east rooms)~~	~~13~~	~~Ordinary/Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~6920 (south bay and enclosed room~~	~~13, 30~~	~~Extra Hazard/ Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~6920 (remainder of south bay)~~	~~13~~	~~Ordinary/Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~HEPA filters~~	~~15~~	~~N/A~~	~~N/A, detection only~~	~~N/A~~
~~6921~~	~~13~~	~~Ordinary/Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~6925~~	~~13~~	~~Ordinary/Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~6926 (Bays 1 and 2)~~	~~13, 30~~	~~Extra Hazard/ Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~6926 (remainder)~~	~~13~~	~~Ordinary/Group 2~~	~~Automatic sprinkler, wet pipe~~	~~GB/FS~~
~~TP150~~	~~17~~	~~N/A~~	~~Dry chemical~~	
~~TP153~~	~~17~~	~~N/A~~	~~Dry chemical~~	
~~Additional mod 1~~	~~17~~	~~N/A~~	~~Dry chemical~~	
~~Additional mod 2~~	~~17~~	~~N/A~~	~~Dry chemical~~	

~~[a] National Fire Protection Association (NFPA), 2000, 2002~~
~~[b] Sprinklers are either glass bulb (GB) or fusible solder (FS) type, typically designed to open at temperatures of 155°F or higher.~~

1.2.4 Hazards Prevention (20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address the procedures, equipment, and structures used at the ~~existing~~ RMWMF to prevent hazards. ~~Information regarding the future CWMF is also included.~~ Additional information applicable to the RMWMF~~, CWMF,~~ and all other Units at SNL/NM is included in Section 1.1.4 of the General Part B.

1.2.4.1 Preventing Hazards in Unloading (20 NMAC 4.1.900/40 CFR 270.14[b][8][i])

RMWMF personnel employ the practices described in Section 1.1.4.1 of the General Part B to prevent hazards in unloading. Loading and unloading activities take place on the paved areas, typically immediately outside the buildings. The surface is sloped gently toward shallow drainage ditches, the pavement is in good condition in the area, and there is sufficient room for operating vehicles.

Drums and other containers of RCRA-regulated waste are typically strapped together on a pallet before being loaded onto vehicles, or are loaded individually. Containers are typically transported within the Unit with forklifts, drum dollies, or pallet jacks.

Unit personnel typically use the loading dock for loading and unloading wastes from trucks. The ramp on the west side of Building 6926 slopes gently up to the dock, allowing forklift operators to drive onto trailers of trucks parked at the dock. The dock and ramp are in good condition and are covered with a corrugated metal roof to provide protection from weather.

~~Personnel will continue to use these practices during operations at the CWMF.~~

1.2.4.2 Preventing Runoff or Flooding (20 NMAC 4.1.900/40 CFR 270.14[b][8][ii])

The area around the Unit slopes gently toward the west. Sheet-flow run-on of surface water from surrounding areas outside the Unit is prevented from entering the WMAs by several features. The elevated gravel road located outside the east fence of the Unit serves to divert water flowing from areas farther to the east. An 8-in. curb at the east edge of the asphalt pavement and an asphalt-lined drainage swale along the eastern edge of the Unit (inside the fence) divert run-on from the gravel road toward the south away from the Unit. On the south and west sides, the Unit is higher than the surrounding land. On the north side, the Unit and a narrow ledge of land outside the fence are higher than the surrounding land. Thus, run-on from all directions is prevented from entering the Unit.

The asphalt-paved areas within the Unit are surrounded by an 8-inch curb, further preventing run-on and run-off. The outside storage area slopes toward the south and west. The concrete pads outside the doors and the asphalt pavement surrounding Buildings 6920, 6921, 6925, and 6926 all slope away from the doors and toward shallow drainage channels that run between buildings 6920, 6925, and 6926. The channels lead to the synthetic-lined water retention pond at the southwest corner of the Unit, providing controlled drainage of storm water from roof downspouts and the paved areas in the RMWMF into the water retention pond. During normal operations, the water retention pond collects only storm water. The water retention pond does not provide secondary containment for RCRA-regulated waste.

1.2.4.3 Preventing Contamination of Water Supplies (20 NMAC 4.1.900/40 CFR 270.14[b][8][iii])

Sandia/DOE do not anticipate that management of RCRA-regulated wastes at the RMWMF ~~or CWMF~~ will affect water supplies, as described in Section 1.1.4.3 of the General Part B.

1.2.4.4 Mitigating Effects of Equipment Failure or Power Outages (20 NMAC 4.1.900/40 CFR 270.14[b][8][iv])

General measures that are available to Unit personnel are described in Section 1.1.4.4 of the General Part B. RCRA-regulated waste handling activities in the RMWMF WMAs that are affected by equipment failures or power outages will be suspended in response to such outages.

The RMWMF is equipped with an auxiliary diesel generator that can provide backup power to Building 6920. The generator maintains containment ventilation, alarm systems, heating equipment, and controls necessary to keep water in pipes from freezing should the main power supply fail. ~~This generator will continue to be available following the CWMF modifications.~~

Equipment and/or power failures at Buildings 6920, 6921, 6925, 6926; the outdoor waste storage area; or the two modular storage buildings will not result in a loss of containment of RCRA-regulated wastes. ~~Equipment and/or power failures at the two additional CWMF modular storage buildings will not result in a loss of containment of RCRA-regulated wastes.~~

1.2.4.5 Preventing Undue Exposure (20 NMAC 4.1.900/40 CFR 270.14[b][8][v])

RMWMF personnel employ the practices described in Section 1.1.4.5 of the General Part B to prevent undue exposure. In addition, the enclosed work areas and negative-pressure ventilation systems in the fume hoods in Buildings 6920 and 6921 provide additional protection for Unit personnel performing treatment and repackaging operations. Anticipated emissions from treatment operations are discussed in Section 8.2.

~~Following renovation, both the north and south bays of Building 6920 at the CWMF will be equipped with fume hoods and localized ventilation systems that will provide additional protection for Unit personnel performing treatment and repackaging operations.~~

1.2.4.6 Preventing Releases to the Atmosphere (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC)

RMWMF personnel employ the practices described in Section 1.1.4.6 of the General Part B to prevent releases to the atmosphere during storage. ~~CWMF personnel will employ the same practices.~~

Subpart AA

RMWMF storage operations do not employ any of the processes subject to the requirements of 20 NMAC 4.1.500/40 CFR 264 Subpart AA. ~~CWMF storage operations will not employ any of these processes.~~

Subpart BB

During storage activities, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations ≥10 percent by weight in process equipment identified in 20 NMAC 4.1.500/40 CFR 264, Subpart BB [10-1-03]. Equipment used in such service at the RMWMF will be used for less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052 through 1060 [10-1-03] as noted in

20 NMAC 4.1.500/40 CFR 264.1050(f) [10-1-03]. The equipment list will be maintained in the RMWMF records. Equipment use will also be noted in the records.

~~Repackaging operations at the CWMF will sometimes involve a pump to be used in light organic service. It will be used for less than 300 hours per calendar year and will therefore be exempt from the requirements in the same manner as the equipment at the existing RMWMF. The equipment list will be maintained in the CWMF records, and equipment use will also be noted in the records.~~

Subpart CC

Unit personnel ~~(at the RMWMF and future CWMF)~~ follow ~~and will continue to follow~~ the practices described in Section 1.1.4.6 of the General Part B and maintain compliance with Container Level 1 standards (20 NMAC 4.1.500/40 CFR 264.1086[c]) for containers that are subject to the standards. Such containers may be stored in any of the WMAs at the ~~existing or future~~ Unit.

Section B.5.3 in Appendix B of the General Part B also describes procedures to maintain compliance with the air emissions requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts BB and CC [10-1-03].

1.3 Container Storage (20 NMAC 4.1.900/40 CFR 270.15 and 20 NMAC 4.1.500/40 CFR 264, Subpart I)

Container storage practices applicable to the RMWMF ~~and future CWMF~~ are presented in the following sections.

1.3.1 Container Types and Labeling

RMWMF personnel use the containers types and labeling practices described in Section 1.2.1 of the General Part B. ~~They will continue to apply to CWMF operations.~~

1.3.2 Container Handling (20 NMAC 4.1.500/40 CFR 264.173)

RMWMF personnel employ the container handling practices described in Section 1.2.2 of the General Part B. ~~CWMF personnel will use the same practices.~~

1.3.2.1 Condition of Containers (20 NMAC 4.1.500/40 CFR 264.171)

The condition of containers at the RMWMF is maintained as indicated in Section 1.2.2.1 of the General Part B. ~~Containers at the CWMF will be maintained in the same manner.~~

1.3.2.2 Aisle Space and Storage Configuration (20 NMAC 4.1.500/40 CFR 264.35)

RMWMF personnel employ the aisle space and storage configuration as described in Section 1.2.2.2 of the General Part B. Aisle width is typically 2.5 feet; this is adequate for unobstructed movement of Unit and emergency response personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of Unit operation in an emergency. ~~CWMF personnel will employ the same practices.~~

~~In Buildings 6920, 6921, 6925, and 6926, drums and drum-shaped containers that are stacked are stored on pallets, and are not stacked more than three pallets high. Box-shaped containers may be stacked three high without pallets. Containers of solids may also be stored directly on the floor. Containers of liquids are stored on spill pallets and are not stacked.~~

~~Following renovation, container storage practices in Building 6926 and the south bay of Building 6920 will be modified. Stacked drum-shaped containers will be stored on pallets, and containers of liquids will not be stacked more than two pallets high. Containers of solids may be stacked three pallets high. Containers may also be stored directly on the grating or on pallets on the floor. Smaller containers may be stacked on a single pallet or on the grating.~~

Containers of liquids are not stacked when stored in the ~~existing~~ modular buildings~~ at the RMWMF~~. ~~Fifty-five gallon drums stored in all of the modular buildings at the CWMF will not be stacked; smaller containers may be stacked, including containers of liquids.~~

1.3.2.3 Compatibility of Waste with Containers (20 NMAC 4.1.500/40 CFR 264.172)

RMWMF personnel ensure waste compatibility with containers as indicated in Section 1.2.2.3 of the General Part B. ~~CWMF personnel will follow the same practices.~~

1.3.2.4 Presence of Liquids in Containers (20 NMAC 4.1.900/40 CFR 270.15[b][1] and 20 NMAC 4.1.500/40 CFR 264.175[c])

RMWMF personnel verify the absence of free liquids in containers as indicated in Section 1.2.2.4 of the General Part B before storing containers in areas that are not equipped with secondary containment. ~~CWMF personnel will follow the same practices.~~

1.4 Treatment Operations

RCRA-regulated wastes are treated at the RMWMF by the following methods:

- Chemical deactivation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Thermal deactivation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).

- Stabilization (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Amalgamation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Macroencapsulation (performed in Buildings 6920, 6921, or 6925)
- Physical treatment (performed in either bay in Building 6920 and in Building 6921).

~~Personnel at the CWMF will continue to treat RCRA-regulated wastes using the same treatment methods and equipment in the following locations:~~

- ~~Chemical deactivation will be performed in the north bay of Building 6920 or in the treatment area in Building 6921.~~
- ~~Thermal deactivation will be performed in the north bay of Building 6920 or in the treatment area in Building 6921.~~
- ~~Stabilization will be performed in the north bay of Building 6920 or in the treatment area in Building 6921.~~
- ~~Amalgamation will be performed in the north bay of Building 6920 or in the treatment area in Building 6921.~~
- ~~Macroencapsulation will be performed in Buildings 6920, 6921, or 6925.~~
- ~~Physical treatment will be performed in the north bay in Building 6920 and in Building 6921.~~

The treatment practices ~~applicable to the RMWMF and CWMF~~ are discussed in detail in Section 8.0 of this module.

2.0 UNIT DESCRIPTION AND INFORMATION

The information provided in this section is submitted to address the applicable requirements of 20 NMAC 4.1.500 and .900/40 CFR 264 and 270 [10-1-03]. The following subject areas are addressed in this section:

- Unit-specific security procedures and equipment (20 NMAC 4.1.900/40 CFR 270.14[b][4] and 270.14[b][19][viii] [10-1-03]; 20 NMAC 4.1.500/40 CFR 264.14 [10-1-03]);
- Unit-specific traffic patterns, volume, and controls (20 NMAC 4.1.900/40 CFR 270.14[b][10] [10-1-03]);
- Unit-specific location information for compliance with the seismic standard and floodplain requirements (20 NMAC 4.1.900/40 CFR 270.14[b][11] [10-1-03], and 20 NMAC 4.1.500/40 CFR 264.18[a] and [b] [10-1-03]);
- Unit-specific topographic map requirements (20 NMAC 4.1.900/40 CFR 270.14[b][19] [10-1-03]); and
- Unit-specific groundwater monitoring and protection information (20 NMAC 4.1.900/ 40 CFR 270.14[c] [10-1-03], and 20 NMAC 4.1.500/40 CFR 264.90[a] [10-1-03]).

An SNL/NM site-wide facility description addressing additional regulatory requirements is provided in Appendix A of General Part B.

2.1 Security Procedures And Equipment (20 NMAC 4.1.900/40 CFR 270.14[b][4]; 20 NMAC 4.1.500/40 CFR 264.14)

The following sections describe the security provisions provided at SNL/NM to prevent unknowing or unauthorized entry onto the active portions of the RMWMF.

2.1.1 Barriers and Means to Control Entry (20 NMAC 4.1.500/40 CFR 264.14[b][2][i] and [ii])

The ~~existing~~ RMWMF is completely surrounded by an 8-ft-high chain-link and barbed-wire fence. A single personnel entrance door adjacent to the main vehicle entrance gate is located on the south side of the RMWMF. Another personnel entrance door and vehicle gate are located on the north side of the RMWMF. The gates and doors in the RMWMF fence are maintained in closed and locked positions. As noted in Appendix A of the General Part B, Sandia security personnel periodically monitor the RMWMF gates during non-operational hours.

During work hours, RMWMF employees may enter the area through the locked personnel doors by entering the appropriate code into a keypad on the RMWMF fence near each personnel door. Emergency and service vehicles may enter the RMWMF through the electronically-controlled main vehicle gate if RMWMF personnel enter the appropriate code into a keypad inside the

office trailer or on the keypads located near the personnel doors on the RMWMF fence. Signs instruct personnel and visitors to report to the office trailer for site entry privileges and instructions. Resident personnel have Sandia-issued badges. Individuals who do not have a Sandia-issued badge are escorted. These procedures limit access to the RMWMF WMAs in accordance with 20 NMAC 4.1.500/40 CFR 264.14(b)(2) [10-1-03].

The RMWMF is located inside TA-III (Figures 1 and 2). TA-III is surrounded by a barbed wire fence with designated access gates. TA-III access control procedures assure that only properly identified and authorized persons, vehicles, and property are allowed entrance to and exit from TA-III.

~~The CWMF will be located at the site of the existing RMWMF and will include the same features and operating practices.~~

2.1.2 Warning Signs (20 NMAC 4.1.500/40 CFR 264.14[c])

The permanent perimeter fence surrounding the RMWMF and the entrance to the RMWMF are posted with "Danger: Unauthorized Personnel Keep Out" (or functionally equivalent) signs. The signs contain the warning in English and Spanish, are legible from a distance of 25 ft, and can be seen from any approach to the RMWMF. ~~The fence and signs will remain around the CWMF.~~

2.2 Traffic Pattern, Volume, and Controls (20 NMAC 4.1.900/40 CFR 270.14[b][10])

General traffic pattern information, traffic volumes, and traffic control signals for the SNL/NM facility are provided in Appendix A of the General Part B.

2.2.1 Traffic Patterns

The primary traffic routes used to transport RCRA-regulated waste to the RMWMF include Wyoming Boulevard, Hardin Boulevard (formerly "O" Street), and Pennsylvania Avenue. Pennsylvania Avenue crosses Tijeras Arroyo over the Manzano Bridge. A two-lane paved road to TA-III turns southwestward off of Pennsylvania Avenue at a point just over 5 miles south of the Wyoming Boulevard entrance gate as shown on Figure A-4 in Appendix A of the General Part B.

Within TA-III, traffic access to and from the RMWMF is along 2-lane asphalt-paved roads shown on Figure A-6 in Appendix A of the General Part B. Vehicles entering the RMWMF travel on an asphalt-paved 2-lane drive from the road through the south vehicle gate, as shown on Figure 9. Within the RMWMF, waste is transported on asphalt-paved surfaces.

~~All these traffic routes will apply to future CWMF operations.~~

2.2.2 Traffic Volumes

Traffic volumes on Wyoming Boulevard and Hardin Boulevard are generally light to moderate. Traffic volumes on Pennsylvania Avenue are generally light. Traffic volumes within TA-III are light. Vehicle types are generally cars, light- and medium-duty trucks, and vans. Flatbed trucks or trailers also use primary traffic routes to transport waste containers.

Approximately 10 to 30 vehicles per week travel into and out of the RMWMF. These include flatbed trucks and trailers carrying supplies, RCRA-regulated wastes from initial generators, and wastes to off-site TSDFs.

~~Approximately 20 to 40 vehicles per week are expected to travel into and out of the CWMF. These will include the same types of vehicles described above.~~

2.2.3 Traffic Control Signals

Vehicles must stop at a gate prior to entering or leaving TA-III. Only authorized personnel are permitted into TA-III. Speed limit signs (i.e., "30 mph Unless Otherwise Posted") are located at several locations in TA-III.

There are no traffic control signals or signs within the RMWMF fenced area. A speed limit sign (i.e., "Max. Speed 5 mph On Site") is posted on the fence adjacent to the RMWMF entrance gate (Figure 9). Vehicle presence within the RMWMF fenced area is limited to official and waste transport vehicles. Therefore, signals or signs are not necessary to control traffic within the RMWMF fenced area.

~~Traffic control at the CWMF will be the same as that currently practiced at the RMWMF.~~

2.3 Unit Location Information (20 NMAC 4.1.900/40 CFR 270.14[b][11])

2.3.1 Seismic Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][i] and [ii]; 20 NMAC 4.1.500/40 CFR 264.18[a])

The WMAs at the ~~existing~~ RMWMF~~/ future CWMF~~ are not located within 3,000 ft of any faults with Holocene displacements (see Section A.4.2 in Appendix A of the General Part B).

2.3.2 Floodplain Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][iii]; 20 NMAC 4.1.500/40 CFR 264.18[b])

The WMAs at the ~~existing~~ RMWMF~~/future CWMF~~ are not located within the 100-year floodplain boundary (see Section A.4.3 in Appendix A of the General Part B).

2.4 Topographic Maps (20 NMAC 4.1.900/40 CFR 270.14[b][19])

Topographic maps and figures are provided herein or referenced to meet the requirements of 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03]. Due to the large amount of information, it is not provided on a single map. The maps clearly show the map scale, the date of preparation, and a north arrow (20 NMAC 4.1.900/40 CFR 270.14[b][19][i] and [vi] [10-1-03]). The maps and figures used to fulfill these regulatory requirements include the following:

- An SNL/NM-wide 100-year floodplain map is provided as Figure A-2 in Appendix A of the General Part B (20 NMAC 4.1.900/40 CFR 270.14[b][19][ii] [10-1-03]).

- Surface waters, including intermittent streams, near the ~~existing~~ RMWMF~~/future CWMF~~ are shown on Figure A-2 in Appendix A of the General Part B and Figure 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][iii] [10-1-03]).

- Surrounding land uses are shown on Figures A-2 and A-8 in Appendix A of the General Part B and Figure ~~10~~8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][iv] [10-1-03]). The area surrounding the ~~existing~~ RMWMF~~/future CWMF~~ is occupied by test areas and Sandia-controlled operations (industrial land use).

- Wind roses for SNL/NM are shown on Figure A-2 in Appendix A of the General Part B and Figure ~~10~~8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][v] [10-1-03]).

- Legal boundaries of SNL/NM (including the ~~existing~~ RMWMF~~/future CWMF~~) are shown on Figure A-2 in Appendix A of the General Part B (20 NMAC 4.1.900/40 CFR 270.14[b][19][vii] [10-1-03]).

- Access control features at the ~~existing~~ RMWMF ~~and future CWMF~~ (e.g., fences, gates) are shown on Figure~~s~~ 9~~10 and 11~~ of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][viii] [10-1-03]).

- Supply wells, monitoring wells, test wells, springs, and surface-water sampling stations near the ~~existing~~ RMWMF ~~and future CWMF~~ are shown on Figure A-2 in Appendix A of the General Part B and Figure 8~~10~~ of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][ix] [10-1-03]).

- The location of the WMA structures, loading and unloading areas, roads, and sanitary sewers associated with the ~~existing~~ RMWMF ~~and future CWMF~~ are shown on Figures 8~~10~~ and 9~~11~~ of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][x] [10-1-03]).

- Drainage control features (e.g., run-on/runoff, drainage barriers) are shown on Figure 10~~12~~ of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][x] and [xi] [10-1-03]).

- Locations of the ~~existing~~ RMWMF and RMWMF WMAs ~~and the future CWMF and CWMF WMAs~~ are shown on Figures 3 and 8~~10~~ of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][xii] [10-1-03]).

Contour lines on all topographic maps are in intervals sufficient to detail natural drainage at SNL/NM and in the vicinity of the ~~existing~~ RMWMF~~/future CWMF~~. As provided for in 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03], SNL/NM has submitted the maps to the NMED at these scales and contour intervals due to the size of the ~~existing~~ RMWMF~~/future CMWF~~, the extent of the SNL/NM facility, and the topographic relief in the area.

2.5 Groundwater Monitoring (20 NMAC 4.1.900/40 CFR 270.14[c]; 20 NMAC 4.1.500/40 CFR 264.90[a])

Groundwater monitoring information is provided in Part 3 of this comprehensive Part B permit request. The ~~existing~~ RMWMF is not a regulated unit~~, and the future CWMF will not be a regulated unit~~. There have been no releases of RCRA-regulated waste in the past, nor is~~are~~ the RMWMF ~~or CWMF~~ likely to affect groundwater quality during normal operations or during unusual events.

3.0 WASTE ANALYSIS PLAN

Waste analysis requirements applicable to all Units, including the ~~existing~~ RMWMF ~~and future CWMF~~, are addressed in Appendix B of the General Part B as required by 20 NMAC 4.1.900/40 CFR 270.14[b][2], 20 NMAC 4.1.500/40 CFR 264.13, "General Waste Analysis."

4.0 INSPECTION PLAN

20 NMAC 4.1.500/40 CFR 264.15 and 264.33 [10-1-03] and 20 NMAC 4.1.900/40 CFR 270.14(b)(5) [10-1-03] require that WMAs and associated systems be inspected on a regular basis and in accordance with procedures to assure their integrity, maintenance, and safe operation.

Unit personnel perform periodic inspections to identify malfunctions, signs of deterioration, operator errors, and discharges or spills that may be causing or may lead to a release of hazardous waste constituents to the environment or may pose a threat to human health. The inspections are performed on a regular schedule based on the likelihood of equipment or system failure and associated consequences. The inspections include safety and emergency equipment, security devices, and operating and structural equipment related to management of RCRA-regulated waste to ensure that human health and the environment will be protected.

The general Sandia/DOE inspection plan and schedule that meets these requirements are described in the "Site-Wide Inspection Plan", provided as Appendix C of the General Part B. RMWMF personnel conduct inspections in accordance with the site-wide plan. ~~CWMF personnel will do the same.~~

Specific items and areas that are inspected are listed in Table 4, with the inspection criteria and frequency. The items listed in the table are inspected in each RMWMF WMA where applicable.

~~Specific items and areas that will be inspected in the future CWMF are listed in Table 5, with the inspection criteria and frequency. The items listed in the table will be inspected in each CWMF WMA where applicable.~~

Automatic fire suppression systems are included in Table~~s~~ 2~~4 and 5~~. Unit personnel check to see that the systems are present. Sandia/DOE personnel also test the systems based on the requirements of NFPA 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems" (NFPA,2002), as described in Section 1.1.3.2 of the General Part B.

The results of inspections by Unit personnel (including any corrective actions required and taken) are recorded on forms identical or similar to the ones presented in Appendix C of the General Part B. The inspection plan (Appendix C and this section) and inspection records for the current calendar year are maintained at the RMWMF. Inspection records for previous calendar years are maintained at the RMWMF or the SNL/NM Records Center. ~~CWMF personnel will follow the same practices.~~

Table 24
Radioactive and Mixed Waste Management Facility Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
SAFETY AND EMERGENCY EQUIPMENT **See Table 6 "Emergency Equipment and Locations" in this module for additional information**		
Eye wash/safety shower	Operational, accessible, in good condition	Monthly
Spill control and cleanup items	Present, accessible, quantities per inventory, in good condition	Monthly
Personal protective equipment	Present, quantities per inventory, and in good condition	Monthly
Fire alarm pull station(s)	Present, accessible, and in good condition	Monthly
Fire alarm(s)	Present	Monthly
Telephone(s)	Present and operational	Monthly
Fire extinguisher(s)	Present, charged, accessible, and in good condition	Monthly
Fire sprinklers and system	Present, appears to be in good condition, sprinklers not obstructed	Monthly
OPERATING AND STRUCTURAL EQUIPMENT		
Building/storage area floor	Clean, no spills, cracks, or excessive wear	Weekly when wastes are managed. Monthly otherwise.
Building walls	Not leaking or spalling, in good condition	Weekly when wastes are managed. Monthly otherwise.
Building ceiling	Not leaking or spalling, and in good condition	Weekly when wastes are managed. Monthly otherwise.
Building lights	Operational and in good condition	Weekly when wastes are managed. Monthly otherwise.
Overhead crane	Present, appears to be in good condition	Weekly when wastes are managed. Monthly otherwise.
Secondary containment (Buildings 6920, TP150, TP153)	Free of liquids, good condition (i.e., no cracks, excessive wear)	Daily when and where wastes are handled. Weekly otherwise.
Loading and unloading areas	Good condition, safe working surface, free of cracks, no spills	Daily when and where wastes are handled. Monthly otherwise.
Waste handling equipment	Good condition, in good repair, operational	Daily when and where wastes are handled. Monthly otherwise.

Table 24 (Concluded)
Radioactive and Mixed Waste Management Facility Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
OPERATING AND STRUCTURAL EQUIPMENT (cont)		
Treatment areas	Good condition, clean, uncluttered, no spills	Daily when and where wastes are handled. Monthly otherwise.
Fume hoods	Good condition, clean, no deterioration	Daily when used for waste treatment. Monthly otherwise.
Treatment equipment (e.g., hand tools, containers)	Good condition (i.e., no releases or deterioration)	Prior to treatment (consumable items) or daily when and where wastes are treated (tools). Monthly otherwise.
Thermal deactivation equipment	Good condition (i.e., no releases or deterioration)	Daily when used to treat wastes. Monthly otherwise.
Monitoring equipment	Instruments in good condition, operational, calibrated	Daily when and where wastes are handled. Monthly otherwise.
Stormwater retention pond	Sampled for presence of released/spilled hazardous waste constituents if there is evidence of or chance that such constituents entered the pond	Within five days of a release requiring reporting to the NMED Secretary.
SECURITY DEVICES		
Fence	Present and in good condition	Monthly
Warning signs	Present and in good condition	Monthly
Gates and doors	Present, operational, in good condition	Monthly
Locks	Present, operational, in good condition	Monthly
CONTAINERS		
Integrity	Good condition (i.e., no bulging, leaks, corrosion, or deterioration)	Check individual containers as they are handled. Weekly otherwise.
Closed	Correct lid/cover placement (i.e., properly closed and sealed)	Check individual containers as they are handled. Weekly otherwise.
Labeling	Correct information, correct location, legible	Check individual containers as they are handled. Weekly otherwise.
Secondary Containment (e.g., spill pallets for liquid waste)	Adequate volume, free of liquids, good condition (i.e., no cracks, excessive wear)	Check individual containers as they are handled. Weekly otherwise.
Storage Conditions	Waste compatible with container, container located with compatible wastes	Check individual containers as they are handled. Weekly otherwise.
Location	Correct aisle space, correct stacking (2 or 3 maximum)	Check individual containers as they are handled. Weekly otherwise.

~~Table 5~~
~~Consolidated Waste Management Facility Inspection Criteria and Frequency~~

~~Inspected Item~~	~~Inspection Criteria~~	~~Inspection Frequency~~
~~SAFETY AND EMERGENCY EQUIPMENT~~ ~~See Table 6 "Emergency Equipment and Locations" in this module for additional information~~		
~~Eye wash/safety shower~~	~~Operational, accessible, in good condition~~	~~Monthly~~
~~Spill control and cleanup items~~	~~Present, accessible, quantities per inventory, in good condition~~	~~Monthly~~
~~Personal protective equipment~~	~~Present, quantities per inventory, and in good condition~~	~~Monthly~~
~~Fire alarm pull station(s)~~	~~Present, accessible, and in good condition~~	~~Monthly~~
~~Fire alarm(s)~~	~~Present~~	~~Monthly~~
~~Telephone(s)~~	~~Present and operational~~	~~Monthly~~
~~Fire extinguisher(s)~~	~~Present, charged, accessible, and in good condition~~	~~Monthly~~
~~Fire sprinklers and system~~	~~Present, appears to be in good condition, sprinklers not obstructed~~	~~Monthly~~
~~OPERATING AND STRUCTURAL EQUIPMENT~~		
~~Building/storage area floor~~	~~Clean, no spills, cracks, or excessive wear~~	~~Weekly when wastes are managed. Monthly otherwise.~~
~~Building walls~~	~~Not leaking or spalling, in good condition~~	~~Weekly when wastes are managed. Monthly otherwise.~~
~~Building ceiling~~	~~Not leaking or spalling, and in good condition~~	~~Weekly when wastes are managed. Monthly otherwise.~~
~~Building lights~~	~~Operational and in good condition~~	~~Weekly when wastes are managed. Monthly otherwise.~~
~~Shelves (south bay of Building 6920)~~	~~Clean, in good condition, no accumulated leaks or spills~~	~~Daily when and where wastes are handled. Weekly otherwise.~~
~~Jib crane (Building 6920)~~	~~Present, appears to be in good condition~~	~~Weekly when wastes are managed. Monthly otherwise.~~
~~Secondary containment (Buildings 6920, 6926, TP150, TP153, and additional modular buildings)~~	~~Free of liquids, good condition (i.e., no cracks, excessive wear)~~	~~Daily when and where wastes are handled. Weekly otherwise.~~
~~Loading and unloading areas~~	~~Good condition, safe working surface, free of cracks, no spills~~	~~Daily when and where wastes are handled. Monthly otherwise.~~
~~Waste handling equipment~~	~~Good condition, in good repair, operational~~	~~Daily when and where wastes are handled. Monthly otherwise.~~
~~Waste transfer pump~~	~~Present, operational, and in good condition~~	~~Prior to use. Monthly otherwise.~~

~~Table 5 (Concluded)~~
~~Consolidated Waste Management Facility Inspection Criteria and Frequency~~

~~Inspected Item~~	~~Inspection Criteria~~	~~Inspection Frequency~~
~~OPERATING AND STRUCTURAL EQUIPMENT (cont)~~		
~~Treatment areas (Buildings 6920, 6921, and 6925)~~	~~Good condition, clean, uncluttered, no spills~~	~~Daily when and where wastes are handled. Monthly otherwise.~~
~~Fume hoods (Buildings 6920 and 6921)~~	~~Good condition (i.e., no releases or deterioration)~~	~~Daily when used for waste treatment. Monthly otherwise.~~
~~Treatment equipment (e.g., hand tools, containers)~~	~~Good condition (i.e., no releases or deterioration)~~	~~Prior to treatment (consumable items) or daily when and where wastes are treated (tools). Monthly otherwise.~~
~~Thermal deactivation equipment~~	~~Good condition (i.e., no releases or deterioration)~~	~~Daily when used to treat wastes. Monthly otherwise.~~
~~Monitoring equipment~~	~~Instruments in good condition, operational, calibrated~~	~~Daily when and where wastes are handled. Monthly otherwise.~~
~~Stormwater retention pond~~	~~Sampled for presence of released/spilled hazardous waste constituents if there is evidence of or chance that such constituents entered the pond~~	~~Within five days of a release requiring reporting to the NMED Secretary.~~
~~SECURITY DEVICES~~		
~~Fence~~	~~Present and in good condition~~	~~Monthly~~
~~Warning signs~~	~~Present and in good condition~~	~~Monthly~~
~~Gates and doors~~	~~Present, operational, in good condition~~	~~Monthly~~
~~Locks~~	~~Present, operational, in good condition~~	~~Monthly~~
~~CONTAINERS~~		
~~Integrity~~	~~Good condition (i.e., no bulging, leaks, corrosion, or deterioration)~~	~~Check individual containers as they are handled. Weekly otherwise.~~
~~Closed~~	~~Correct lid/cover placement (i.e., properly closed and sealed)~~	~~Check individual containers as they are handled. Weekly otherwise.~~
~~Labeling~~	~~Correct information, correct location, legible~~	~~Check individual containers as they are handled. Weekly otherwise.~~
~~Secondary Containment (e.g., spill pallets for liquid waste)~~	~~Adequate volume, free of liquids, good condition (i.e., no cracks, excessive wear)~~	~~Check individual containers as they are handled. Weekly otherwise.~~
~~Storage Conditions~~	~~Waste compatible with container, container located with compatible wastes~~	~~Check individual containers as they are handled. Weekly otherwise.~~
~~Location~~	~~Correct aisle space, correct stacking (2 or 3 maximum)~~	~~Check individual containers as they are handled. Weekly otherwise.~~

5.0 PERSONNEL TRAINING

Training Requirements for Unit personnel are specified in 20 NMAC 4.1.900/40 CFR 270.14[b][12] and 20 NMAC 4.1.500/40 CFR 264.16 [10-1-03], "Personnel Training."

The Sandia/DOE training program is designed and implemented to prepare personnel to safely operate and maintain those areas used for managing RCRA-regulated wastes. The training program applies to all employees of the DOE, Sandia, and any subcontractors who have responsibility for the day-to-day management of RCRA-regulated waste at the RMWMF.

RMWMF personnel receive training in accordance with the "Site-Wide Personnel Training Plan," provided as Appendix D of the General Part B. All job descriptions identified in Appendix D, Table D-2 of the General Part B are applicable at the RMWMF.

Training records for RMWMF personnel are maintained at the RMWMF.

~~The training applicable to existing RMWMF operations will also be applicable to future CWMF operations. Personnel will receive training and maintain records in the same manner as current RMWMF personnel. All job descriptions identified in Appendix D, Table D-2 of the General Part B will be applicable at the CWMF.~~

6.0 CONTINGENCY PLAN AND EMERGENCY RESPONSE

Emergency response requirements for permitted units are specified in 20 NMAC 4.1.500/40 CFR 264, Subpart D [10-1-03], "Contingency Plan and Emergency Procedures," and in 20 NMAC 4.1.900/40 CFR 270.14(b)(7) [10-1-03]. The "Site-Wide Contingency Plan" is included in as Appendix E of the General Part B. Supplemental RMWMF-specific information is included in this section, in Figures 11 and 12~~13 through 16~~, and in Tables 3 and 4~~6 through 8~~ of this module. Current copies of the site-wide contingency plan (Appendix E of the General Part B) and this supplemental information are maintained at the ~~existing~~ RMWMF and at the SNL/NM Emergency Operations Center. ~~The information will be maintained at the CWMF.~~

The ~~existing~~ RMWMF is located in the southeastern corner of TA-III at SNL/NM. It is used for treatment and storage of RCRA–regulated wastes. The WMAs at the RMWMF include Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and the outdoor waste storage area (i.e., paved areas within the RMWMF fence and north, east, and west of Building 6920). All are surrounded by a fence. ~~Sandia/DOE plan to make physical modifications to the RMWMF during the next three years to increase capacity; the modified facility will be called the CWMF. The future CWMF will be located in the same fenced area, and will include the same WMAs plus two additional modular storage buildings. Sandia/DOE will conduct the same operations at the CWMF (storage, repackaging, and treatment of RCRA-regulated wastes) that are currently conducted at the RMWMF.~~

The ~~existing~~ RMWMF WMAs include the following:

- Building 6920 at the ~~existing~~ RMWMF is a single-story concrete masonry unit (CMU) and steel building with approximately 5,000 square feet of space used for waste storage and treatment activities. Inside the building are two bays (north and south), separated by an interior airlock. The south bay includes four small rooms used for treatment and storage. The building also includes a control room, restrooms, and electrical and mechanical rooms. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored over a sump in the south bay or on portable spill containment pallets. Containers of incompatible wastes are not stored together. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may be treated by chemical deactivation, macroencapsulation, stabilization, thermal deactivation, or physical treatment. Up to 13,420 gallons of waste may be stored in this building.

- Building 6921 at the ~~existing~~ RMWMF is a single-story CMU building with approximately 1450 square feet of space used for waste storage and treatment activities. The building also includes office space and restrooms. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored on portable spill containment pallets. Containers of incompatible wastes are not stored together. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may be treated by chemical deactivation, macroencapsulation, stabilization, or physical treatment. Up to 7,810 gallons of waste may be stored in this building.

- Buildings 6925 and 6926 at the ~~existing~~ RMWMF are each 4000-square-foot prefabricated steel buildings on concrete foundations. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored on portable spill containment pallets. Containers of incompatible wastes are segregated into different areas. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may also be treated by macroencapsulation. Up to 83,160 gallons of waste may be stored in each building.

- Two modular, prefabricated safety storage structures located west of Building 6920 at the ~~existing~~ RMWMF are used for the storage of reactive and ignitable wastes. Each structure is constructed of 10- and 12-gauge welded steel with supporting structural steel sections, and includes a welded steel containment pan covered by grating. Each structure may contain up to 1,100 gallons of waste.

The outdoor waste storage area at the ~~existing~~ RMWMF consists of 48,500 square feet of asphalt-paved areas to the north, east, and west of Building 6920 within the RMWMF fence that may be used for storage of containers of RCRA-regulated wastes. Containers of RCRA-regulated wastes are typically stored inside enclosed transportainers. Containers with liquids are stored on portable spill containment pallets inside the transportainers. Up to 19,800 gallons of wastes may be stored in these areas.

~~The future CWMF WMAs will include the following:~~

- ~~Renovated Building 6920 will be a single-story concrete masonry unit (CMU) and steel building with a control room, restrooms, electrical and mechanical rooms, and approximately 6,100 square feet of space used for waste storage and treatment activities. Up to 57,070 gallons of RCRA-regulated wastes will be stored in waste management areas of the building. The interior will be separated into staging and storage areas, and two separate bays (north and south). All WMA floors will be coated with an epoxy finish.~~

  - ~~Operations in the south bay will include storage and repackaging RCRA-regulated wastes. The south bay of the renovated building will include holding bays (with recessed floors) for storage of small containers (typically less than 55 gallons) of RCRA-regulated waste, an enclosed room, a main area, and airlocks at the east and west ends that can be used for storage. Containers of chemically incompatible wastes will be segregated into separate bays.~~

  - ~~The north bay will be used for repackaging, storage, and treatment of RCRA-regulated wastes. Containers of liquids will be stored on portable spill containment pallets. The north bay will include work areas and storage areas in the new addition on the east end of the building. Containers of incompatible wastes will not be stored together. RCRA-regulated wastes may be treated by chemical deactivation, thermal deactivation, macroencapsulation, amalgamation, stabilization, or physical treatment.~~

- ~~Building 6921 at the CWMF will be a single-story CMU building with approximately 1450 square feet of space used for waste storage and treatment activities. The building also includes office space and restrooms. Containers of wastes (typically less than~~

~~55 gallons) will be stored in this building. Containers with liquids will be stored on portable spill containment pallets. Containers of incompatible wastes will not be stored together. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may be treated by chemical deactivation, macroencapsulation, stabilization, or physical treatment. Up to 7,810 gallons of waste may be stored in this building.~~

- ~~Building 6925 at the CWMF will be a 4000-square-foot prefabricated steel building on a concrete foundation. Containers of wastes (typically less than 55 gallons) will be stored in this building. Containers with liquids will be stored on portable spill containment pallets. Containers of incompatible wastes will be segregated into different areas. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may also be treated by macroencapsulation. Up to 83,160 gallons of waste may be stored in this building.~~

- ~~Building 6926 at the CWMF will be a 4000-square-foot prefabricated steel building on a concrete foundation. The building will include seven separate recessed waste storage compartments for segregation of wastes according to chemical compatibility. Up to 73,419 gallons of waste may be stored in the building.~~

- ~~Two modular, prefabricated safety storage structures located west of Building 6920 at the CWMF will be used for the storage of reactive and ignitable wastes. Each structure is constructed of 10- and 12-gauge welded steel with supporting structural steel sections, and includes a welded steel containment pan covered by grating. Each structure may contain up to 1,100 gallons of waste.~~

- ~~Two additional modular, prefabricated safety storage structures will be located in the northeast corner of the fenced CWMF facility, and will also be used for the storage of reactive and ignitable wastes. Each structure will be constructed of 10- to 12-gauge welded steel, and will include a welded steel containment pan covered by grating. Each structure may contain up to 5,000 gallons of waste.~~

- ~~The outdoor waste storage area at the CWMF will consist of 48,500 square feet of asphalt-paved areas to the north, east, and west of Building 6920 within the CWMF fence that may be used for storage of containers of RCRA-regulated wastes. Containers of RCRA-regulated wastes will typically be stored inside enclosed transportainers. Containers with liquids will be stored on portable spill containment pallets inside the transportainers. Up to 15,840 gallons of wastes may be stored in these areas.~~

RCRA-regulated wastes bearing the U.S. EPA Hazardous Waste Numbers listed in the General Part A may be stored and/or treated at the ~~existing~~ RMWMF ~~and future CWMF~~ WMAs.

Figure ~~13~~11 presents evacuation routes for the ~~existing~~ RMWMF. ~~Figure 14 presents evacuation routes for the future CWMF.~~ Figure 12~~15~~ presents emergency response and access information for the ~~existing~~ RMWMF. ~~Figure 16 presents emergency response and access information for the future CWMF.~~ Table ~~6~~3 lists the emergency equipment typically available at the ~~existing~~ RMWMF. ~~Table 7 lists the emergency equipment that will typically be available at the CWMF.~~ Table 4~~8~~ lists the emergency coordinators for the RMWMF~~; these personnel will also serve as emergency coordinators for the CWMF~~.

Table 36
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6920

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Stations/ Showers	• On north wall in south bay • Near office in north bay
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	In hallway between north and south bays
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	In hallway between north and south bays
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • In southwest corner of southwest airlock • By personnel door in west mechanical room • By personnel door on north wall of north bay • By personnel door in entryway west of office
	Audible fire alarms	Located throughout the building

Table 36 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6920 (continued)

Category	Description/Capabilities	Location
External Communication System	Telephones	Control room, south and north bays
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • In southwest corner of southwest airlock • By personnel door in west mechanical room • By personnel door on north wall of north bay • By personnel door in entryway west of office
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • By personnel door in southwest corner of south bay • In hallway between north and south bays • By personnel door in west mechanical room
	Portable (D)	In northwest corner of north bay
	Portable (A-B-C)(D)	By personnel door on north wall of north bay
Fire Suppression	Automatic wet-pipe sprinkler system with heat-actuated sprinklers	Coverage throughout the building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 124

Table 36 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6921

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Station/Shower	On north wall of assay area
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By north wall of assay area
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	By north wall of assay area
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in electrical/mechanical room • In central hallway outside restrooms • In northwest corner of assay area • By east personnel door in southeast counting room • By east personnel door in middle east office area
	Audible fire alarms	Located throughout the building

Table 36 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6921 (continued)

Category	Description/Capabilities	Location
External Communication System	Telephones	Office and lab areas
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in electrical/mechanical room • In central hallway outside restrooms • In northwest corner of assay area • By east personnel door in southeast counting room • By east personnel door in middle east office area
Fire Extinguishers	Portable (A-B-C)	• By north personnel door in electrical/mechanical room • In hallway between assay area and north office area • By northwest personnel door of assay area • By east personnel door in southeast counting room
Fire Suppression	Automatic wet-pipe sprinkler system with heat-actuated sprinklers	Coverage throughout the building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 124

Table 36 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6925

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Portable Eyewash	By personnel door near center of south wall
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By personnel door near center of south wall
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	By personnel door near center of south wall
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building • By personnel door near center of south wall
	Audible fire alarms	Located on east and west wall
External Communication System	Telephone	By personnel door in southwest corner of building
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building • By personnel door near center of south wall
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building
	Portable (A-B-C)(D)	By personnel door near center of south wall
Fire Suppression	Automatic dry-pipe sprinkler system with heat-actuated sprinklers	Sprinklers located throughout building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 124

Table 36 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6926

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Station/Shower	In southeast area of building
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	In southeast area of building
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	In southeast area of building
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door on west wall of building • By personnel door on south wall of building
	Audible fire alarms	Located on east wall and west wall
External Communication System	Telephone	In southeast area of building
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door on west wall of building • By personnel door on south wall of building
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door on west wall of building
	Portable (A-B-C)(D)	By personnel door on south wall of building
Fire Suppression	Automatic dry-pipe sprinkler system with heat-actuated sprinklers	Sprinklers located throughout building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 124

Table 36 (Concluded)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Modular Storage Buildings

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	Buildings 6920 and 6926
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	Buildings 6920 and 6926
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)	Buildings 6920, 6921, 6925, and 6926
	Audible fire alarms	Buildings 6920, 6921, 6925, and 6926
External Communication System	Telephones	Buildings 6920 and 6926
	Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)	Buildings 6920, 6921, 6925, and 6926
Fire Suppression	Automatic dry chemical system	Coverage throughout the building

PPE personal protective equipment
KAFB Kirtland Air Force Base

~~Table 7~~
~~Consolidated Waste Management Facility, Emergency Equipment and Locations~~

~~Building 6920~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~Spill Control and Decontamination Equipment~~	~~Eyewash Stations/ Showers~~	~~•Near enclosed bulking room in south bay~~ ~~•Near office in north bay~~
	~~Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)~~	~~In hallway between north and south bays~~
	~~Spill cleanup items (mops, brooms, and/or shovels)~~	~~In equipment storage at the CWMF~~
	~~Recovery drums and containers~~	~~In equipment storage at the CWMF~~
	~~Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)~~	~~In hallway between north and south bays~~
~~Internal Communication and Alarm System~~	~~Voice command~~ ~~Portable 2-way radio~~	~~Operating personnel typically carry radios~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southeast corner of south bay~~ ~~•In southwest corner of southwest airlock~~ ~~•By personnel door in west mechanical room~~ ~~•By personnel door on north wall of north bay~~ ~~•By personnel door in entryway west of office~~
	~~Audible fire alarms~~	~~Located throughout the building~~

~~Table 7 (Continued)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~Building 6920 (continued)~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~External Communication System~~	~~Telephones~~	~~Control room, south and north bays~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southeast corner of south bay~~ ~~•In southwest corner of southwest airlock~~ ~~•By personnel door in west mechanical room~~ ~~•By personnel door on north wall of north bay~~ ~~•By personnel door in entryway west of office~~
~~Fire Extinguishers~~	~~Portable (A-B-C)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southeast corner of south bay~~ ~~•By personnel door in southwest corner of south bay~~ ~~•In hallway between north and south bays~~ ~~•By personnel door in west mechanical room~~
	~~Portable (D)~~	~~In northwest corner of north bay~~
	~~Portable (A-B-C)(D)~~	~~By personnel door on north wall of north bay~~
~~Fire Suppression~~	~~Automatic wet-pipe sprinkler system with heat-actuated sprinklers~~	~~Coverage throughout the building~~
	~~Water supplied by fire hydrants~~	~~Three hydrants, locations shown in Figure 14~~

~~Table 7 (Continued)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~Building 6921~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~Spill Control and Decontamination Equipment~~	~~Eyewash Station/Shower~~	~~On north wall of assay area~~
	~~Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)~~	~~By north wall of assay area~~
	~~Spill cleanup items (mops, brooms, and/or shovels)~~	~~In equipment storage at the CWMF~~
	~~Recovery drums and containers~~	~~In equipment storage at the CWMF~~
	~~Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)~~	~~By north wall of assay area~~
~~Internal Communication and Alarm System~~	~~Voice command~~ ~~Portable 2-way radio~~	~~Operating personnel typically carry radios~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in electrical/mechanical room~~ ~~•In central hallway outside restrooms~~ ~~•In northwest corner of assay area~~ ~~•By east personnel door in southeast counting room~~ ~~•By east personnel door in middle east office area~~
	~~Audible fire alarms~~	~~Located throughout the building~~

~~Table 7 (Continued)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~Building 6921 (continued)~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~External Communication System~~	~~Telephones~~	~~Office and lab areas~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in electrical/mechanical room~~ ~~•In central hallway outside restrooms~~ ~~•In northwest corner of assay area~~ ~~•By east personnel door in southeast counting room~~ ~~•By east personnel door in middle east office area~~
~~Fire Extinguishers~~	~~Portable (A-B-C)~~	~~•By north personnel door in electrical/mechanical room~~ ~~•In hallway between assay area and north office area~~ ~~•By northwest personnel door of assay area~~ ~~•By east personnel door in southeast counting room~~
~~Fire Suppression~~	~~Automatic wet-pipe sprinkler system with heat-actuated sprinklers~~	~~Coverage throughout the building~~
	~~Water supplied by fire hydrants~~	~~Three hydrants, locations shown in Figure 14~~

~~Table 7 (Continued)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~**Building 6925**~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~Spill Control and Decontamination Equipment~~	~~Portable Eyewash~~	~~By personnel door near center of south wall~~
	~~Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)~~	~~By personnel door near center of south wall~~
	~~Spill cleanup items (mops, brooms, and/or shovels)~~	~~In equipment storage at the CWMF~~
	~~Recovery drums and containers~~	~~In equipment storage at the CWMF~~
	~~Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)~~	~~By personnel door near center of south wall~~
~~Internal Communication and Alarm System~~	~~Voice command~~ ~~Portable 2-way radio~~	~~Operating personnel typically carry radios~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southwest corner of building~~ ~~•By personnel door near center of south wall~~
	~~Audible fire alarms~~	~~Located on east and west wall~~
~~External Communication System~~	~~Telephone~~	~~By personnel door in southwest corner of building~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southwest corner of building~~ ~~•By personnel door near center of south wall~~
~~Fire Extinguishers~~	~~Portable (A-B-C)~~	~~•By personnel door in northeast corner of building~~ ~~•By personnel door in southwest corner of building~~
	~~Portable (A-B-C)(D)~~	~~By personnel door near center of south wall~~
~~Fire Suppression~~	~~Automatic wet-pipe sprinkler system with heat-actuated sprinklers~~	~~Sprinklers located throughout building~~
	~~Water supplied by fire hydrants~~	~~Three hydrants, locations shown in Figure 14~~

~~Table 7 (Continued)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~Building 6926~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~Spill Control and Decontamination Equipment~~	~~Eyewash Station/Shower~~	~~In southeast area of building~~
	~~Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)~~	~~In southeast area of building~~
	~~Spill cleanup items (mops, brooms, and/or shovels)~~	~~In equipment storage at the CWMF~~
	~~Recovery drums and containers~~	~~In equipment storage at the CWMF~~
	~~Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)~~	~~In southeast area of building~~
~~Internal Communication and Alarm System~~	~~Voice command~~ ~~Portable 2-way radio~~	~~Operating personnel typically carry radios~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in southeast corner of building~~ ~~•By personnel door on west wall of building~~
	~~Audible fire alarms~~	~~Located on east wall and west wall~~
~~External Communication System~~	~~Telephone~~	~~In southeast area of building~~
	~~Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)~~	~~•By personnel door in southeast corner of building~~ ~~•By personnel door on west wall of building~~
~~Fire Extinguishers~~	~~Portable (A-B-C)~~	~~•By personnel door in southeast corner of building~~ ~~•By personnel door on west wall of building~~
	~~Portable (A-B-C)(D)~~	~~By personnel door on southeast corner of building~~
~~Fire Suppression~~	~~Automatic wet-pipe sprinkler system with heat-actuated sprinklers~~	~~Sprinklers located throughout building~~
	~~Water supplied by fire hydrants~~	~~Three hydrants, locations shown in Figure 14~~

~~Table 7 (Concluded)~~
~~Consolidated Waste Management Facility,~~
~~Emergency Equipment and Locations~~

~~**Four Modular Storage Buildings (two buildings west of 6920, two buildings in northeast corner of CWMF)**~~

~~Category~~	~~Description/Capabilities~~	~~Location~~
~~Spill Control and Decontamination Equipment~~	~~Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)~~	~~Buildings 6920 and 6926~~
	~~Spill cleanup items (mops, brooms, and/or shovels)~~	~~In equipment storage at the CWMF~~
	~~Recovery drums and containers~~	~~In equipment storage at the CWMF~~
	~~Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)~~	~~Buildings 6920 and 6926~~
~~Internal Communication and Alarm System~~	~~Voice command~~ ~~Portable 2-way radio~~	~~Operating personnel typically carry radios~~
	~~Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)~~	~~Buildings 6920, 6921, 6925, and 6926~~
	~~Audible fire alarms~~	~~Buildings 6920, 6921, 6925, and 6926~~
~~External Communication System~~	~~Telephones~~	~~Buildings 6920 and 6926~~
	~~Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)~~	~~Buildings 6920, 6921, 6925, and 6926~~
~~Fire Suppression~~	~~Automatic dry chemical system~~	~~Coverage throughout each building~~

~~PPE personal protective equipment~~
~~KAFB Kirtland Air Force Base~~

Table ~~4~~8
Radioactive and Mixed Waste Management Facility,
~~Consolidated Waste Management Facility,~~
Emergency Coordinator List

March 15, 2005

Facility Emergency Coordinator		Office Phone	Home Phone
Primary	Leroy Duran Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 284-1488 (office) (505) 530-4105 (pager)	(505) 281-4183
First Alternate	Mike Spoerner Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2813 (office) (505) 540-5296 (pager)	(505) 828-3441
Second Alternate	Phil Zelle Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2486 (office) (505) 540-7437 (pager)	(505) 292-5097
Third Alternate	Mary Ann Krauss Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 845-9997 (office) (505) 540-5228 (pager)	(505) 299-0793

One or more of these personnel are routinely available during operating hours (7:00 am to 5:30 pm, Monday through Thursday).

7.0 CLOSURE PLAN

Applicable closure requirements are specified in 20 NMAC 4.1.900/40 CFR 270.14[b][13] and 20 NMAC 4.1.500/40 CFR 264, Subparts G and I [10-1-03]. General closure information applicable to all Units at SNL/NM and general sampling and analytical procedures to be used during closure activities are presented in the "Site-Wide Closure Plan" in Appendix F of the General Part B. The site-wide plan includes a description of the SNL/NM facility, waste descriptions, closure performance standards, general closure methods, a sampling and analysis plan (SAP), a general closure schedule, procedures for amendment of the plan, closure certification and letter, survey plat, and post-closure requirements. Unit-specific information for closure of the ~~existing~~ RMWMF ~~or closure of the future CWMF~~ is included in this section.

7.1 Unit Description

Sandia/DOE use the ~~existing~~ RMWMF ~~and will use the future CWMF~~ for treatment, repackaging, and storage of RCRA-regulated waste. The ~~existing~~ RMWMF is located in the southeastern corner of TA-III at SNL/NM. The waste management areas (WMAs) at the ~~existing~~ RMWMF include Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and an outdoor waste storage area (i.e., paved areas within the ~~existing~~ RMWMF fence and north, east, and west of Building 6920). ~~The CWMF will be located in the same area, and will include the same WMAs and two additional modular storage buildings.~~

- Building 6920 (Figure 13~~17~~) at the ~~existing~~ RMWMF is a single-story concrete masonry unit (CMU) and steel building with approximately 5,000 ft^2 of space used for treatment and container storage activities. Inside the building are two bays (north and south), separated by an interior airlock. The south bay includes four small rooms used for treatment and storage; one of these rooms is equipped with a fume hood with a local negative-pressure ventilation system. Another room is equipped with a portable local ventilation system. Two areas of the north bay are also equipped with local negative-pressure ventilation systems. The air flow from the ventilation systems passes through a HEPA filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow. The floors of the north and south bays are coated with an epoxy-based chemical resistant coating that forms a continuous protective barrier over the concrete floor. The south bay includes an epoxy coated sump that provides secondary containment for liquids stored in the area.

  ~~Renovated Building 6920 (Figure 18) in the CWMF will be a single-story CMU and steel building with a control room, restrooms, electrical and mechanical rooms, and approximately 6,100 ft^2 of space used for waste storage, repackaging, and treatment activities. The interior will be separated into staging and storage areas at the east end, and two separate bays (north and south). All WMA floors will be coated with an epoxy finish.~~

  ~~The south bay of the renovated building will include holding bays and an enclosed room with recessed floors. An additional sump will be located near the south wall of the south bay. The enclosed room will contain two fume hoods with individual negative-~~

~~pressure ventilation systems. Operations in the south bay will include storage and repackaging (including bulking of liquids). Airlocks used for storage will be located at the east and west ends of the south bay.~~

~~Two areas of the renovated north bay will be equipped with local negative-pressure ventilation systems, and two fume hoods with individual exhaust systems. The air flow from the ventilation systems will pass through a HEPA filter train before being released to the environment through an exhaust stack. The filters will effectively remove particulates entrained in the air flow. Operations will include storage and treatment. Containers of liquids will be stored on portable spill containment pallets. Two additional storage areas will be located on the east end of the north bay.~~

- Building 6921 (Figure ~~19~~14) is a single-story CMU building with approximately 1,450 ft^2 of space used for treatment and container storage activities in three areas. The concrete floors are covered with a chemical-resistant epoxy coating. One room contains a fume hood with a local negative-pressure ventilation system. The exhaust from the system passes through a HEPA filter train before being released to the environment through an exhaust stack.

  ~~RCRA-regulated WMAs and operations in CWMF Building 6921 will be the same as the areas and operations in RMWMF Building 6921.~~

- Buildings 6925 and 6926 (Figure ~~20~~15) are each 4,000-ft^2 prefabricated steel buildings on concrete foundations. The buildings are used for container storage of RCRA-regulated wastes, and Building 6925 is also used for treatment. The concrete floors are covered with a chemical-resistant epoxy coating. The buildings are used for storage of wastes in containers.

  ~~The WMA and operations in CWMF Building 6925 (Figure 21) will be the same as the area and operations at RMWMF Building 6925. Building 6926 (Figure 21) will be renovated to include seven holding bays with recessed floors covered with a chemical-resistant epoxy finish.~~

- Two modular, prefabricated storage structures located west of Building 6920 are used for container storage of RCRA-regulated reactive and ignitable wastes. Each structure (Figure ~~22~~16) is constructed of 10- and 12-gauge welded steel with supporting structural steel sections, and includes a welded steel containment pan covered by grating. The inside surfaces are covered with a chemical-resistant epoxy coating.

  ~~RCRA-regulated WMAs and operations in the CWMF modular buildings west of Building 6920 will be the same as the areas and operations in the existing RMWMF. Two additional modular prefabricated storage buildings will be located in the northeast corner of the CWMF; these buildings will be similar to the existing buildings, and the operations will also be similar.~~

- The outdoor waste storage area consists of 48,500 ft^2 of asphalt-paved areas to the north, east, and west of Building 6920 within the RMWMF fence. This area may be used for container storage of RCRA-regulated wastes. Containers of RCRA-regulated wastes are typically stored inside enclosed transportainers at this WMA. Containers with liquids are stored on portable spill containment pallets inside the transportainers.

~~The two additional CWMF modular buildings (similar to those shown in Figure 22) will be installed in this area. They will have no effect on the outdoor storage area other than reducing its capacity. The operations in the CWMF outdoor storage area will be the same as the operations in the current RMWMF outdoor storage area.~~

7.2 Estimate of Maximum Waste in Storage (20 NMAC 4.1.500/40 CFR 264.112[b][3])

The maximum total volume of RCRA-regulated waste in treatment and/or storage at any time at the ~~existing~~ RMWMF is estimated at approximately 209,550 gallons of liquids and/or solids. This is the maximum volume of RCRA-regulated waste that could be removed from the WMAs as part of closure activities. The maximum total waste volume is broken down as follows:

- Building 6920: 13,420 gallons
- Building 6921: 7,810 gallons
- Building 6925: 83,160 gallons
- Building 6926: 83,160 gallons
- Modular storage building TP150: 1,100 gallons
- Modular storage building TP153: 1,100 gallons
- Outdoor waste storage area: 19,800 gallons

~~The maximum total volume of RCRA-regulated waste in treatment and/or storage at any time at the future CWMF is estimated at approximately 322,919 gallons of liquids and/or solids. This is the maximum volume of RCRA-regulated waste that could be removed from the WMAs as part of closure activities. The maximum total waste volume is broken down as follows:~~

~~•Building 6920: 57,070 gallons~~
~~•Building 6921: 7,810 gallons~~
~~•Building 6925: 83,160 gallons~~
~~•Building 6926: 73,419 gallons~~
~~•Modular storage building TP150: 1,100 gallons~~
~~•Modular storage building TP153: 1,100 gallons~~
~~•Two additional modular buildings: 5,000 gallons each~~
~~•Outdoor waste storage area: 15,840 gallons~~

7.3 Closure Conditions

In addition to the general assumptions listed in Section F.5 of the site-wide closure plan , partial closure activities specified in this plan assume the following conditions were met during the operational life of the RMWMF~~ and CWMF~~:

- Waste handling and treatment activities that involved opening containers of RCRA-regulated waste were confined to the RMWMF~~ and CWMF~~ WMAs. If contamination occurred, it would have been confined to those areas.

- Treatment activities were conducted in a controlled manner, minimizing the potential for releases of RCRA-regulated wastes or hazardous waste constituents.

- If RCRA-regulated wastes or hazardous waste constituents were inadvertently released into the local exhaust systems during treatment activities, they would only be present in the systems up to the first filter.

- The WMAs are physically separate; therefore, each WMA is considered independently of the other WMAs when evaluating the potential presence of RCRA-regulated wastes or hazardous waste constituents.

- Containers of wastes were not routinely stored on the asphalt in the outdoor storage area. Containers were occasionally staged there temporarily if needed to accommodate operations involving large numbers of containers (e.g., staging for shipments). Containers of liquids were stored on spill pallets and were not stored directly on the asphalt. Containers of waste were not opened in the area, therefore, RCRA-regulated wastes or hazardous waste constituents are not present on the asphalt unless there is knowledge or evidence of a release.

- Containers of waste were stored in steel transportainers in the outdoor storage area. Containers of liquids were not routinely stored within the transportainers; those that were present were stored on spill pallets. Containers of waste were not opened within the transportainers; therefore, RCRA-regulated wastes or hazardous waste constituents are not present in any transportainer unless there has been a release in that transportainer.

- RCRA-regulated wastes or hazardous waste constituents could not be present except in areas in the WMAs where wastes were managed.

- The interior floors of the WMAs in each building were maintained to retain their integrity by following established maintenance and inspection procedures, breaches of protective coatings did not occur, and a small amount of soil will be present on the floors due to normal traffic and operations.

7.4 Closure Activities and Schedule

This closure will be conducted to support attainment of the closure performance standards outlined in Section F.4 of the site-wide closure plan. Section 7.5.3 of this plan discusses the criteria that will be used to verify that clean closure has been achieved.

7.4.1 Closure Activities

The closure approach and general activities described in Section F.5 of the site-wide closure plan will be applied to closure of the WMAs at the RMWMF~~ and/or CWMF~~. With respect to the individual WMAs, Sandia/DOE will use the following approach:

- Items of equipment within the treatment areas will be evaluated individually to determine whether it is more effective to remove them or decontaminate them. Items that are most likely to be removed include local exhaust systems (up to the first filter), filters, and portable equipment. Items that are most likely to be decontaminated include the interiors of fume hoods.

- Transportainers used for storage in the outdoor waste storage area will be visually examined for evidence of releases. Additional closure activity will be limited to those areas where RCRA-regulated wastes or hazardous waste constituents could be present due to visual evidence of releases or knowledge of prior releases. The transportainers will be evaluated individually to determine whether it is more effective to remove them or decontaminate them.

- The modular storage buildings (TP150 and TP153) will be evaluated individually to determine whether it is more effective to remove them or decontaminate them. ~~During closure of the CWMF, the additional modular storage buildings will be evaluated in the same manner.~~

- The floors of each treatment and/or storage WMA will be decontaminated by sweeping and washing as described in Section F.5, except as noted in this section.

- The asphalt in the outdoor waste storage area will be visually examined for evidence of deterioration and releases. Decontamination or removal of the asphalt will be limited to areas where there is visual evidence or documentation indicating a release of RCRA-regulated wastes or hazardous waste constituents has occurred.

7.4.2 Closure Schedule

Section F.7 of the site-wide closure plan provides a timeline for closure activities applicable to all permitted Units at the SNL/NM facility. Currently, there is not an estimated date of closure for the ~~existing~~ RMWMF~~ or the future CWMF~~. ~~The planned renovation activities at the future CWMF do not include closure of any of the WMAs at the existing RMWMF.~~ A Unit-specific closure schedule will be prepared and submitted to NMED prior to initiation of closure activities at the RMWMF~~ or CWMF~~.

7.5 Sampling and Analysis Plan

Section F.6 of the site-wide closure plan presents general sample collection equipment and techniques applicable to all Units at the SNL/NM facility. This Unit-specific SAP describes the

sampling, analysis, and quality assurance (QA) methodologies Sandia/DOE will use to demonstrate clean closure of the ~~existing~~ RMWMF ~~or future CWMF~~ in accordance with the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart G [10-1-03], as applicable. It addresses specific details (e.g., the type, number, and location of samples; required analytical constituents; closure criteria, QA and quality control [QC] procedures) regarding RCRA closure of the RMWMF ~~and future CWMF~~.

7.5.1 Sampling and Analysis Scope

This SAP presents procedures for acquisition, analyses, and evaluation of samples of floor sweepings (soil), pre-wash (unused) wash water, used wash water, and used rinse water from the floor and, where appropriate, secondary containment surfaces and fume hood interiors of six of the WMAs at the ~~existing~~ RMWMF (Buildings 6920, 6921, 6925, and 6926; and the two modular storage buildings); and similar samples from the transportainers at the outdoor waste storage area. All of the samples will be analyzed to determine concentrations of a set of indicator parameters selected from the range of hazardous waste constituents in the RCRA-regulated wastes managed in the Unit. These indicator parameters and the applicable criteria for clean closure are identified in Tables 5~~9~~ and 6~~10~~, and the rationale for their selection is presented in Section 7.5.3.

~~The same approach will be used for sampling and analysis of samples from the WMAs at the future CWMF (Buildings 6920, 6921, 6925, and 6926; the four modular storage buildings, and transportainers at the outdoor waste storage area). Indicator parameters and applicable criteria for clean closure are identified in Tables 9 and 11, and the rationale for their selection is presented in Section 7.5.3.~~

7.5.2 Sampling Methodology

7.5.2.1 Sample Locations

The floor of each WMA within a building, except for fume hoods, and of each transportainer at the outdoor storage area will be swept and a sample of the composited floor sweepings from each WMA will be collected for analysis.

Two samples of used wash water and two samples of used decontamination rinse water will be collected from each area indicated in Table~~s 10 or~~ 6~~11~~. Used wash water will be contained in the bays, in temporary berms, or other containment devices; sampled; and removed prior to the decontamination rinse step. Used rinse water will be contained similarly, as necessary.

7.5.2.2 Sample Collection

One single representative sample will be collected from the composited floor sweepings (e.g., soil) at each WMA, as discussed above, prior to the decontamination procedure. Each sample will be analyzed for the indicator parameters identified in Table 5~~9~~.

Table 5~~9~~
Summary of Pre-Wash Sampling Program

Media to be Sampled	Sample Number & Type	Indicator Parameters[a]	Standards for Comparison[b]
Floor sweepings	Single grab from collected material at each WMA, except for fume hoods (representative of material removed from entire floor surface)	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	5.6 ppm 130 ppm <1 ppm 17.3 ppm 21.4 ppm <0.25 ppm <1 ppm <1 ppm
Pre-wash (unused) water	Single grab (one from each batch of detergent/water solution prior to use in decontamination)	Same as above	N/A

[a] These metals have been selected as indicator parameters to demonstrate clean closure at the ~~existing~~ RMWMF ~~and future CWMF~~ due to their typical presence in the wastes stored at each Unit.

[b] Analytical results for indicator parameters in floor sweepings will be compared to background concentrations in site soils developed by NMED (NMED, 1997). Analytical results for indicator parameters in sweepings and/or pre-wash water will be used in evaluating the decontamination wash water and rinse water.

Table 6~~10~~
Radioactive and Mixed Waste Management Facility, Summary of Post-Wash Sampling Program

Area to be Decontaminated	Grid(s)	Samples per Grid[a]	Indicator Parameters[b]	Closure Criteria[c]
Building 6920 (Figure 13~~17~~)	$S_1 – S_7$	4	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
	S_8	4[d]	Same as above	Same as above
	S_9 (Fume Hood)	4[e]	Same as above	Evaluate with respect to concentrations in pre-wash water
	$N_1 – N_7$	4	Same as above	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
Building 6921 (Figure 14~~19~~)	WA	4	Same as above	Same as above
	WT_1, WT_2	4	Same as above	Same as above
	Fume Hood	4[e]	Same as above	Evaluate with respect to concentrations in pre-wash water
Building 6925 (Figure 15~~20~~)	A - B	4	Same as above	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
Building 6926 (Figure 15~~20~~)	A - B	4	Same as above	Same as above
Modular Storage Buildings (Figure16~~22~~)	A	4[d]	Same as above	Same as above
Outdoor Storage Area	Each Transportainer	4	Same as above	Same as above

[a] One sample from each pair of wash water and rinse water samples will be filtered when collected to remove particulates.

[b] These metals have been selected as indicator parameters to demonstrate clean closure at the ~~existing~~ RMWMF due to their typical presence in the wastes stored at the Unit.

[c] Sandia/DOE will continue the long-standing practice of providing radionuclide data to NMED on a voluntary basis, in accordance with: (1) the joint guidance developed by the National Association of Attorneys General (NAAG) and the NAAG/DOE Working Group, *Sharing of Radionuclide Information with States*, dated September 1998, and (2) the data-sharing provisions of the current Agreement-in-Principle between DOE and the State of New Mexico for Environmental Oversight and Monitoring, dated November 29, 2000.

[d] Secondary containment surfaces (bottoms and sides) will be washed up to the secondary containment level.

[e] The interior surfaces of fume hoods will be washed.

~~Table 11~~
~~Consolidated Waste Management Facility~~
~~Summary of Post-Wash Sampling Program~~

~~Area to be Decontaminated~~	~~Grid(s)~~	~~Samples per Grid[a]~~	~~Indicator Parameters[b]~~	~~Closure Criteria[c]~~
~~Building 6920 (Figure 18)~~	~~S_1—S_{10}~~	~~4[d]~~	~~Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver~~	~~Evaluate with respect to concentrations in sweepings and/or in pre-wash water~~
	~~S_{11}—S_{13}~~	~~4~~	~~Same as above~~	~~Same as above~~
	~~S_{14}—S_{15} (Fume Hoods)~~	~~4[e]~~	~~Same as above~~	~~Evaluate with respect to concentrations in pre-wash water~~
	~~N_1—N_9~~	~~4~~	~~Same as above~~	~~Evaluate with respect to concentrations in sweepings and/or in pre-wash water~~
	~~N_{10}—N_{11} (Fume Hoods)~~	~~4[e]~~	~~Same as above~~	~~Evaluate with respect to concentrations in pre-wash water~~
~~Building 6921 (Figure 19)~~	~~WA~~	~~4~~	~~Same as above~~	~~Evaluate with respect to concentrations in sweepings and/or in pre-wash water~~
	~~WT_1, WT_2~~	~~4~~	~~Same as above~~	~~Same as above~~
	~~Fume Hood~~	~~4[e]~~	~~Same as above~~	~~Evaluate with respect to concentrations in pre-wash water~~
~~Building 6925 (Figure 21)~~	~~A—B~~	~~4~~	~~Same as above~~	~~Evaluate with respect to concentrations in sweepings and/or in pre-wash water~~
~~Building 6926 (Figure 21)~~	~~A—D, F—H~~	~~4[d]~~	~~Same as above~~	~~Same as above~~
	~~E~~	~~4~~	~~Same as above~~	~~Same as above~~
~~Modular Storage Buildings (Figure 22)~~	~~A~~	~~4[d]~~	~~Same as above~~	~~Same as above~~
~~Outdoor Storage Area~~	~~Each Transportainer~~	~~4~~	~~Same as above~~	~~Same as above~~

~~[a] One sample from each pair of wash water and rinse water samples will be filtered when collected to remove particulates.~~

~~[b] These metals have been selected as indicator parameters to demonstrate clean closure at the future CWMF due to their typical presence in the wastes stored at the Unit.~~

~~[c] Sandia/DOE will continue the long standing practice of providing radionuclide data to NMED on a voluntary basis, in accordance with: (1) the joint guidance developed by the National Association of Attorneys General (NAAG) and the NAAG/DOE Working Group, *Sharing of Radionuclide Information with States*, dated September 1998, and (2) the data sharing provisions of the current Agreement in Principle between DOE and the State of New Mexico for Environmental Oversight and Monitoring, dated November 29, 2000.~~

~~[d] Secondary containment surfaces (bottoms and sides) will be washed up to the secondary containment level.~~

- ~~The interior surfaces of fume hoods will be washed.~~

One representative sample will be collected from each batch of unused detergent and water solution to be utilized in the decontamination procedure. Two representative grab samples of used wash water and two samples of used decontamination rinse water will be collected from the temporary berms or other containment structures after each wash and rinse cycle. One sample from each pair will be filtered upon collection to remove particulates present in the water. Each sample will be analyzed for the indicator parameters identified in Table~~s 9, 10, or~~ 6~~11~~, as appropriate.

7.5.2.3 Sampling Equipment

Samples of floor sweepings (e.g., soil) will be collected with a disposable scoop, trowel, or equivalent sampling device. Wash and rinse water samples will be collected with a disposable liquid sampling device. Samples will be placed in pre-cleaned 500-milliliter or 1-liter wide-mouth glass jars with screw-top lids, or other approved containers that are appropriate for the analysis.

One sample from each pair of used wash water and used decontamination rinse water samples will be filtered using a 0.45-micron filter to remove particulates.

7.5.2.4 Sample Equipment Decontamination

Pre-cleaned and prepared sample containers and disposable filtration equipment will be obtained from a commercial supplier or the analytical laboratory selected by Sandia/DOE. Decontamination of other disposable sampling equipment (e.g., scoops, trowels, liquid samplers) will not be required for the sampling procedures used in this closure.

If it is determined, during sampling activities, that reusable sampling equipment will be utilized, the equipment will be decontaminated using the following steps:

- Wash the equipment with a detergent and water solution, scrubbing as needed to remove any deposits;
- Rinse the equipment with tap water until the soapy residue is removed;
- Rinse with deionized or distilled water; and
- Allow to air dry or dry with a lint-free cloth.

7.5.2.5 Sample Identification

Each sample will be assigned an identification number that will uniquely identify the sampling area (e.g., floor, fume hood), the grid identifier, the sample type (e.g., soil, rinse water), and any additional information that may be necessary. As an example, the sample numbered F-6925-B-FL-RINSE-01 would indicate the filtered rinse water sample taken from the water used to rinse the floor of Grid B in Building 6925.

7.5.2.6 Sample Preservation and Holding Time

After samples are collected at the site, they will be placed in a cooler with frozen gel packs to maintain a temperature of approximately 4 degrees Celsius. Liquid samples will be preserved with nitric acid to maintain a pH of 2 or less. Analytical holding times will be observed by the laboratory for samples collected under this SAP (e.g., the recommended maximum holding time for metals analysis is 180 days from sample collection until extraction).

7.5.3 Demonstration of Clean Closure

Hazardous waste toxicity characteristic metals have been selected for use as indicator parameters to demonstrate clean closure at the RMWMF, as these constituents are present in many of the wastes commonly treated or stored in the Unit. Other wastes treated or stored in the RMWMF typically are regulated as hazardous waste due to ignitability (D001), corrosivity (D002), reactivity (D003), or the presence of trace amounts of volatile organic solvent constituents (F001-F005). Sampling floor sweepings (soil) or decontamination wash and rinse waters is of limited value for determining the presence of D001, D002, or D003 waste residuals. In addition, given their volatility, F001-F005 constituents would not likely be present on the floor, secondary containment, or interior fume hood surfaces even if these constituents had been released in the past. If residual contamination is present on these surfaces of the RMWMF WMAs, it is more likely to consist of metal constituents than volatile organic compounds. For these reasons, samples will be analyzed for hazardous waste toxicity characteristic metals only, using EPA Method SW 6010B, or an equivalent method.

Analytical results from floor sweeping (soil) samples will be compared to background concentrations that were developed by the NMED for site soils (NMED, 1997) to determine whether the levels in the floor sweepings exceed background and to establish appropriate management requirements for these residuals. Analytical results from decontamination wash and rinse water samples will be compared to the results for the floor sweepings and/or pre-wash water. If the concentrations of indicator parameters in the rinse water are consistent with the concentrations in the soil and/or pre-wash water, the grid area will be considered clean. If the concentrations of indicator parameters are substantially elevated, surface contamination is indicated, and the grid area represented by the sample will be decontaminated again in accordance with the procedures in Section F.5.2.1 of the site-wide closure plan.

~~Sandia/DOE will use the same approach to demonstrate clean closure of the future CWMF. Hazardous waste toxicity characteristic metals will be used as indicator parameters to demonstrate clean closure, as these constituents are present and will be present in many of the wastes commonly treated or stored in the Unit. Other wastes that will be treated or stored in the CWMF typically will be regulated as hazardous waste due to ignitability (D001), corrosivity (D002), reactivity (D003), or the presence of trace amounts of volatile organic solvent constituents (F001-F005). Sampling floor sweepings (soil) or decontamination wash and rinse waters will be of limited value for determining the presence of D001, D002, or D003 waste residuals. In addition, given their volatility, F001-F005 constituents would not likely be present on the floor, secondary containment, or interior fume hood surfaces even if these constituents had been released in the past. If residual contamination is present on these surfaces of the CWMF WMAs, it is more likely to consist of metal constituents than volatile organic compounds. Analytical results from floor sweeping (soil) samples and from decontamination wash and rinse~~

~~water samples will be compared, as discussed above for the RMWMF, to establish appropriate management requirements for the soil and to demonstrate clean closure of the CWMF.~~

7.5.4 Quality Control

QC for sampling and analysis at the ~~existing~~ RMWMF ~~and future CWMF~~ will be implemented as described in Section F.6 of the site-wide closure plan.

7.5.5 Data Management and Reporting

Data management and reporting will be performed as described in Section F.6 of the site-wide closure plan.

7.6 Decontamination and Verification Procedures

Section F.5.2 of the site-wide closure plan presents general decontamination and verification procedures applicable to all Units at the SNL/NM facility. Prior to closure, this Unit-specific plan will be updated as necessary to incorporate new or improved decontamination practices or technology. Any revisions to this Unit-specific plan will be submitted to NMED for approval prior to initiation of closure activities at the ~~existing~~ RMWMF ~~or future CWMF~~.

8.0 TREATMENT PLAN

Treatment operations for RCRA-regulated wastes treated at the ~~existing~~ RMWMF are described in this section. ~~Operations for the future CWMF are also described.~~

The following treatment technologies may be used to treat RCRA-regulated wastes at the ~~existing~~ RMWMF ~~and future CWMF~~:

- Chemical deactivation,
- Thermal deactivation,
- Amalgamation,
- Stabilization,
- Macroencapsulation, and
- Physical treatment.

Sandia/DOE may use each technology to treat any of the wastes in the General Part A that include the particular technology in the process description. Treatment at the ~~existing~~ RMWMF may occur in Buildings 6920, 6921, and 6925. ~~Treatment at the future CWMF may occur in the same buildings.~~ Treatment (except some physical treatment) is and will be conducted in containers; therefore, it is not subject to the miscellaneous unit and environmental performance standards in 20 NMAC 4.1.500/40 CFR 264, Subpart X [10-1-03]. Treatment effectiveness for each waste stream is discussed in Section 8.3.

8.1 Treatment Operations

Waste treatment is performed at the ~~existing~~ RMWMF ~~and will be performed at the future CWMF~~ for one or more of the following reasons:

- To meet land disposal restrictions (LDRs);
- To allow for the safe storage of the waste; and/or
- To meet treatment, storage, or disposal facility (TSDF) requirements.

All of the treatment at the RMWMF is batch treatment performed on single packages of waste (each package is one 55-gallon drum or less, or a single item that may be larger than a drum. Each type of treatment is performed on batches of 500 pounds of waste or less, with the exception of physical treatment, which may occasionally involve very large, heavy items. Liquid wastes are treated in batches of 60 gallons or less. ~~Treatment operations at the future CWMF will be the same as those conducted at the existing RMWMF~~.

Waste treatment may generate secondary waste streams (treatment residues). RCRA-regulated treatment residues may undergo additional on-site treatment to meet LDRs and/or be sent to an appropriate off-site TSDF.

The waste treatment processes described in this section are effective in addressing hazardous characteristics in RCRA-regulated wastes, including the following:

- Solid items exhibiting the hazardous waste characteristics of ignitability or reactivity may be chemically deactivated to eliminate the characteristic(s).

- Liquid waste exhibiting the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity may be chemically deactivated to remove the characteristic(s).

- Reactive (explosive) wastes may be treated using thermal deactivation techniques.

- Elemental mercury may undergo amalgamation to reduce or eliminate the leaching potential.

- Liquid wastes and particulates containing hazardous waste toxicity characteristic metals (excluding elemental mercury and high mercury subcategories) may be stabilized to reduce or eliminate the leaching potential of the hazardous waste constituents.

- Debris and wastes containing hazardous waste toxicity characteristic metals (excluding elemental and high mercury subcategories defined in 20 NMAC 4.1.800/40 CFR 268) may be macroencapsulated to reduce or eliminate the leaching potential of the hazardous waste constituent(s).

- Solid items with hazardous constituents may be physically separated from larger items, and the size of individual pieces may be reduced.

- Pressurized containers may be punctured or opened to release the contents.

Treated wastes and waste residues resulting from treatment of RCRA-regulated wastes may or may not require further management as hazardous wastes, as discussed in Appendix B, Section B.2.5.

Each waste treatment technology or process listed above is described in the following sections.

8.1.1 Chemical Deactivation

Sandia/DOE perform chemical deactivation in containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The treatment may take place within the fume hood(s) that are present in each building. The containers vary in size depending on the quantity of waste to be treated, and include laboratory glassware, 5-gallon buckets, and 55-gallon drums.

~~Sandia/DOE will perform chemical deactivation using the same methods in treatment areas in Buildings 6920 (north bay) and 6921 at the future CWMF.~~

Chemical deactivation refers to a number of chemical processes that can eliminate the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity. Deactivation can be accomplished by several technologies (e.g., neutralization or chemical oxidation). However, the intent of this section is to identify and describe specific methods or treatment trains which may be used at the ~~existing~~ RMWMF ~~and future CWMF~~ to deactivate ignitable wastes defined in 20

NMAC 4.1.200/40 CFR 261.21(a)(2) and (4) [10-1-03], corrosive and reactive wastes defined in 20 NMAC 4.1.200/40 CFR 261.23 [10-1-03]. Deactivation may or may not result in a final waste form, depending on the process, and may be used as the first in a series of treatment steps.

Deactivation processes are conducted under carefully controlled conditions so that RCRA-regulated waste with the characteristic of reactivity is allowed to react in a slow, nonviolent manner. Allowing the reactive potential of the waste to be dissipated in this manner reduces or eliminates the reactive characteristic of the waste. Deactivation of reactive wastes is typically conducted in small batches under laboratory conditions such that process control can be easily maintained.

- Hydrides, deuterides, and tritides are deactivated by slow addition to an ice water bath.
- Deactivation of water reactive metals such as elemental sodium and lithium involves the slow and controlled addition of an appropriate alcohol/water solution. Alcohol/water addition is maintained until the water reactive potential of the waste has been eliminated.
- Deactivation of pyrophoric metal powders and particulates may be achieved by mixing waste in a portland cement matrix.
- Water-soluble oxidizers in particulate form are slowly dissolved in water to deactivate them as the first step in the treatment process. The resulting solution may undergo further treatment (e.g., neutralization and stabilization).
- Water-soluble concentrated liquid oxidizers such as hydrogen peroxide may be diluted with water in a controlled manner to make them safer to handle before deactivation with an appropriate chemical agent such as iron filings.

Chemical deactivation to remove the characteristic of corrosivity is the process of removing excess acidity or alkalinity from an aqueous liquid waste. Other uses may include pH adjustment to facilitate subsequent treatment; such pretreatment through deactivation may be necessary to prevent corrosive damage to equipment, deter undesirable reactions, and preclude the formation of unwanted byproducts.

Reagents added to achieve a desired pH are combined with liquid waste inside a mixing vessel or directly in the waste container. Common deactivating reagents include, but are not limited to, sodium hydroxide for acid wastes; and phosphoric acid for alkaline wastes. The selection of reagents is dependent on the quantity of reagent required, cost, availability, and the potential byproduct(s). These deactivation processes are conducted under carefully controlled conditions in which the reagent is added to the waste slowly and mixed thoroughly. This allows the reaction to proceed in a nonviolent manner and allows the energy to be dissipated effectively. Ice may be used if needed to cool the mixture during the reaction. In the case of reactions that are expected to be strongly exothermic, wastes may be treated in small batches under laboratory conditions (similar to the deactivation of reactive wastes) such that process control can be easily maintained.

8.1.2 Thermal Deactivation

Sandia/DOE perform thermal deactivation of reactive RCRA-regulated wastes, including batteries, explosives, and explosive components, in a Sandia-designed and tested portable deactivation device that meets the definition of a container in 20 NMAC 4.1.100/40 CFR 260.10. The device is a thick-walled stainless steel vacuum apparatus equipped with an internal heated plate and sensors to measure temperature and pressure. The explosive deactivation device was designed to contain a detonation of 25 grams TNT-equivalents of explosive waste. The inside diameter of the cylinder is 8 inches, and it is 18 inches long. Because the device is portable, it may be used in any of the treatment areas in Building 6920 or 6921. It is shown in Figure 17~~23~~.

~~Sandia/DOE will perform thermal deactivation in the same manner in treatment areas in Buildings 6920 (north bay) and 6921 at the future CWMF.~~

Reactive waste is placed on the plate, inserted into the cold unit, the unit is sealed and filled with an inert atmosphere (e.g., nitrogen), and the temperature of the plate is slowly raised until reaching a temperature at which the explosive being treated decomposes. Personnel use waste characterization data and/or published chemical information (e.g., "DOE Explosives Safety Manual" [DOE, 2002] or other chemical or engineering handbook) to determine the required temperature. The temperature is maintained for two hours to complete the decomposition. The unit is cooled and decomposition gases are vented to a fume hood with a high-efficiency particulate air filtration system.

8.1.3 Amalgamation

Sandia/DOE perform amalgamation of small quantities of elemental mercury in small (e.g., laboratory) containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The amalgamation process for liquid elemental mercury involves mixing liquid mercury waste with a powdered base metal. The amalgamation process immobilizes elemental mercury into a solid leach-resistant form that has minimal potential for emission of mercury vapor.

~~Sandia/DOE will perform amalgamation in the same manner in treatment areas in Buildings 6920 (north bay) and 6921 at the future CWMF.~~

The two important operating parameters for effective treatment are: (1) the ratio of base metal to mercury, and (2) the efficiency of mixing. Copper or zinc is typically used as base metals, but tin, nickel, gold, and sulfur may also be used. The base metal may be pretreated with acid to improve the effectiveness of the amalgamation reaction. For the small quantities of mercury that will be treated at the RMWMF, hand mixing the mercury and base metal using a mortar and pestle is sufficient to create an amalgam with uniform properties.

8.1.4 Stabilization

Sandia/DOE perform stabilization in containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The treatment may take place within the fume hood(s) that are present in each building. Stabilization is a process of binding hazardous waste metals so that the metals become chemically part of the matrix or are physically bound within the matrix. The primary use of stabilization is to immobilize toxicity characteristic metals but many stabilization agents also eliminate free liquids. Typical waste forms suitable for stabilization include liquids, soils, and particulate-type wastes.

~~Sandia/DOE will perform stabilization in the same manner in treatment areas in Buildings 6920 (north bay) and 6921 at the future CWMF.~~

Process equipment for mixing waste and binder materials depends on the type of reagents used and the volume of waste to be treated. In-drum mixing is typically used for large volume waste quantities. Once waste and binder have been thoroughly mixed and placed in a container, the mass is allowed to cure and/or set. Smaller batches may be mixed by hand and allowed to cure in smaller containers (e.g., 5-gallon pails, and tubs and trays of various sizes).

Development of appropriate formulas is waste specific. Stabilization agents for toxic metals may include portland cement, pozzolans, thermoplastics, organic polymers, and clays. However, other waste forms may require proprietary reagents that are available for specific applications. Additional reagents may be added to reduce contaminant leachability, reduce cure and/or set time, and increase strength.

Waste characteristics that are important to the success of the stabilization process for liquids may include volume percent of water, oil, solvents, or other organics; pH; and hazardous waste constituents. Waste characterization data are used to determine whether the waste is amenable to stabilization, any necessary pretreatment requirements, and the appropriate binding agent.

Once stabilization is selected, the binding agent is identified based on chemical compatibility with the waste form and contaminants present. Pretreatment may be required to assure compatibility between the waste and the binding agent (e.g., neutralization of liquid wastes to an acceptable pH range of 5.0 to 11.0). Once the proper binding agent(s) have been identified, bench-scale testing is performed to determine optimum amounts of each agent. In the case of low volume waste streams (e.g., less than approximately 0.26 gallons), bench-scale testing may not be practical and treatment is performed without bench-scale testing using the manufacturer's suggested quantities or by estimating binding agent quantities from previous experience. The stabilization process is performed by combining the predetermined quantities of binding agent(s) with the waste and thoroughly mixing, if appropriate. The resulting mixture is staged to allow an appropriate cure time.

8.1.5 Macroencapsulation

Sandia/DOE perform macroencapsulation in containers in Buildings 6920, 6921, and 6925 at the RMWMF. Macroencapsulation is generally applicable to debris or specific wastes, whereas stabilization (see Section 8.1.4) is generally applicable to liquids, sludges, and particulate-type

wastes. Macroencapsulation is the process of completely encasing waste within a polymer coating or concrete, or within a jacket of inert inorganic materials. The primary use of macroencapsulation is to immobilize wastes such as debris-type solids containing hazardous waste constituents by completely surrounding the waste material with a leach-resistant coating.

~~Sandia/DOE will perform macroencapsulation in the same manner in treatment areas in Buildings 6920 (north bay), 6921, and 6925 at the future CWMF.~~

Sandia/DOE perform macroencapsulation using one of three processes:

- Encasing the waste in concrete, typically within a larger container that serves as a mold.

- Coating the waste with polymer agents within a mold. Polymers typically used for macroencapsulation include, but are not limited to, polyethylene, thermosetting plastics, and resins that can be polymerized under ambient temperatures in the presence of a catalyst. Equipment used for macroencapsulation may include molds, polymer extrusion equipment, and resin mixing equipment. In-drum macroencapsulation may also be performed with the drum acting as the mold. Temperature control of polymer macroencapsulation processes is critical and carefully maintained to assure that adequate coating occurs.

  For example, Sandia/DOE perform macroencapsulation with a chemically inert resin (typically polyethylene), using 30-gallon containers (metal baskets). Each basket containing the solid RCRA-regulated waste items is placed in a 50-gallon mold (similar in size and shape to a 55-gallon drum). The basket is designed to fit into the mold with one to two inches of clearance on all sites, the top, and the bottom. The mold containing the basket and waste items is then filled with melted resin that is heated using a commercially available extrusion unit. Each basket is used only once because it becomes encapsulated within the inert resin and is part of the final waste form. After the resin cools and solidifies, the mold is removed, the waste form is turned over and more polyethylene is added to form a final cap on the end. The completed waste form is a cylinder slightly smaller than a 55-gallon drum.

- Placing the waste inside a commercially available container made of an inert resin such as polyethylene. After the wastes and inert void-filler materials are placed in the container, the resin is heated to seal the container and lid (e.g. using a resistance-heated wire system embedded in the container lid). The container may also include an outer metal shell to provide additional structural strength. Sandia/DOE use containers of various sizes, depending on the volume of waste items to be macroencapsulated.

8.1.6 Physical Treatment

Sandia/DOE perform physical treatment (volume reduction) in Buildings 6920 and 6921 at the RMWMF.

~~Sandia/DOE will perform physical treatment in the same manner in treatment areas in Buildings 6920 (north bay) and 6921 at the future CWMF.~~

The treatment includes:

- Reducing waste volume by using commercially available tools (e.g., hammers, screwdrivers, wrenches, pliers, saws, drills, cutters, etc.) to separate items with hazardous waste constituents from larger items or from each other, including removal of coating and filler materials. In some cases, the RCRA-regulated waste item may undergo further physical treatment or treatment in containers.

- Removing coating and filler materials (e.g. resins) by dissolution in containers (e.g., trays or pails) in order to facilitate separation of items with hazardous waste constituents from each other or from other items. Dissolution may take place within the fume hood(s) that are present in each building. The dissolved material may undergo further treatment in containers.

- Reducing the size of waste items by using tools (e.g. mallets, cutters, etc.) to crush or cut items into smaller pieces. The pieces may undergo further treatment in containers.

- Puncturing aerosol cans within a container to allow recovery of the contents. The liquid contents of the aerosol cans are collected in the container, and any gaseous propellants are filtered through a carbon filter attached to the container. Liquids collected may undergo further treatment in containers.

- Releasing pressurized contents of containers other than aerosol cans (e.g., gas cylinders). Organic gaseous contents are filtered through a carbon filter. All gaseous contents are vented to a chemical fume hood with a high-efficiency particulate air filtration system.

8.2 Preventing Releases to the Atmosphere

Most of the RCRA-regulated wastes treated at the ~~existing~~ RMWMF ~~and future CWMF~~ are inorganic and are not expected to generate emissions during treatment. Unit personnel perform chemical reactions that could generate emissions (deactivation and stabilization) in a controlled manner as described above to further minimize potential air emissions. Treatment operations that may generate air emissions of gases, vapors, or particulates are conducted in a controlled manner within fume hoods or with other local ventilation if possible. Each fume hood provides an enclosed work area equipped with a localized exhaust system. Air flow from each fume hood passes through a high-efficiency particulate air filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

The filters do not remove organic constituents entrained in the air flow. Unit personnel employ the practices described in Section 8.2 of the General Part B to prevent releases of organic constituents to the atmosphere during treatment (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC).

8.2.1 Subpart AA

The ~~existing~~ RMWMF ~~and future CWMF~~ treatment operations do not employ processes subject to the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart AA.

8.2.2 Subpart BB

During treatment, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations ≥10 percent by weight in process equipment identified in 20 NMAC 4.1.500/ 40 CFR 264, Subpart BB [10-1-03]. Equipment used in such service at the ~~existing~~ RMWMF ~~and future CWMF~~ will be used for less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052 through 1060 [10-1-03] as noted in 20 NMAC 4.1.500/40 CFR 264.1050(f) [10-1-03]. The equipment location will be noted in the ~~existing~~ RMWMF ~~and future CWMF~~ records. Equipment use will also be noted in the records.

8.2.3 Subpart CC

Unit personnel follow the practices described in Section 8.2 of the General Part B. Unit personnel do not perform any treatment subject to Container Level 3 standards (20 NMAC 4.1.500/40 CFR 264.1086[c]).

Section B.5.3 in Appendix B to the General Part B also describes procedures to maintain compliance with the air emissions requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts BB and CC [10-1-03].

8.3 Treatment Effectiveness (20 NMAC 4.1.900/40 CFR 270.23[d])

As required in 20 NMAC 4.1.900/40 CFR 270.23(d) [10-1-03], Sandia/DOE evaluate treatment effectiveness by appropriate methods for each batch of waste treated at the ~~existing~~ RMWMF~~, and will continue to do in future CWMF operations~~. In many cases (e.g. stabilization), Unit personnel treat small samples of a batch of waste using a single agent in various proportions or using various agents to determine which is most effective. That process is then used in treating the rest of the waste. Characterization of the treated waste is described in Appendix B (Section B.2.5.2) of the General Part B.

8.3.1 Chemical Deactivation

Unit personnel check treatment effectiveness using one or more of the following methods (depending on the goal of the treatment performed):

- Visual check for completeness of chemical reaction for solid items that were treated to remove the characteristic of reactivity.

8.3.5 Macroencapsulation

Unit personnel visually check each macroencapsulated item to verify that it is completely encased in the inert resin or concrete.

8.3.6 Physical Treatment

Unit personnel check treatment effectiveness using one of more of the following methods (depending on the goal of the treatment performed):

- Visual check that item(s) with hazardous waste constituents has(ve) been completely separated from other item(s).
- Visual check that pieces are the desired size.
- Visual check that punctured aerosol cans are empty and the contents are in the container.
- Leaving the container for a time to allow it to continue venting after visual and/or audible evidence indicates it is empty. The length of time would be determined by the size of the container, the contents, and the strength of the evidence.

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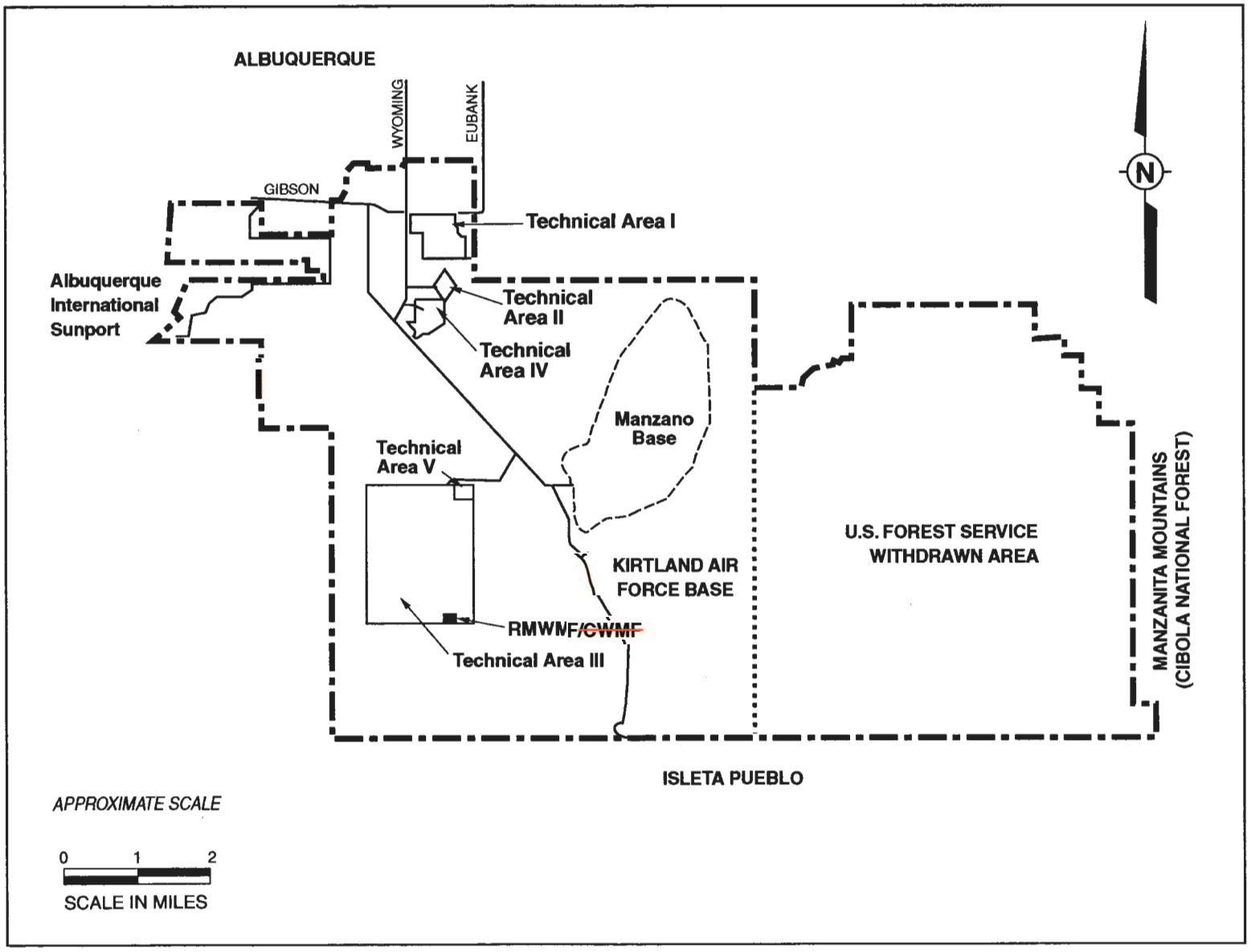

Figure 1
Location Map of the Radioactive and Mixed Waste Management Facility~~/Consolidated Waste Management Facility~~ at Sandia National Laboratories/New Mexico

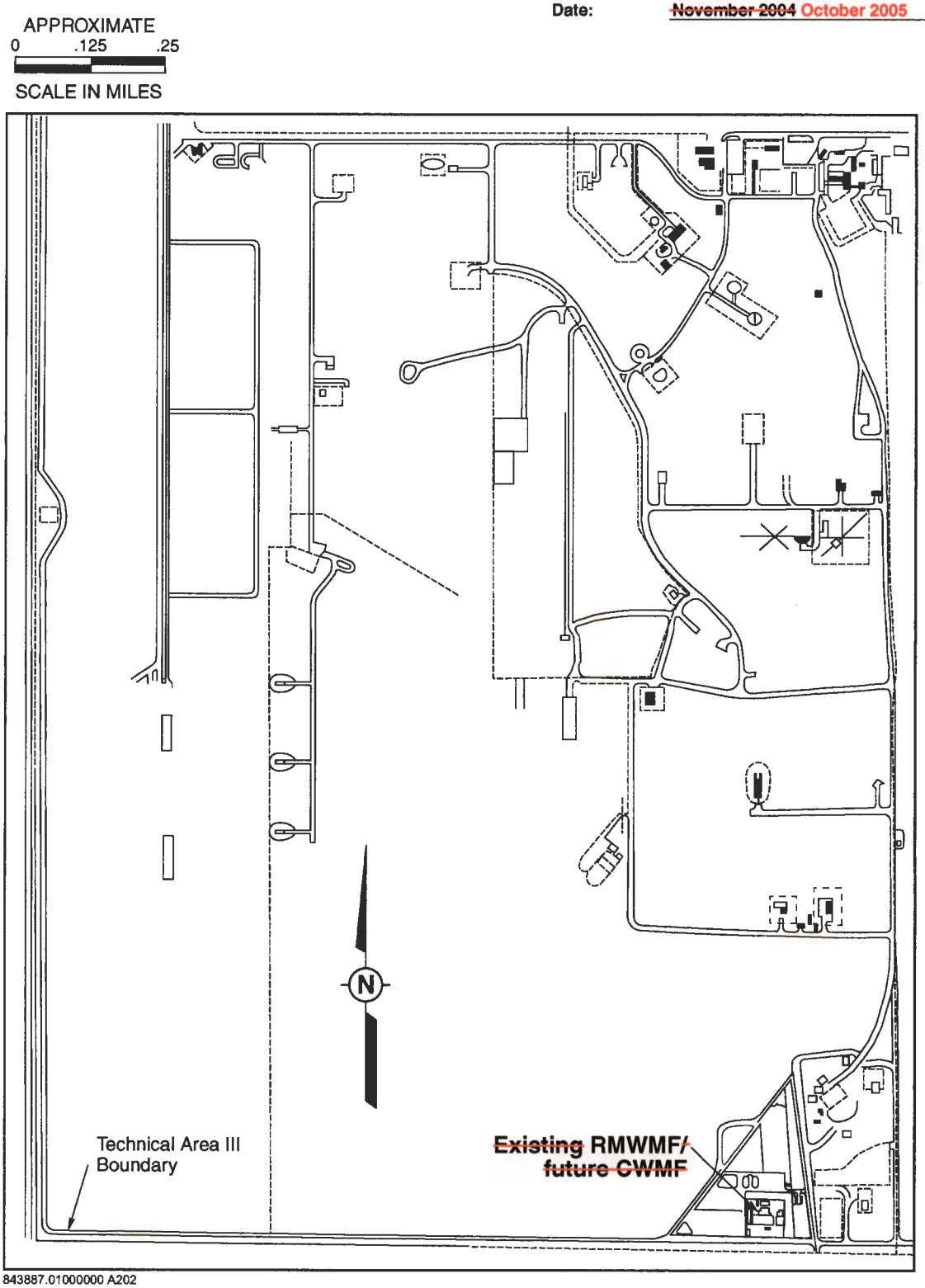

Figure 2
Location of the Radioactive and Mixed Waste Management Facility/ ~~Consolidated Waste Management Facility~~ in Technical Area III

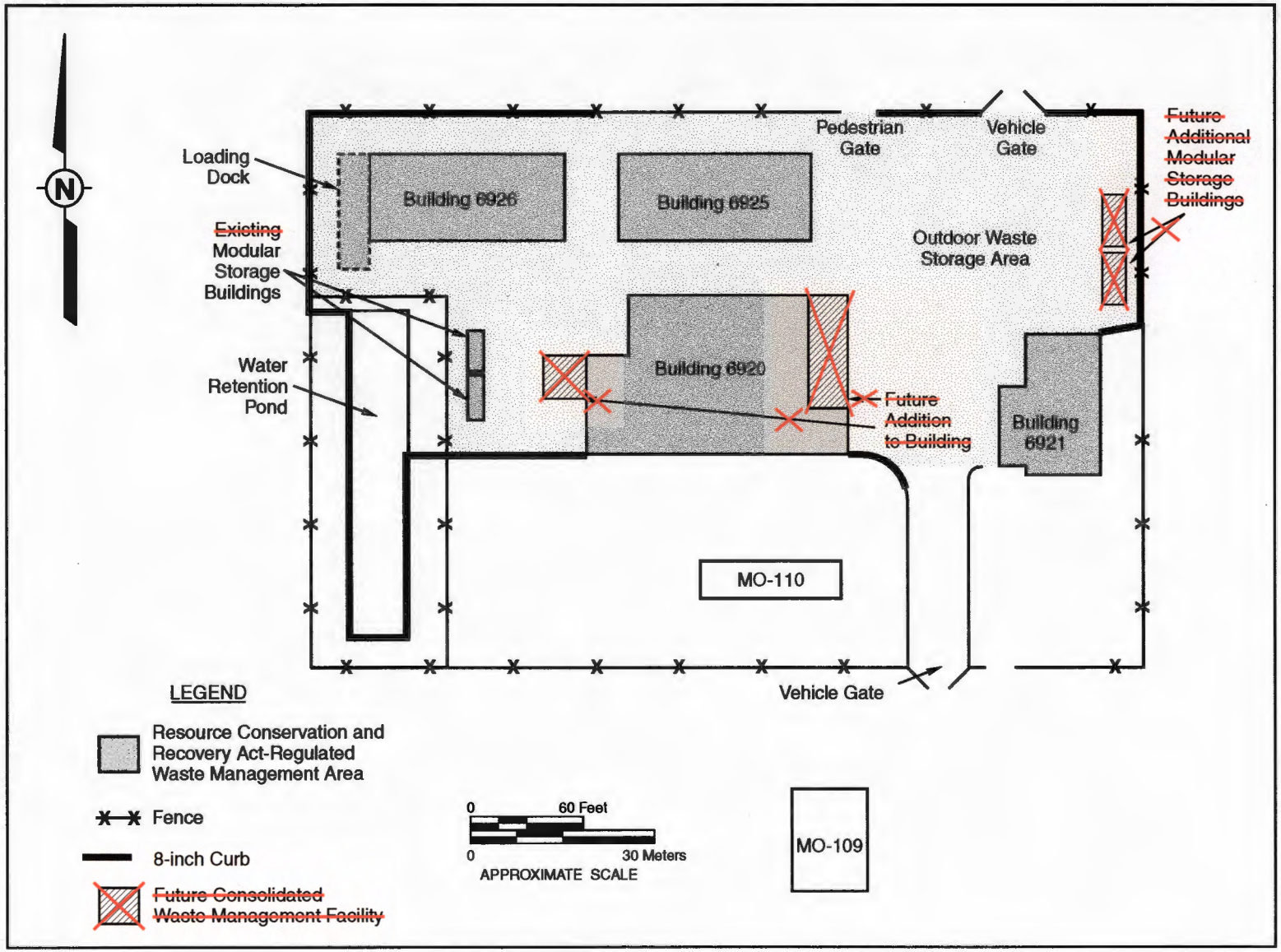

Figure 3
Radioactive and Mixed Waste Management Facility/ Consolidated Waste Management Facility, Unit Layout

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Revision No.: 4.0 6.0
Date: November 2004 October 2005

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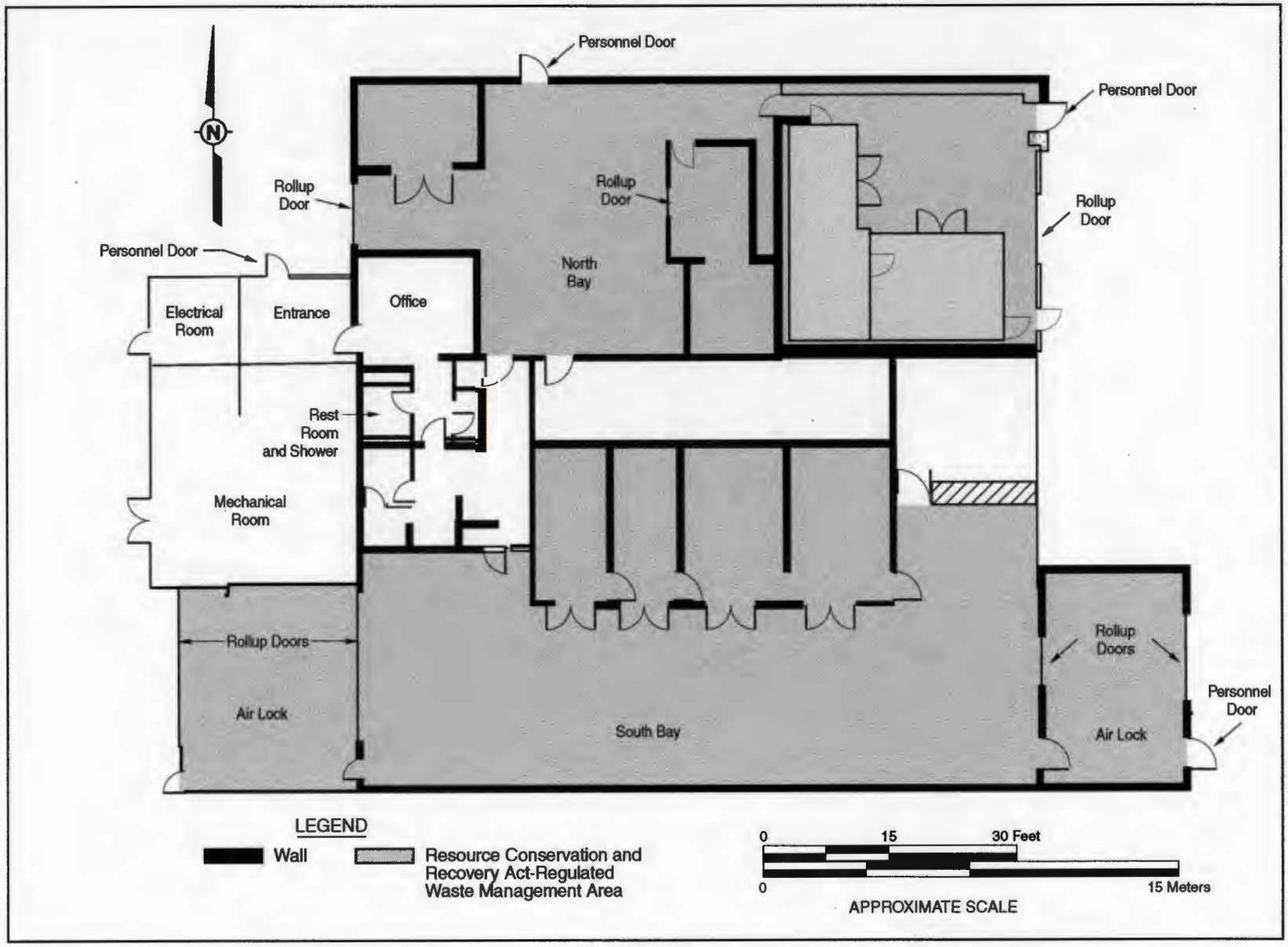

Figure 4
Radioactive and Mixed Waste Management Facility, Building 6920, Resource Conservation and Recovery Act-Regulated Waste Management Areas

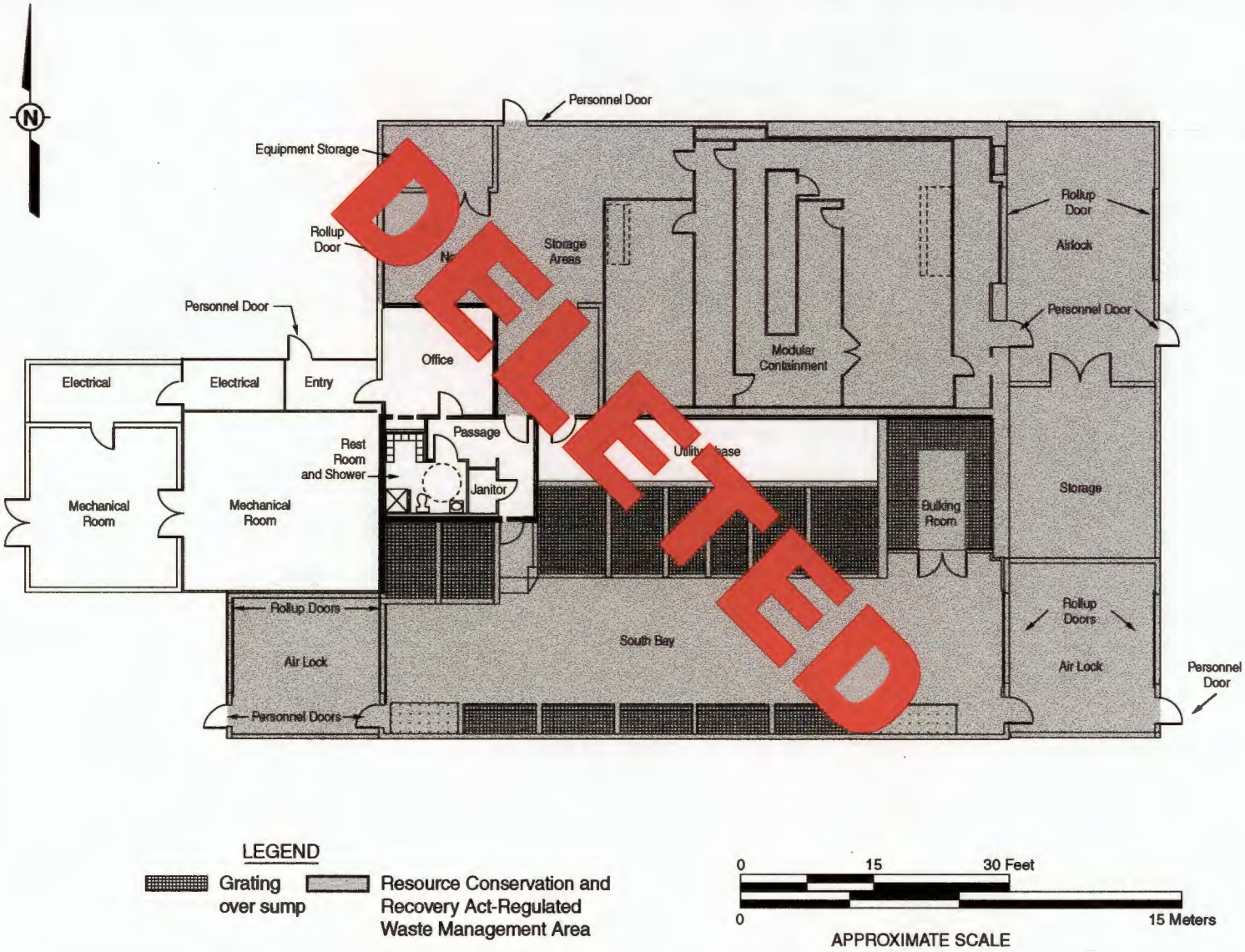

Figure 5
Consolidated Waste Management Facility, Building 6920,
Resource Conservation and Recovery Act-Regulated Waste Management Areas

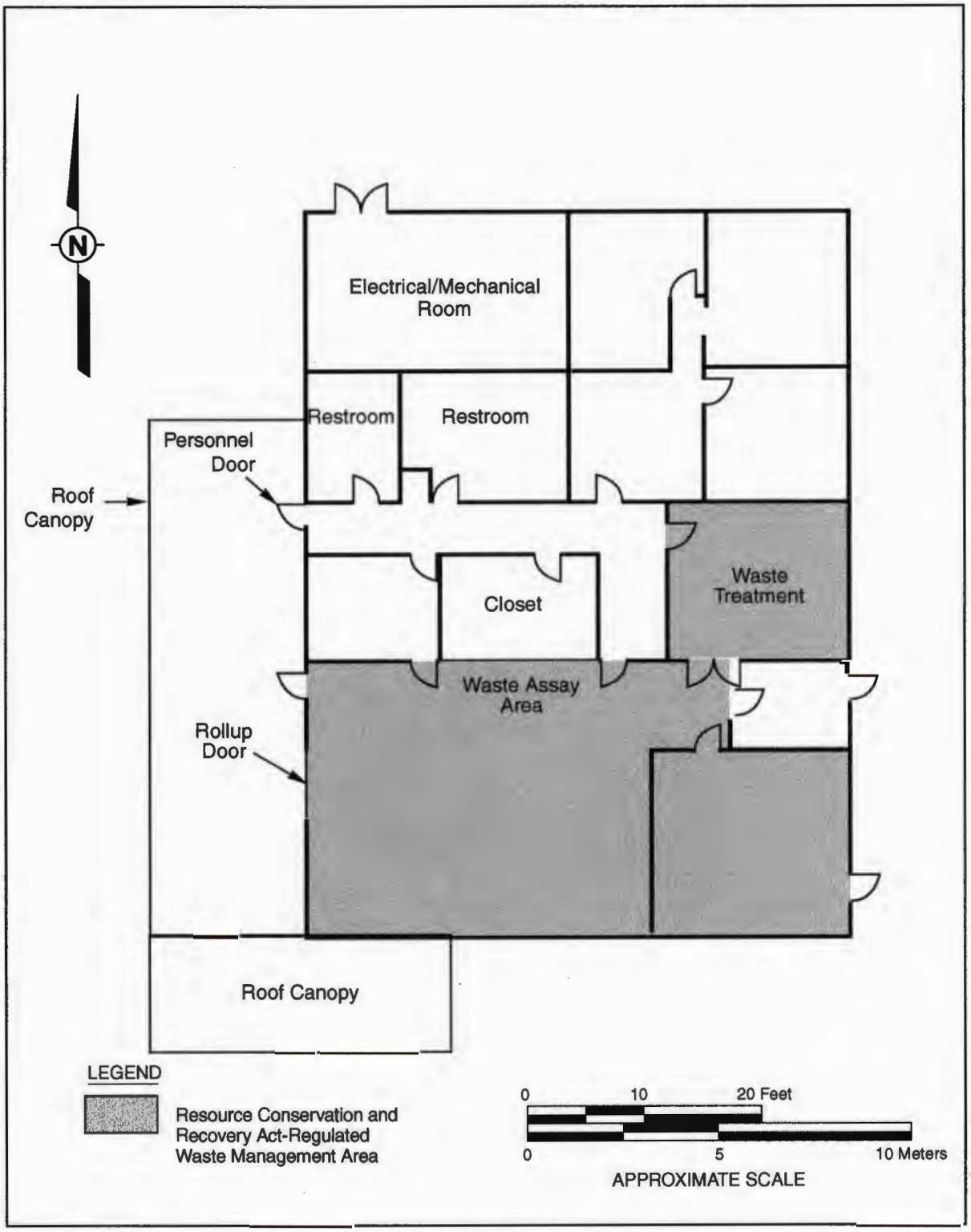

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Figure ~~6~~ 5
Radioactive and Mixed Waste Managment Facility~~/~~
~~Consolidated Waste Management Facility~~, Building 6921,
Resource Conservation and Recovery Act-Regulated Waste Management Areas

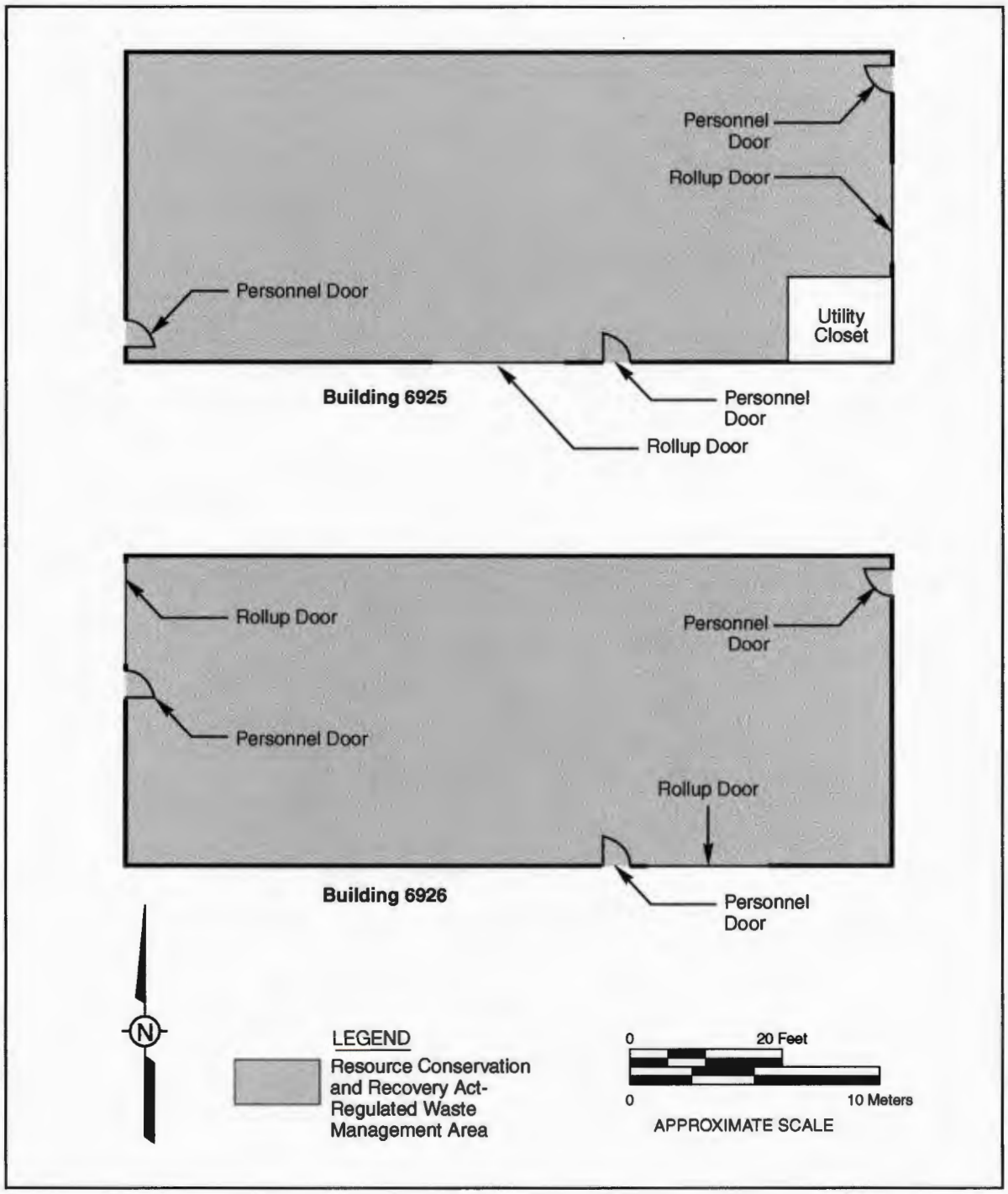

Figure ~~7~~ 6

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

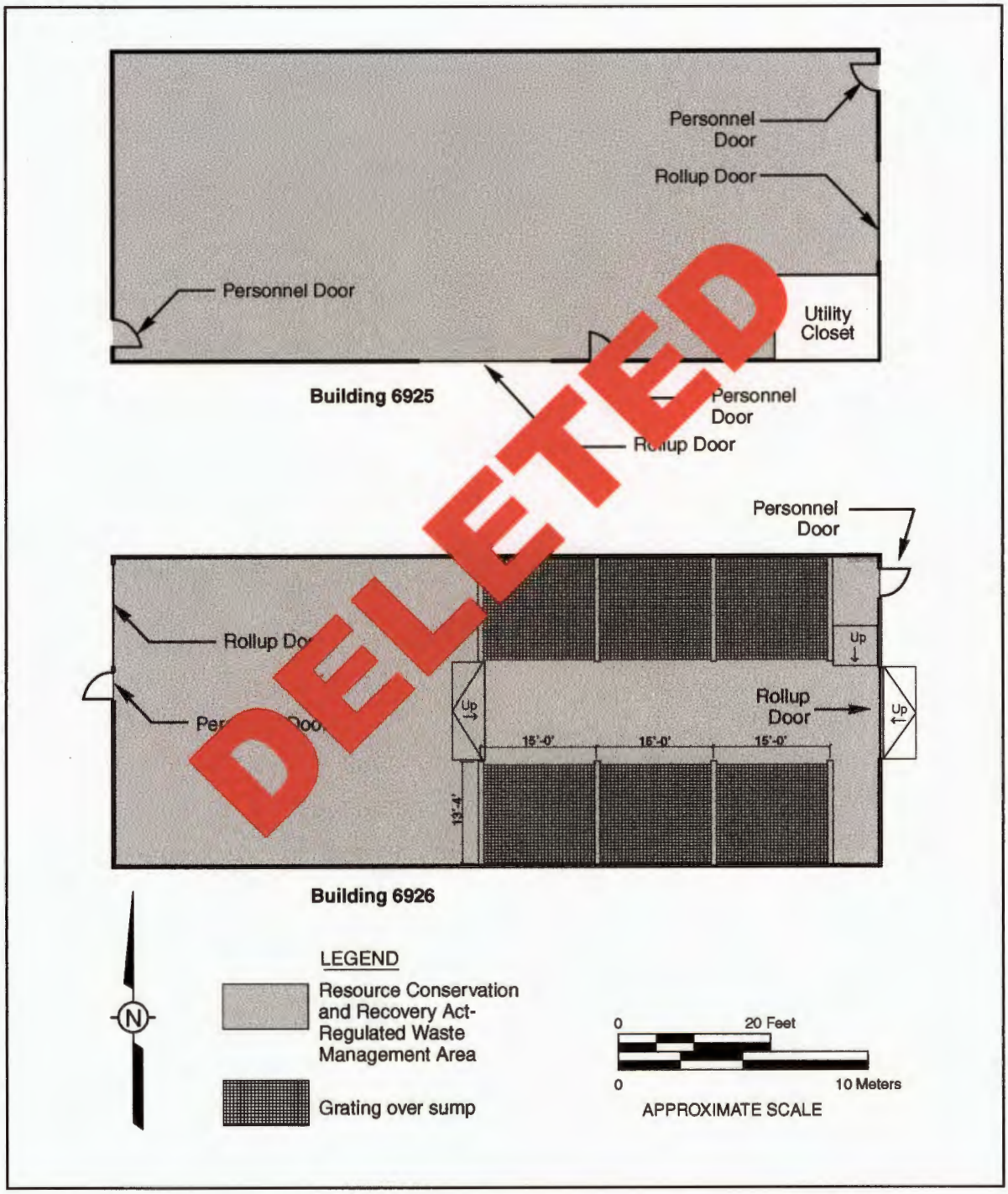

Figure 8

Consolidated Waste Management Facility, Building 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

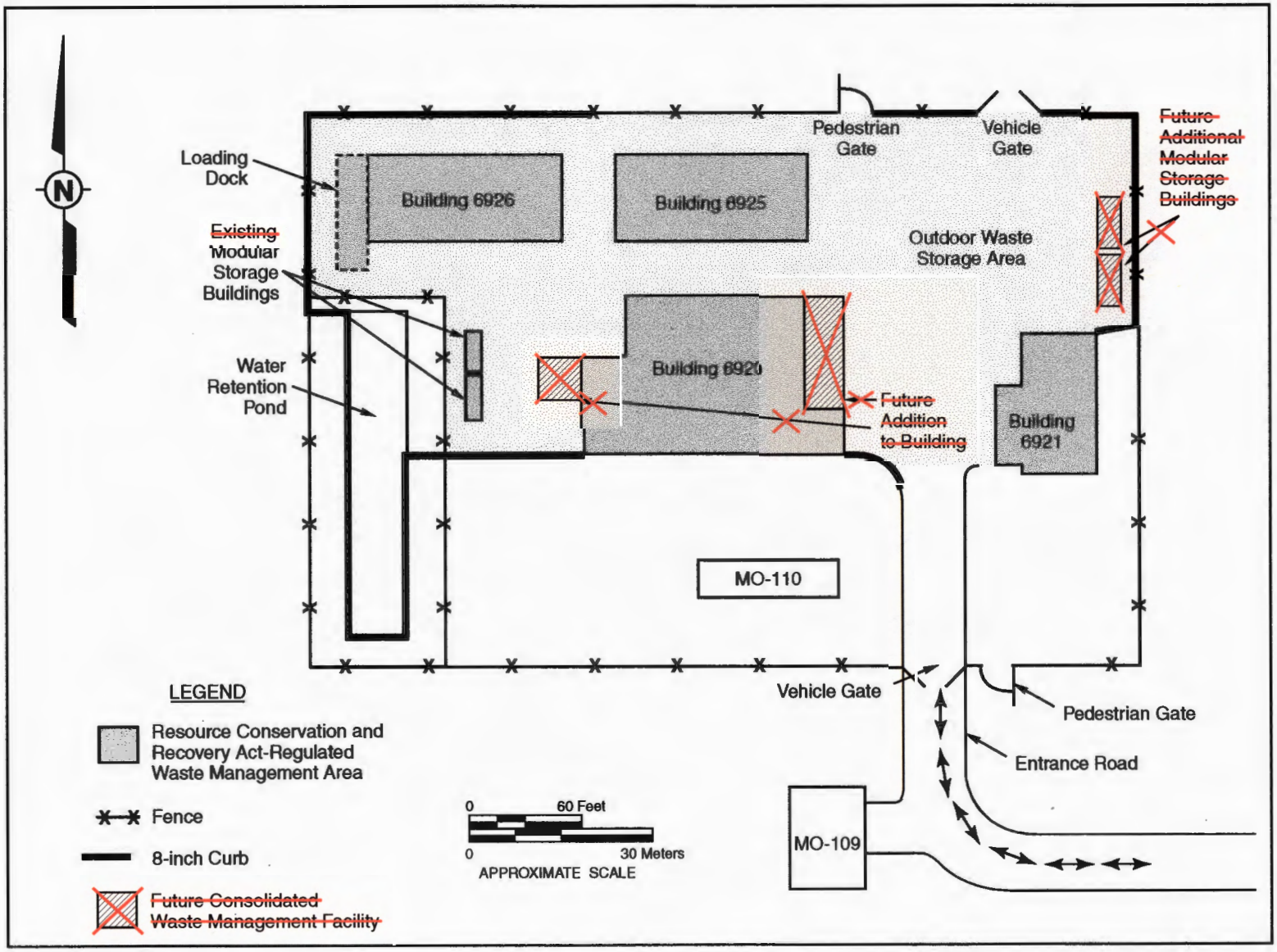

Figure ~~9~~ 7
Radioactive and Mixed Waste Management Facility~~/ Consolidated Waste Management Facility~~, Traffic Route and Controls

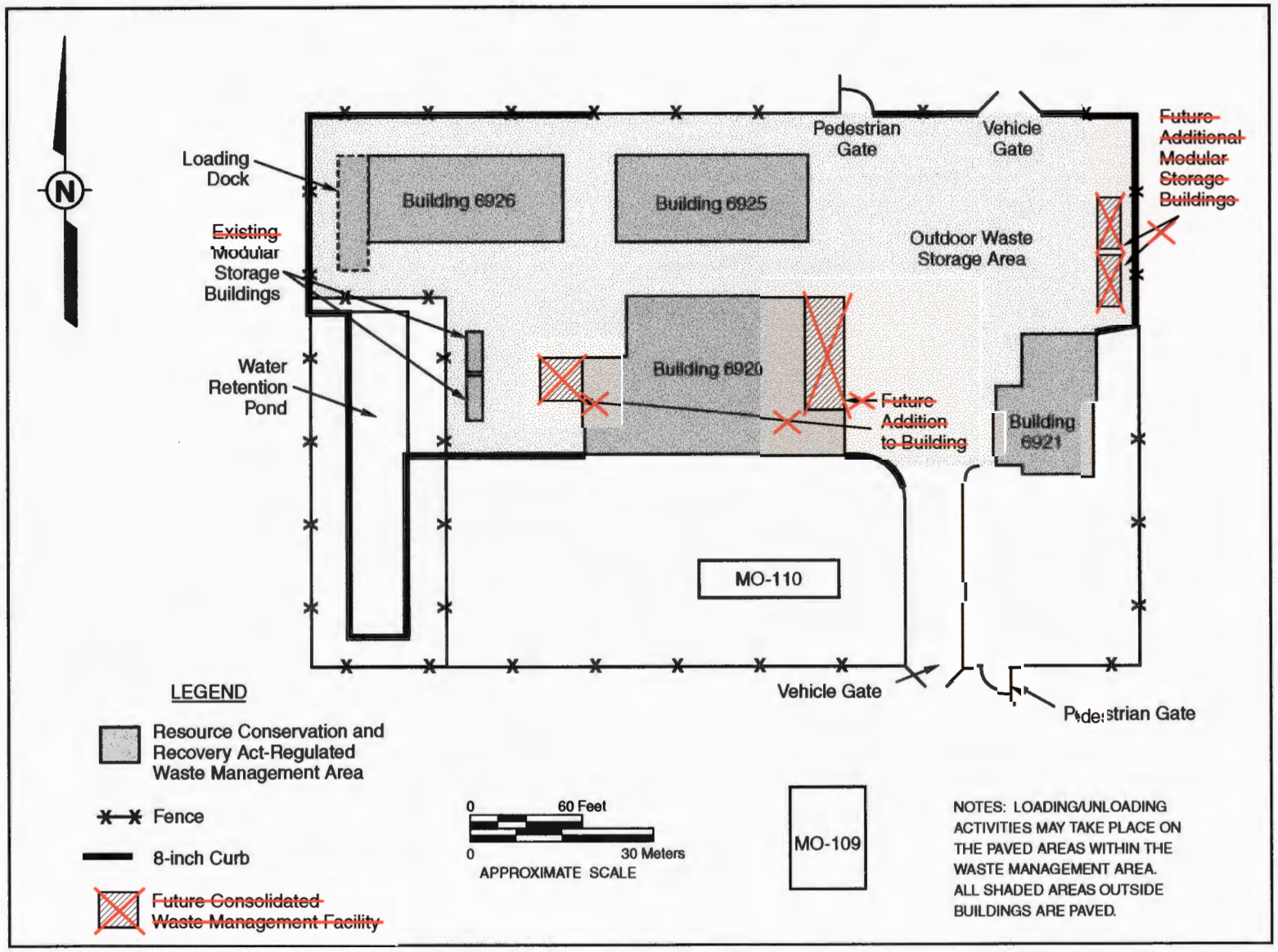

Figure ~~11~~ 9
Radioactive and Mixed Waste Management Facility~~/~~
~~Consolidated Waste Management Facility~~, Access Control Features

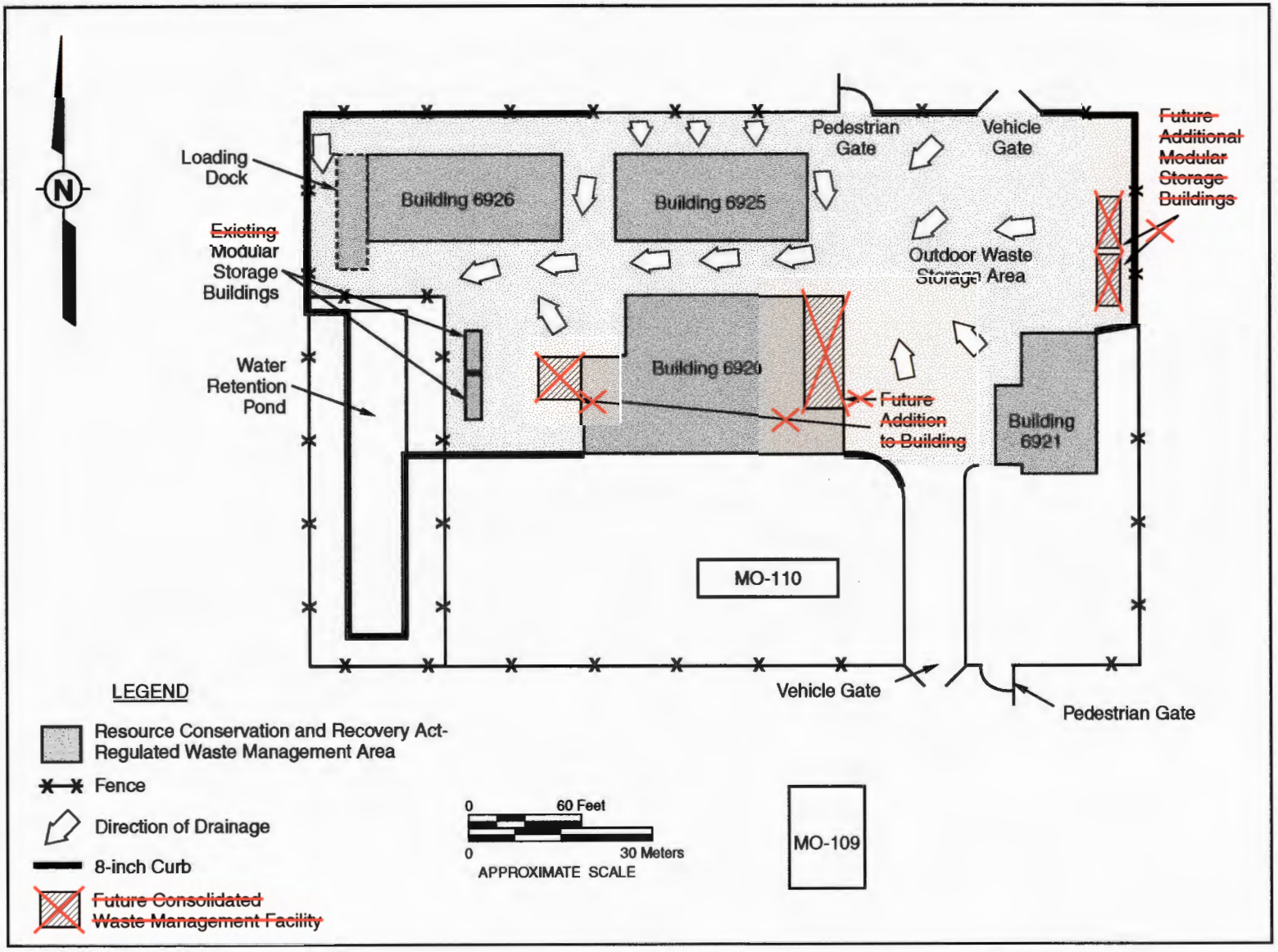

Figure ~~12~~ 10
Radioactive and Mixed Waste Management Facility~~/ Consolidated Waste Management Facility~~, Drainage Control Features

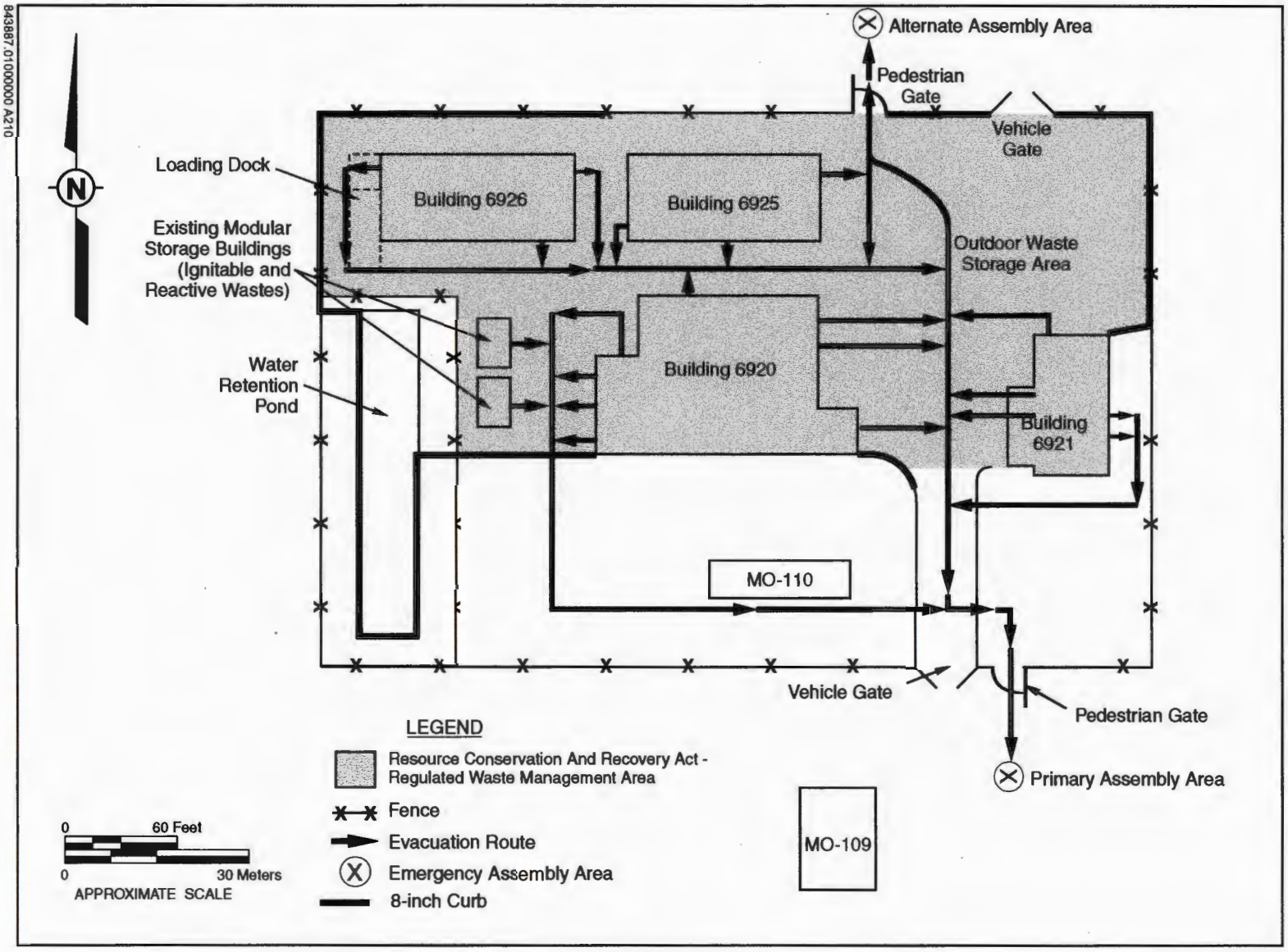

Figure ~~13~~ 11

Radioactive and Mixed Waste Management Facility, Evacuation Routes

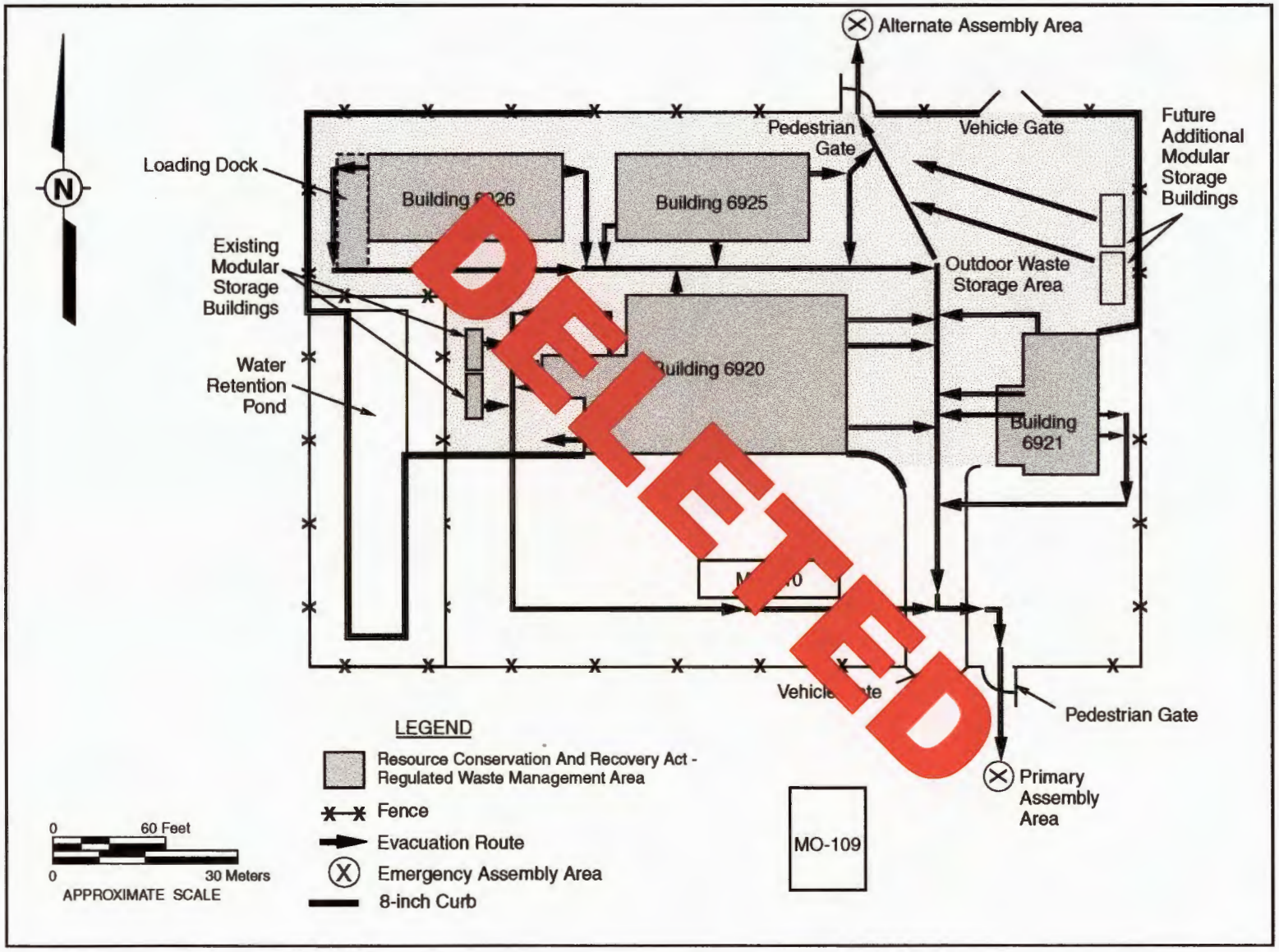

Figure 14
Consolidated Waste Management Facility, Evacuation Routes

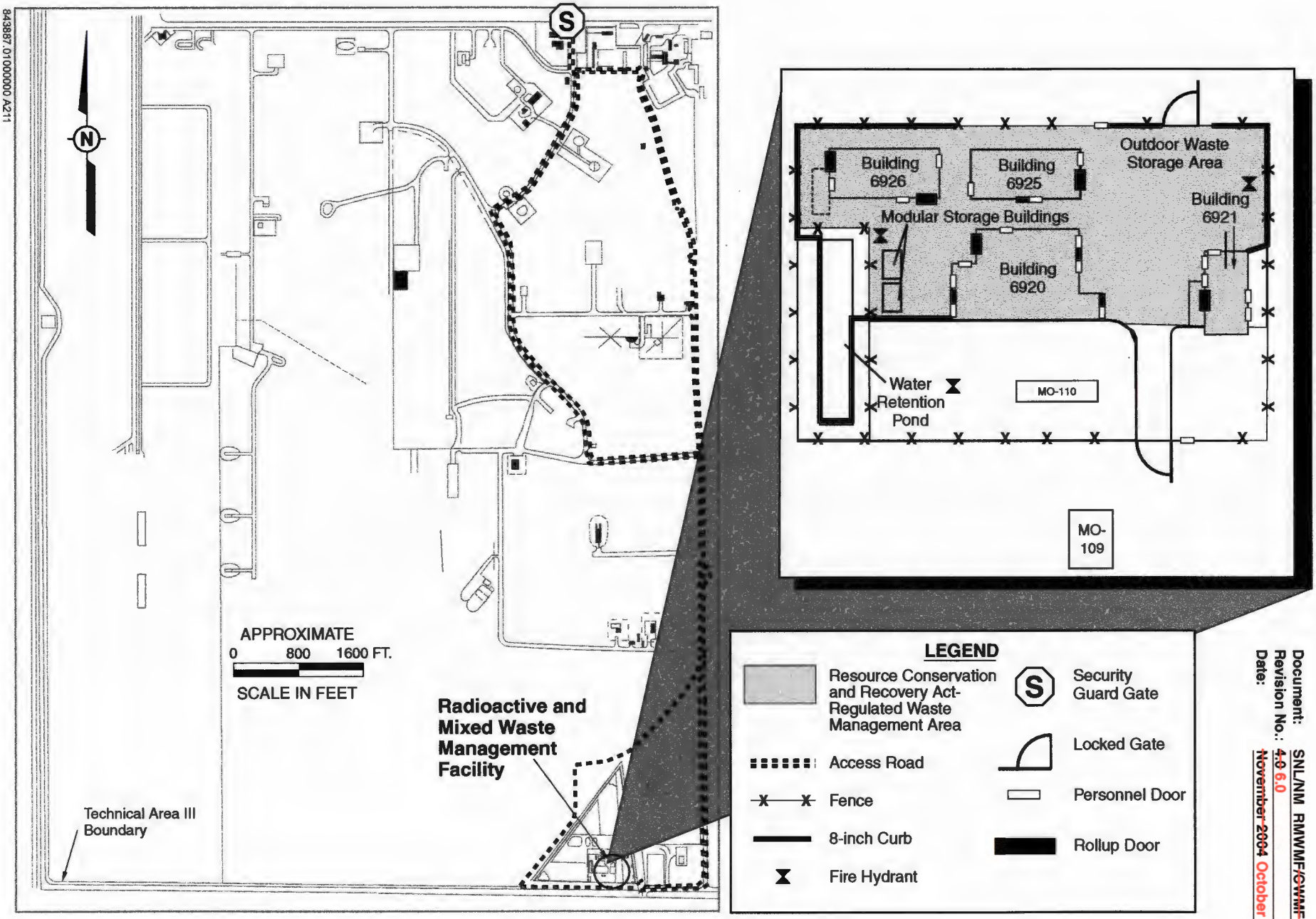

Figure ~~15~~ 12

Radioactive and Mixed Waste Management Facility, Emergency Response and Access Information

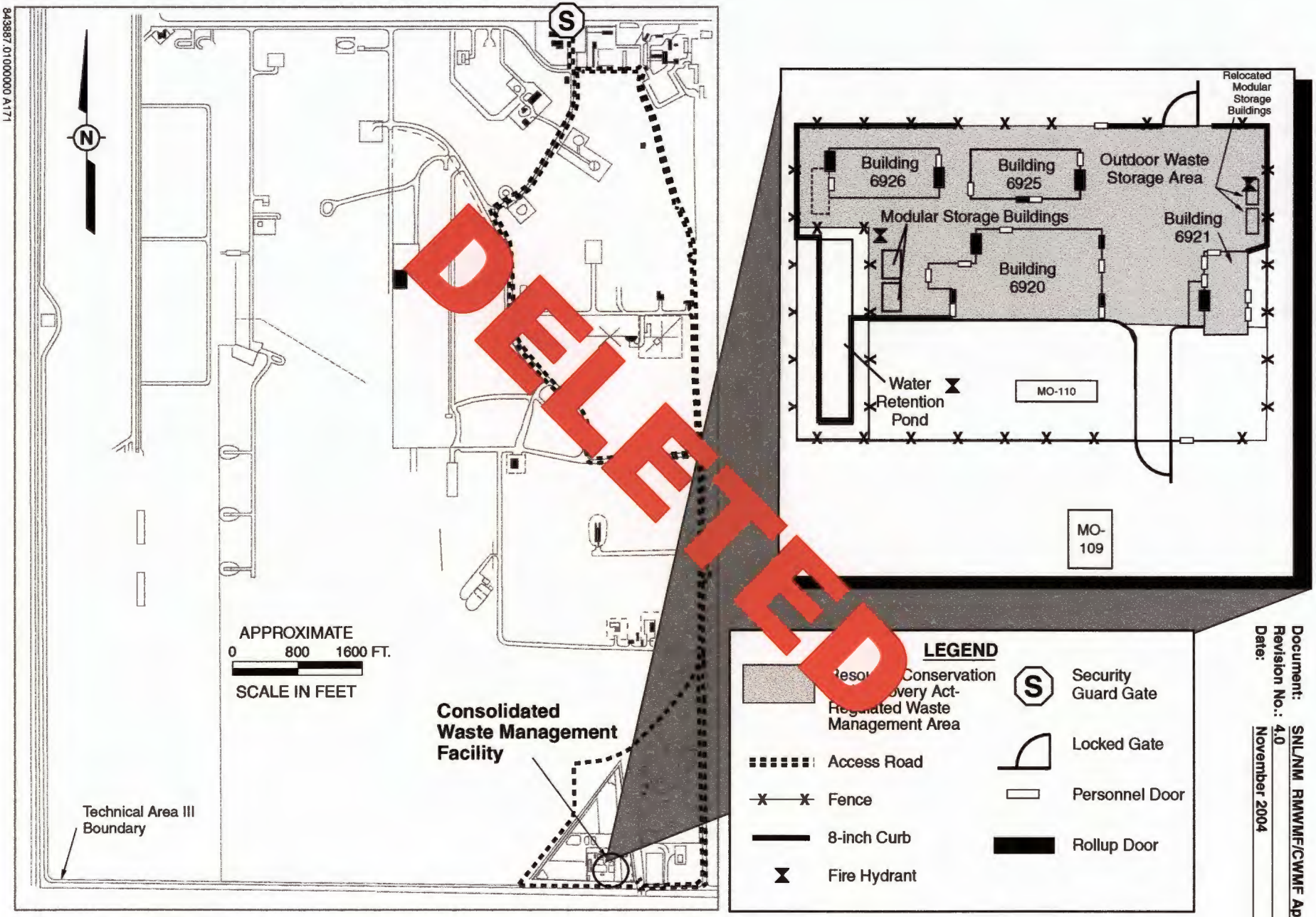

Figure 16

Consolidated Waste Management Facility, Emergency Response and Access Information

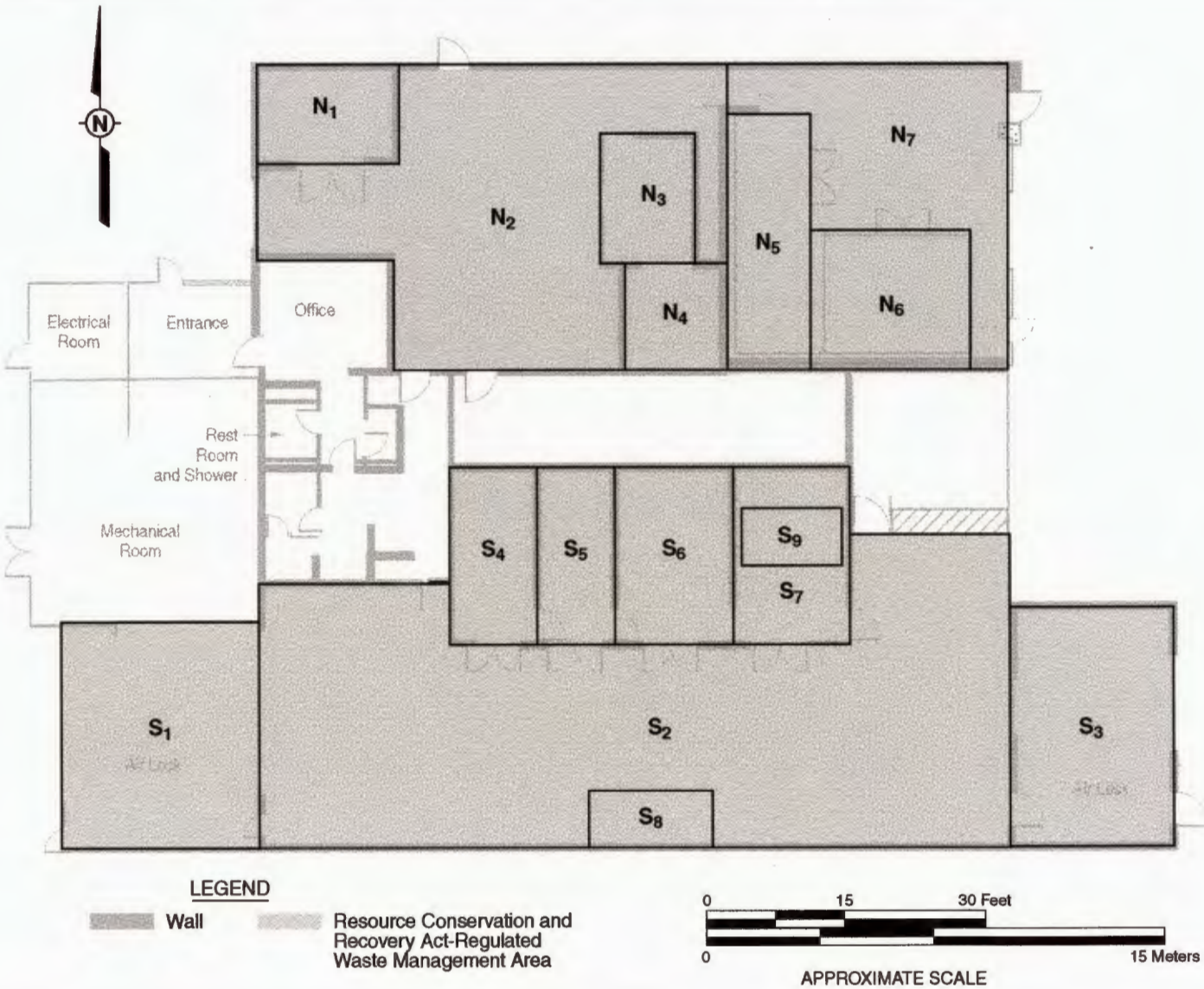

Figure ~~17~~ 13
Radioactive and Mixed Waste Management Facility, Building 6920, Closure Grid

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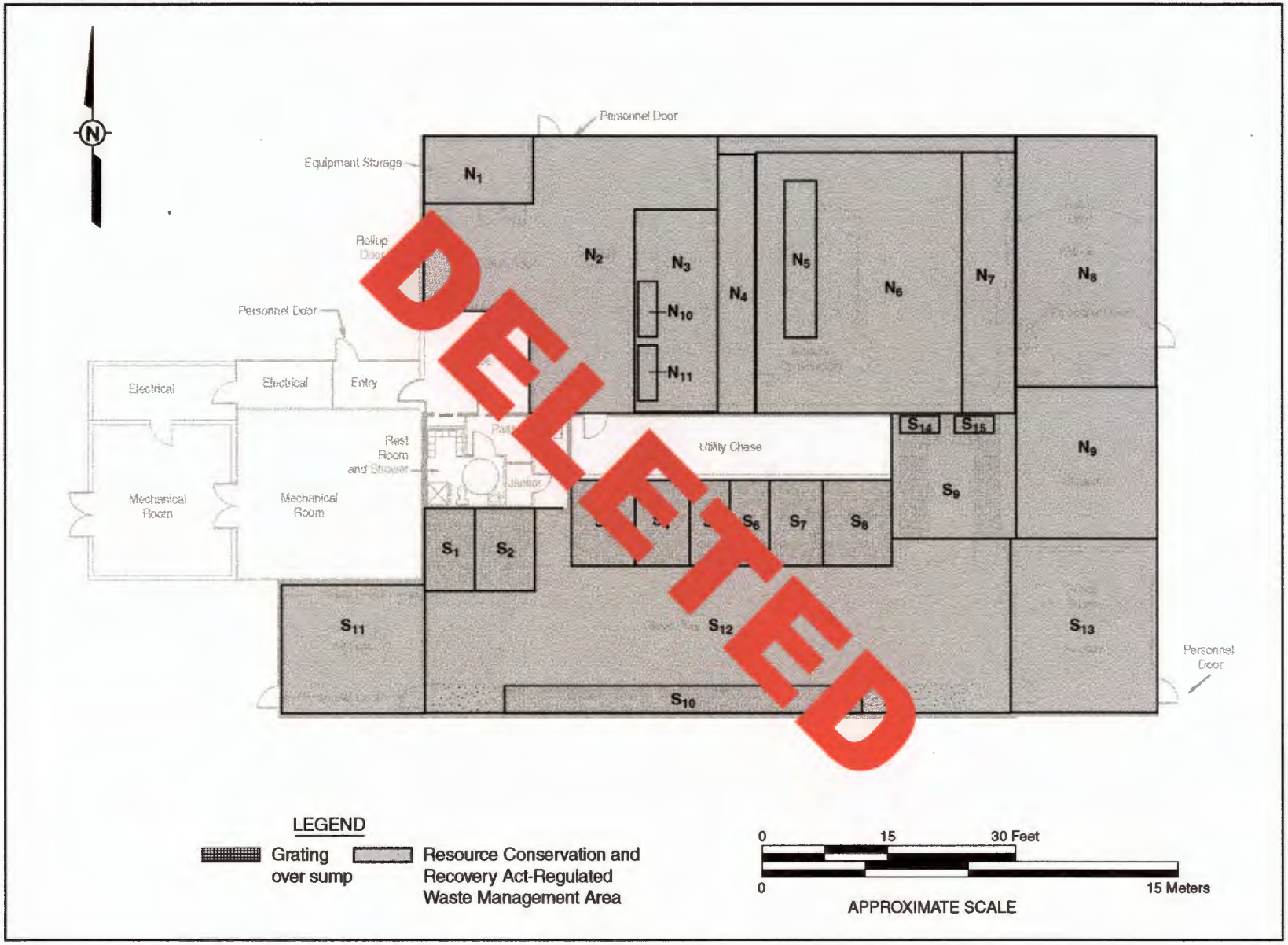

Figure 18
Consolidated Waste Management Facility, Building 6920, Closure Grid

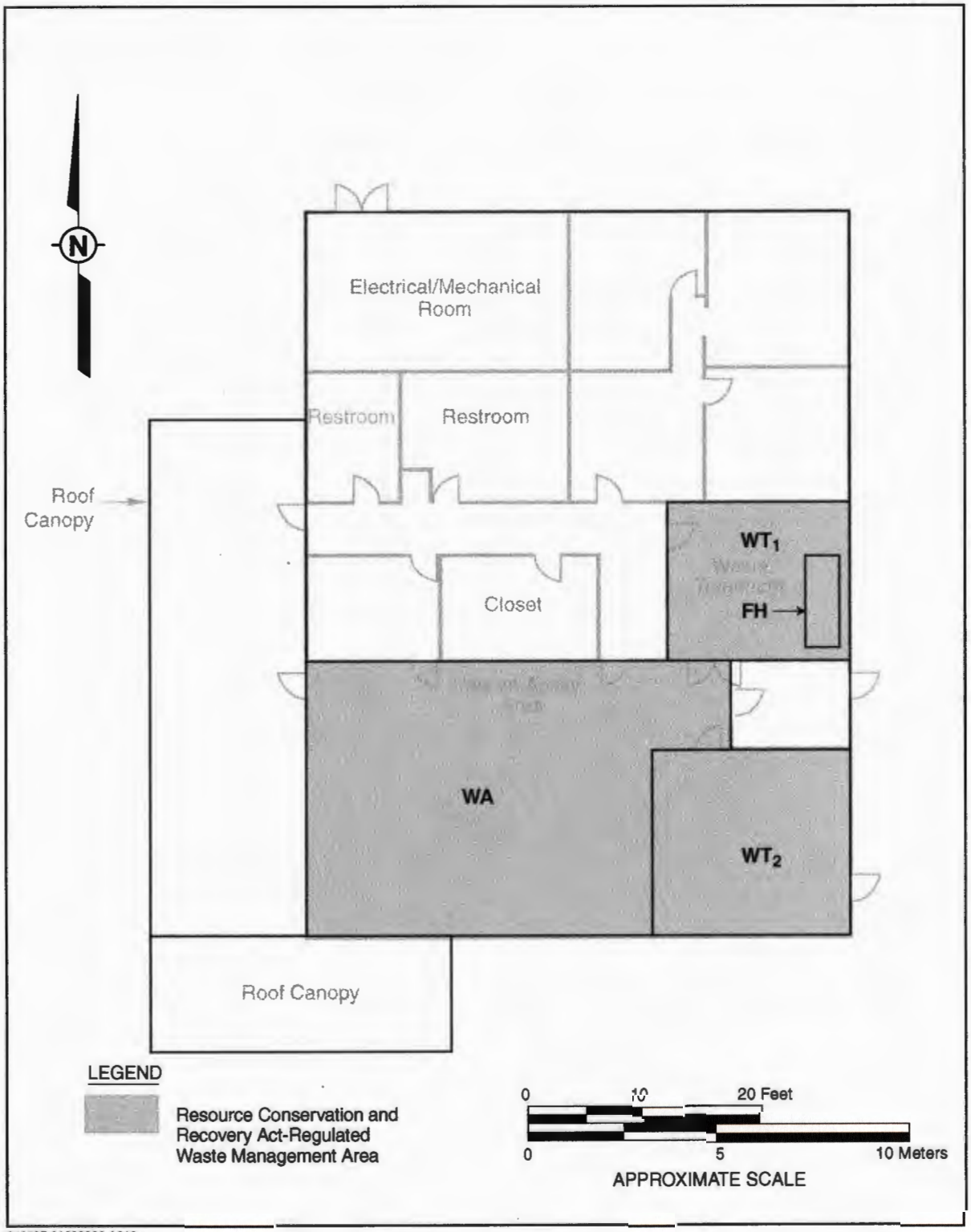

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Figure ~~19~~ 14

Radioactive and Mixed Waste Management Facility/~~Consolidated Waste Management Facility~~, Building 6921, Closure Grid

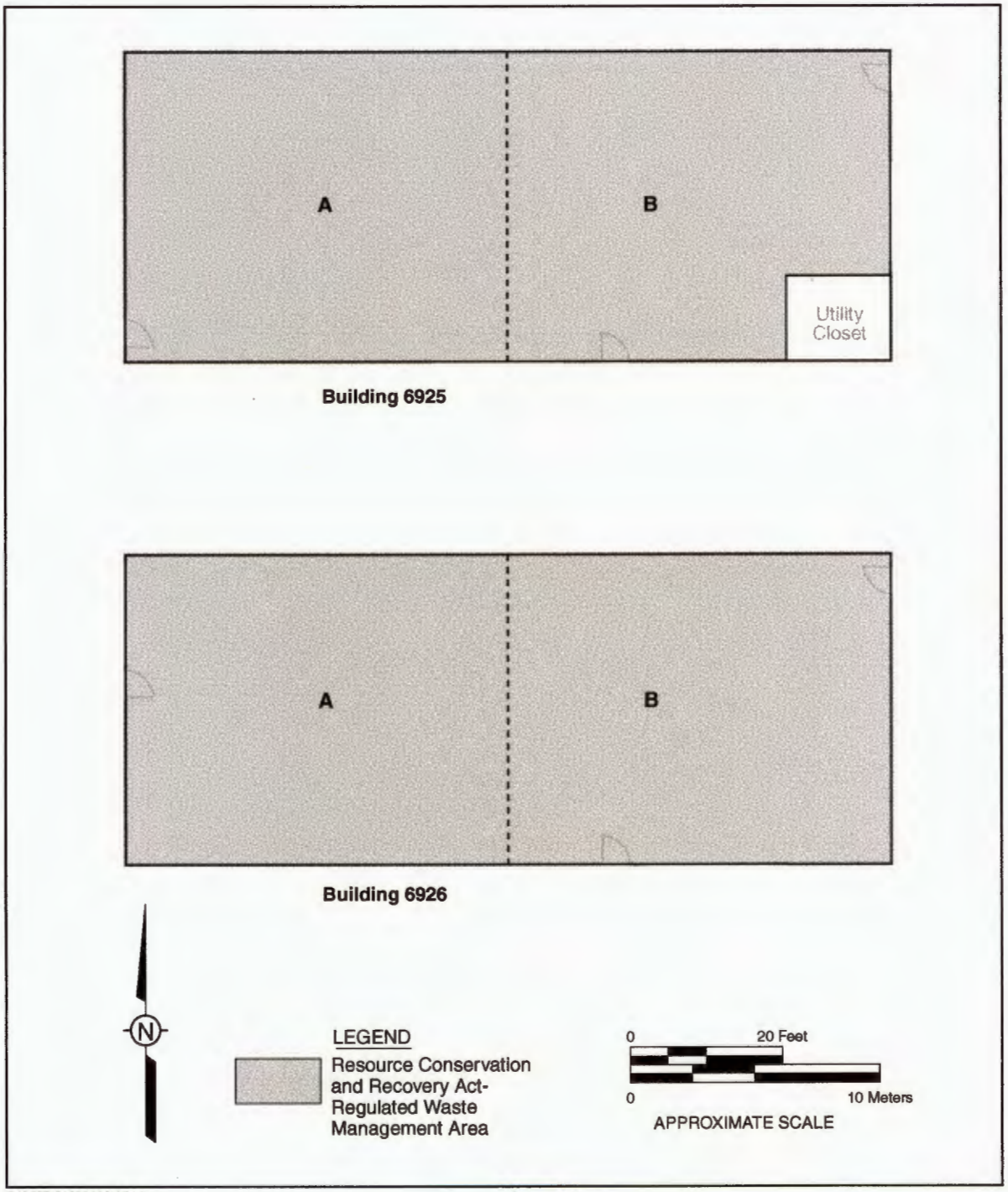

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Figure ~~20~~ 15

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Closure Grid

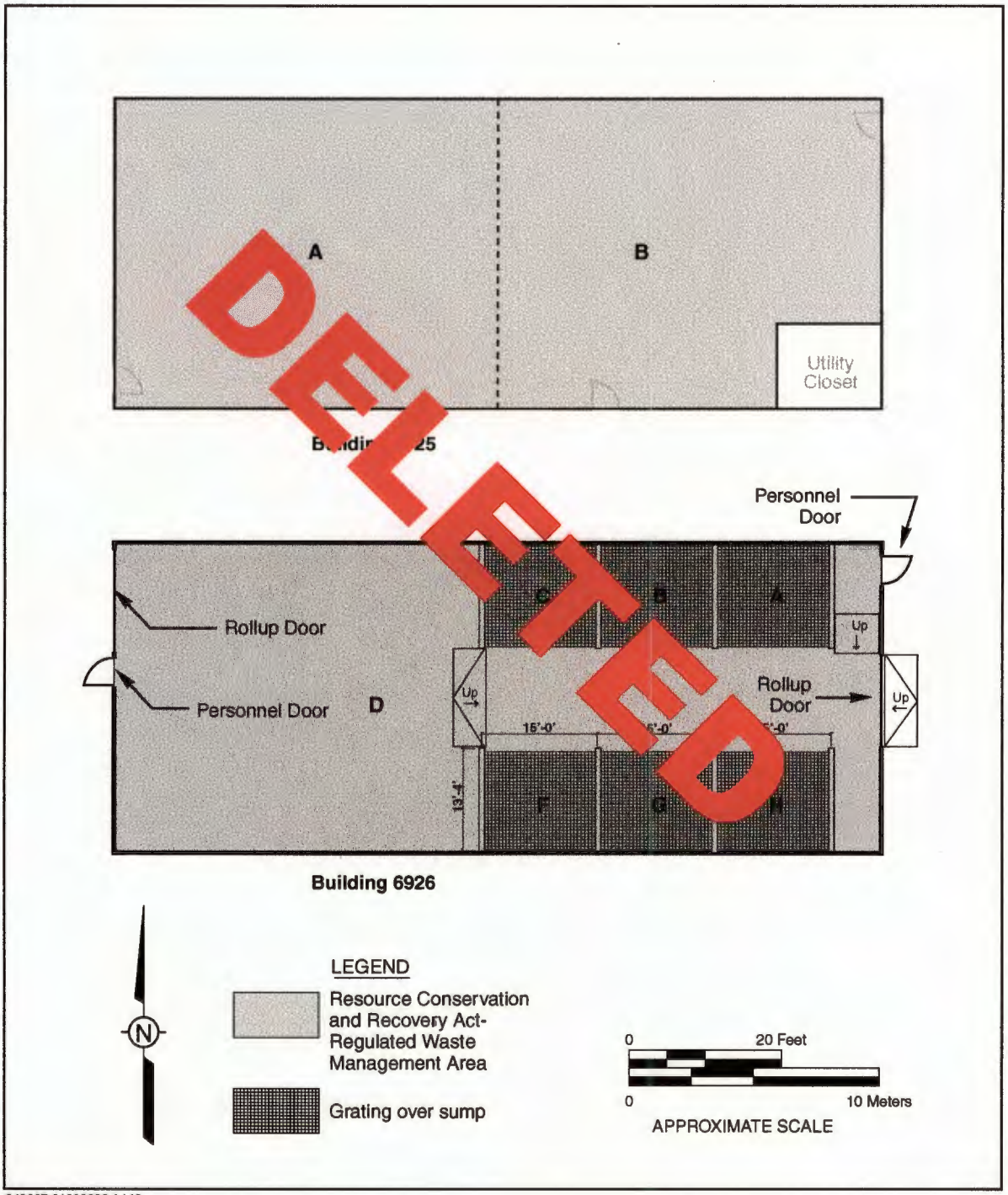

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Figure 21

Consolidated Waste Management Facility, Buildings 6925 and 6926, Closure Grid

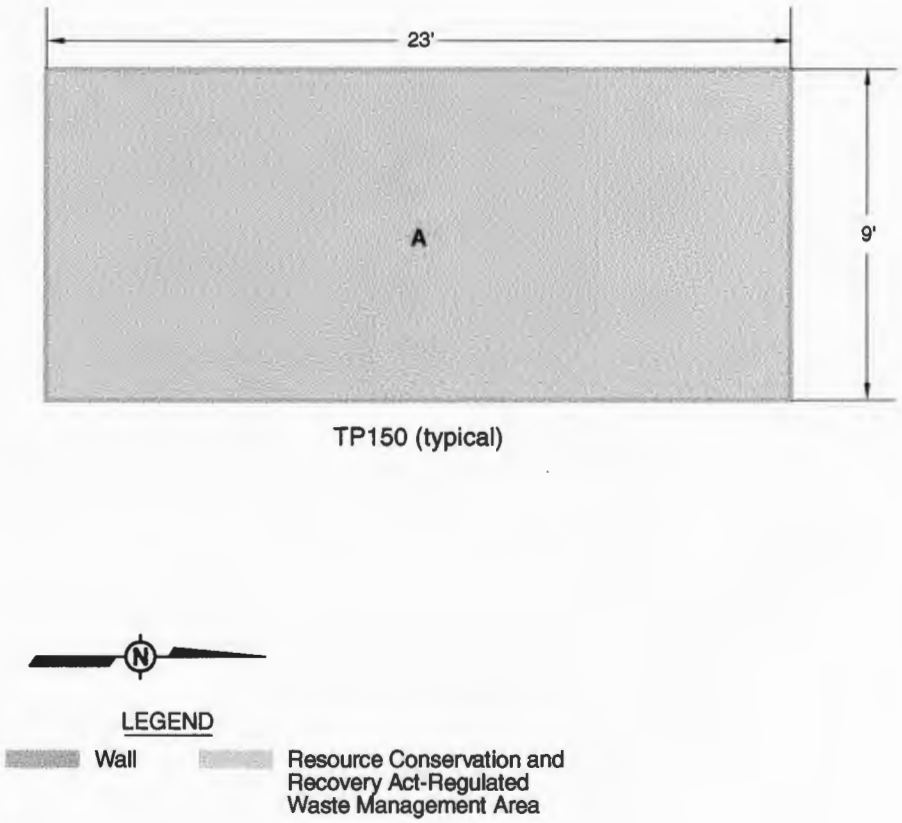

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Figure ~~22~~ 16

~~Consolidated~~ Radioactive and Mixed Waste Management Facility, Modular Buildings Closure Grid

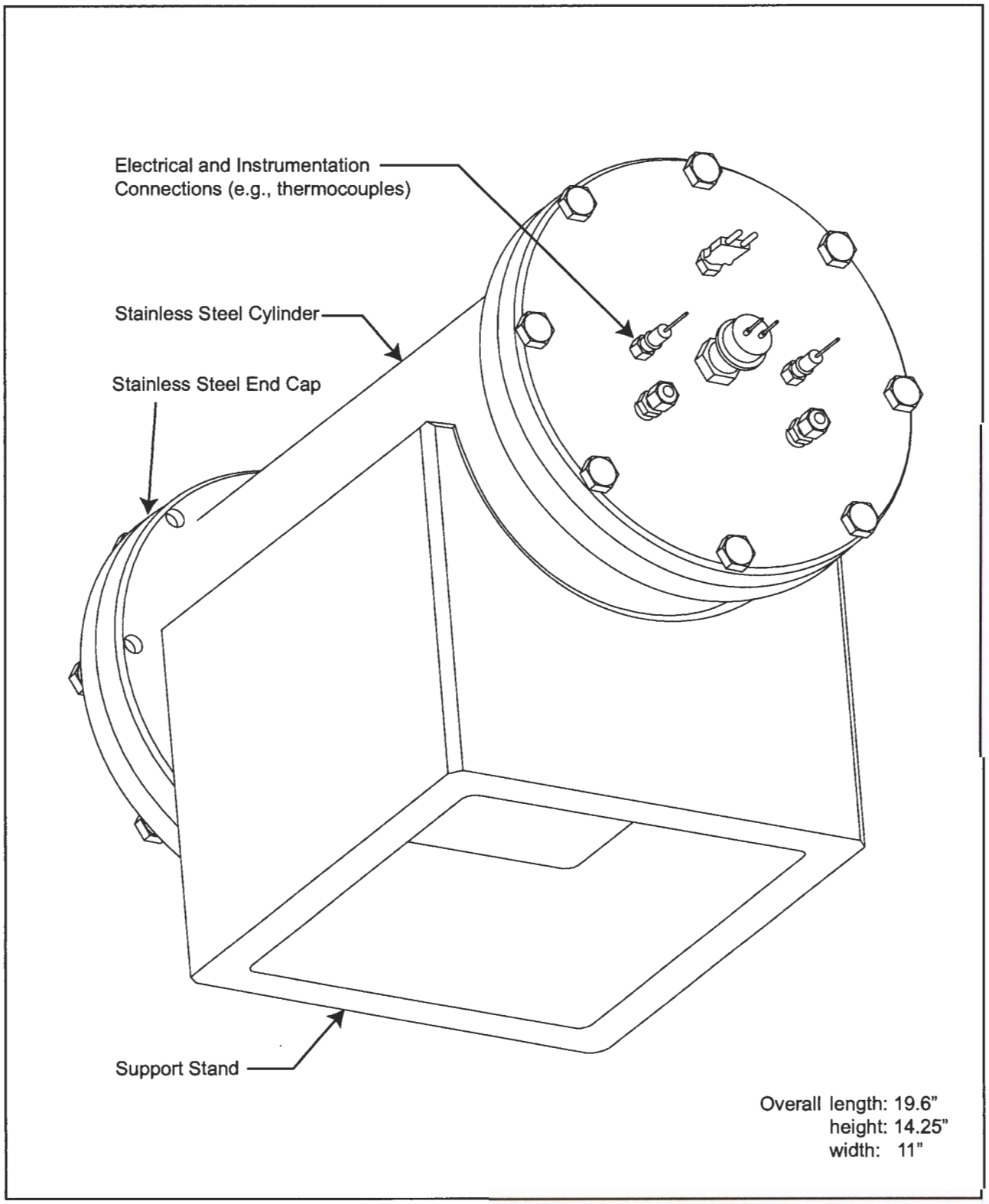

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Figure ~~23~~ 17

Radioactive and Mixed Waste Management Facility~~/Consolidated Waste Management Facility~~
Thermal Deactivation Unit, Exterior Bottom View

Sandia National Laboratories/New Mexico
Manzano Storage Bunkers
Part B Permit Application

Module VI

Revision 46.0

~~March~~October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

each row or area containing only compatible wastes. Ignitable and reactive wastes are segregated from other wastes in this manner.

- Containers are not routinely opened during storage at the bunkers, and RCRA-regulated wastes are not repackaged.

1.2.3 Preparedness and Prevention (20 NMAC 4.1.500/40 CFR 264, Subpart C and 20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address required equipment, testing and maintenance of equipment, and access to communications or alarm systems at the MSB.

1.2.3.1 Required Equipment (20 NMAC 4.1.500/40 CFR 264.32)

The MSB are not equipped with automatic fire suppression systems. As noted in Table 2, fire-fighting services are provided by the KAFB fire department tanker trucks. Information on other required equipment located at the MSB is provided in Section 6.0 and Table 2 of this module.

1.2.3.2 Testing and Maintenance of Equipment (20 NMAC 4.1.500/40 CFR 264.33)

Information on equipment testing and maintenance at the MSB is provided in Appendix C of the General Part B and in Section 4.0 of this module.

1.2.3.3 Access to Communications or Alarm Systems (20 NMAC 4.1.500/40 CFR 264.34)

Information about the types and locations of communications or alarm systems at the MSB is provided in Section 1.1.3.3 of the General Part B and in Section 6.0 of this module. Personnel at the Unit typically maintain contact with the emergency coordinator and other personnel at the ~~existing~~ Radioactive and Mixed Waste Management Facility ~~or future Consolidated Waste Management Facility~~ through 2-way radios or cellular phones.

1.2.4 Hazards Prevention (20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address the procedures, equipment, and structures used at the MSB to prevent hazards. Additional information applicable to the MSB and all other Units at SNL/NM is included in Section 1.1.4 of the General Part B.

1.2.4.1 Preventing Hazards in Unloading (20 NMAC 4.1.900/40 CFR 270.14[b][8][i])

MSB personnel employ the practices described in Section 1.1.4.1 of the General Part B to prevent hazards in unloading. Loading and unloading activities take place on the paved areas immediately outside the bunkers. The surface is sloped gently away from the

4.0 INSPECTION PLAN

20 NMAC 4.1.500/40 CFR 264.15 and 264.33 [10-1-03] and 20 NMAC 4.1.900/40 CFR 270.14(b)(5) [10-1-03] required that WMAs and associated systems be inspected on a regular basis and in accordance with procedures to assure their integrity, maintenance, and safe operation.

Unit personnel perform periodic inspections to identify malfunctions, signs of deterioration, operator errors, and discharges or spills that may be causing or may lead to a release of hazardous waste constituents to the environment or may pose a threat to human health. The inspections are performed on a regular schedule based on the likelihood of equipment or system failure and associated consequences. The inspections include safety and emergency equipment, security devices, and operating and structural equipment related to management of RCRA-regulated wastes to ensure that human health and the environment will be protected.

The general Sandia/DOE inspection plan and schedule that meets these requirements are described in the "Site-Wide Inspection Plan", provided as Appendix C of the General Part B. Unit personnel conduct inspections in accordance with the site-wide plan.

Specific items and areas that are inspected are listed in Table 1, with the inspection criteria and frequency.

The results of inspections by Unit personnel (including any corrective actions required and taken) are recorded on forms identical or similar to the ones presented in Appendix C of the General Part B. The inspection plan (Appendix C and this section) is maintained at the ~~existing~~ RMWMF~~/future CWMF~~. Inspection records for the current calendar year are maintained at each bunker. Inspection records for previous calendar years are maintained at the ~~existing~~ RMWMF~~/future CWMF~~ or the SNL/NM Records Center.

5.0 PERSONNEL TRAINING

Training requirements for Unit personnel are specified in 20 NMAC 4.1.900, 40 CFR 270.14[b][12], and 20 NMAC 4.1.500/40 CFR 264.16 [10-1-03], "Personnel Training." The Sandia/DOE training program is designed and implemented to prepare personnel to operate and safely maintain those areas used for managing RCRA-regulated waste at the MSB.

All job descriptions identified in Appendix D, Table D-2 of the General Part B are applicable at the MSB. MSB personnel receive training in accordance with the "Site-Wide Personnel Training Plan" provided in Appendix D of the General Part B.

Training records for MSB personnel are maintained at the ~~existing~~ Radioactive and Mixed Waste Management Facility ~~and will be maintained at the future Consolidated Waste Management Facility~~ at SNL/NM.

6.0 CONTINGENCY PLAN

Emergency response requirements for permitted units are specified in 20 NMAC 4.1.500/40 CFR 264, Subpart D [10-1-03], "Contingency Plan and Emergency Procedures," and in 20 NMAC 4.1.900/40 CFR 270.14(b)(7) [10-1-03]. The Sandia/DOE "Site-Wide Contingency Plan" is included as Appendix E of the General Part B. Supplemental MSB-specific information is included in this section, Figures 10-12, and in Tables 2 and 3 of this module. Current copies of the site-wide contingency plan and this supplemental information are maintained at each bunker, at the ~~existing~~ RMWMF~~/future CWMF~~, and at the SNL/NM Emergency Operations Center.

The U.S. Department of Energy and Sandia Corporation use the five bunkers of the MSB to store containers of RCRA-regulated waste. The MSB are located approximately 1 mile east of the road leading to the entrance of TA-III and -V at the end of Pennsylvania Avenue. The WMAs at the MSB include: a Type B bunker (37034); a Type C bunker (37118); and three Type D bunkers (37045, 37055, and 37057). Bunkers are constructed of concrete (walls, roof, and floor) and are covered by earthen materials.

RCRA-regulated wastes bearing the U.S. EPA listed in the General Part A Permit may be stored at the MSB WMAs. Waste is segregated based on compatibility groups within each bunker.

Figure 10 presents evacuation routes for the MSB. Figures 11 and 12 present emergency response and access information for the MSB. Table 2 lists the emergency equipment typically available at the MSB and additional spill cleanup equipment available at other SNL/NM Units. Table 3 lists the emergency coordinators for the MSB.

The emergency coordinators are informed of planned work activities at the beginning of each work day; this includes activities at Units that are not routinely staffed (such as the MSB).

Table 2
Manzano Storage Bunkers, Emergency Equipment and Locations

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Portable Eyewash	By inner door inside each bunker
	Personal protective equipment (chemical-resistant gloves and safety glasses)	By inner door inside each bunker
	Absorbents (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By inner door inside each bunker
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the ~~existing~~ RMWMF~~/future CWMF~~
	Recovery drums and containers	In equipment storage at the ~~existing~~ RMWMF~~/future CWMF~~
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios.
	Smoke Alarms	• Smoke detectors and alarms inside each bunker • Strobe light on front outside each bunker
External Communication System	Mobile Telephone or Portable Radio	Taken to bunkers by personnel
Fire Extinguishers	Portable (A-B-C)	By entrance door outside each bunker
Fire Suppression	Water to Extinguish Fires	KAFB tanker truck at the KAFB fire station in the Manzano administrative area

KAFB Kirtland Air Force Base

Table 3
Manzano Storage Bunkers,
Facility Emergency Coordinator List

March 15, 2005

Facility Emergency Coordinator		Office Phone	Home Phone
Primary	Leroy Duran Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 284-1488 (office) (505) 530-4105 (pager)	(505) 281-4183
First Alternate	Mike Spoerner Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2813 (office) (505) 540-5296 (pager)	(505) 828-3441
Second Alternate	Phil Zelle Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2486 (office) (505) 540-7437 (pager)	(505) 292-5097
Third Alternate	Mary Ann Krauss Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 845-9997 (office) (505) 540-5228 (pager)	(505) 299-0793

One or more of the listed personnel are routinely available at the ~~existing~~ Radioactive and Mixed Waste Management Facility ~~and will be available at the future Consolidated Waste Management Facility~~ during normal work hours (7:00 am to 5:30 pm, Monday through Thursday) and can be contacted by radio or telephone during those hours.

Attachment B

Sandia National Laboratories
Comprehensive Part B Permit Request
NM5890110518

Technical and Administrative Updates

Replacement Pages

- **Front and Spine covers for Volume I**
- **Inside title page for Volume I**
- **Table of Contents for Volume I**
- **Overview**
- **General Part A (RCRA ID Form, Permit Information Form, Appendices A and B)**
- **General Part B**
- **General Part B, Appendix A (Site-Wide Description)**
- **General Part B, Appendix B (Waste Analysis Plan)**
- **General Part B, Appendix C (Site-Wide Inspection Plan)**
- **General Part B, Appendix E (Site-Wide Contingency Plan)**
- **General Part B, Appendix F (Site-Wide Closure Plan)**
- **General Part B, Module III (Radioactive and Mixed Waste Management Facility)**
- **General Part B, Module VI (Manzano Storage Bunkers)**

Instructions for replacing superseded pages in Comprehensive Part B Permit Request are on the following page

Instructions for replacing superseded pages in Comprehensive Part B Permit Request:

- Front and spine covers – Volume I. The enclosed covers replace the covers on the outside of the binder.
- Inside title page – Volume I. The enclosed page replaces the front page in the binder.
- Table of Contents – Volume I. The enclosed page replaces the table of contents immediately following the "Volume I" tab at the front of the binder.
- Overview - Volume I. The enclosed pages replace pages i-vi (both the affected pages and the pages on the reverse side)
- General Part A – Volume I, Part 1. The enclosed pages replace the cover, the Table of Contents, all of the RCRA ID Form and Permit Information Form, pages A-1 through A-4 in Appendix A, pages 1-8 in Appendix B, Figures B-1, B-2, B-8, B-9, and B-11 through B-22 in Appendix B, and all photographs of the RMWMF in Appendix B.
- General Part B - Volume I, Part 2. The enclosed pages replace pages SW-v/viii, SW-1/2, SW-9/10, SW-27/28, SW-37/38, and Figure 1.
- General Part B, Appendix A - Volume 1, Part 2. The enclosed pages replace pages SW-A-iii/iv, SW-A-1/2, SW-A-5 through SW-A-8, and Figures A-2, A-4, and A-6.
- General Part B, Appendix B – Volume 1, Part 2: The enclosed pages replace pages SW-B-i/ii, SW-B-v/vi, pages SW-B-3/4, SW-B-9 through SW-B-12, and SW-B-27 through SW-B-32
- General Part B, Appendix C – Volume 1, Part 2: The enclosed pages replace pages SW-C-5/6.
- General Part B, Appendix E – Volume 1, Part 2: The enclosed pages replace pages SW-E-1/2 and Figure E-1.
- General Part B, Appendix F – Volume 1, Part 2: The enclosed pages replace pages SW-F-iii/iv, SW-F-7/8, and Figure F-1.
- General Part B, Module III – Volume I, Part 2: The enclosed pages replace the tabbed sheet, the title page, pages CWMF-i through CWMF-74, and Figures 1 through 23.
- General Part B, Module VI – Volume I, Part 2: The enclosed pages replace pages MSB-5/6 and pages MSB-15 through MSB-22.

Sandia National Laboratories

Sandia National Laboratories/New Mexico

Comprehensive Part B Permit Request - Volume I

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Part 2 Part B for Waste Management Units

General Part B

Part B Modules I through VI

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- Thermal Treatment Facility
- Radioactive and Mixed Waste Management Facility
- Reserved
- Auxiliary Hot Cell Facility
- Manzano Storage Bunkers

October 2005

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II	TTF	Thermal Treatment Facility
III	RMWMF	Radioactive and Mixed Waste Management Facility
IV	Reserved	
V	AHCF	Auxiliary Hot Cell Facility
VI	MSB	Manzano Storage Bunkers

OVERVIEW

1.0 BACKGROUND

Sandia National Laboratories (SNL) is a multi-purpose engineering and science laboratory owned by the U.S. Department of Energy (DOE) and co-operated by Sandia Corporation (Sandia), a subsidiary of Lockheed Martin, and the DOE. Sandia designs non-nuclear components for the nation's nuclear weapons, performs a wide variety of energy research and development projects, and works on assignments that respond to national security threats. Sandia National Laboratories/New Mexico (SNL/NM) is located on Kirtland Air Force Base (KAFB) southeast of Albuquerque, New Mexico. SNL/NM consists of five technical areas (TAs) and several remote testing areas situated in the eastern half of the 80-square-mile KAFB.

Sandia generates wastes that are regulated under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act and implementing regulations, specifically the New Mexico Administrative Code (NMAC) Title 20, Chapter 4. In this Part B permit request, these wastes are referred to as RCRA-regulated wastes (i.e., wastes that meet the regulatory definition of hazardous or mixed wastes). RCRA-regulated wastes are generated during SNL/NM operations and ongoing corrective actions for solid waste management units (SWMUs). The corrective actions are conducted under the SNL/NM Environmental Restoration (ER) Project.

Since November 19, 1980, Sandia/DOE have managed RCRA-regulated wastes at SNL/NM under the applicable requirements of Title 40 of the Code of Federal Regulations, Parts 260-270, and with the requirements of NMAC Title 20, Chapter 4, as they became effective. Sandia/DOE operations include:

- **Chemical Waste Landfill (CWL).** Sandia/DOE operated the CWL in the southeastern corner of SNL/NM TA-III for disposal of RCRA-regulated wastes under interim status until 1985. Sandia/DOE are closing the landfill under interim status according to a closure plan approved by the New Mexico Environment Department (NMED). Two voluntary corrective measures (VCM) have been performed at the CWL: a vapor extraction VCM, and a landfill excavation VCM. The CWL is a regulated unit under RCRA. Groundwater assessment and monitoring information for the CWL is addressed in this comprehensive Part B permit request. Sandia/DOE will prepare corrective measures documentation as required by the closure plan. Sandia/DOE has prepared a post-closure care permit application as a supplement to this Part B application.

- **Hazardous Waste Management Facility (HWMF).** The HWMF consists of several buildings within a fenced area located south of SNL/NM TA-I. The HWMF is used for storage and packaging of RCRA-regulated wastes. The wastes are transported to off-site RCRA-permitted facilities for treatment, storage, and/or disposal. These wastes are generated during SNL/NM operations and corrective action activities. The Part B hazardous waste operating permit for the HWMF was issued in August 1992 and expired on August 6, 2002. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for the renewal of the HWMF operating permit. Sandia/DOE revised the request in response to NMED's comments dated June 25, 2004. The complete updated request for renewal of the HWMF operating permit is included in the November 2004 submittal.

- **Thermal Treatment Facility (TTF).** The TTF consists of a burn cage with ancillary equipment located in a fenced area south of Building 6715 in the northern part of SNL/NM TA-III. The TTF is used for thermal treatment of explosive wastes generated by SNL/NM operations. RCRA-regulated treatment residues (ash) are transported to off-site permitted facilities for treatment, storage, and/or disposal. The Part B hazardous waste operating permit for the TTF was issued on November 4, 1994. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for the renewal of the TTF operating permit. Sandia/DOE revised the request in response to changes in TTF operations and NMED's comments dated June 25, 2004. The request for renewal of the TTF operating permit was included in this November 2004 submittal. Additional updates reflecting minor changes in TTF operations were submitted in July 2005.

- **Radioactive and Mixed Waste Management Facility (RMWMF).** The RMWMF consists of several buildings within a fenced area located at the southeastern corner of SNL TA-III, west of the CWL. The RMWMF is used for storage, treatment, and packaging of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. RCRA-regulated wastes and treated residues are transported to off-site permitted facilities for treatment, storage, and/or disposal. The RMWMF is operated under interim status. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a Part B permit application for operation of the RMWMF, which superseded the application submitted to the NMED in December 1996. Sandia/DOE revised the application in response to NMED's comments dated June 25, 2004.

  Sandia/DOE planned to make physical modifications to the RMWMF in stages during the next three years to increase capacity. The modified facility was to be called the Consolidated Waste Management Facility. Sandia/DOE planned to continue the same general operations at the CWMF (storage, repackaging, and treatment of RCRA-regulated wastes) that are conducted at the existing RMWMF.

  On September 7, 2005, Sandia/DOE decided not to proceed with the plans for modification of the RMWMF. The application for operation of the RMWMF in this comprehensive Part B permit request has been further modified to reflect the original RMWMF and incorporates minor technical changes and updates that were submitted to NMED in March and July 2005. The application for the RMWMF is included in this October 2005 submittal.

- **High Bay Waste Storage Facility (HBWSF).** The HBWSF is an area within Building 6596 in SNL/NM TA-V. The HBWSF was used for storage and packaging of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. RCRA-regulated wastes were transported to off-site permitted facilities for treatment, storage, and/or disposal. The HBWSF is operated under interim status. The comprehensive Part B permit request submitted to NMED in February 2002 included a Part B permit application for operation of the HBWSF, which superseded the application submitted to the NMED in December 1996. Sandia/DOE withdrew the Part B permit application for the HBWSF in April 2003 and most recently submitted a closure plan to NMED in April 2004. NMED approved the plan in December 2004. Sandia/DOE are currently closing the Unit under interim status.

- **Auxiliary Hot Cell Facility (AHCF).** The AHCF is located in Building 6597 in SNL/NM TA-V. The AHCF will be used for treatment, packaging, and storage of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included an application for operation of the AHCF. Sandia/DOE revised the application in response to NMED's comments dated June 25, 2004. The complete updated application for operation of the AHCF is included in the November 2004 submittal.

- **Manzano Storage Bunkers (MSB).** The MSB are a set of Units used for storage of RCRA-regulated wastes generated during SNL/NM operations and corrective action activities. The seven bunkers within the MSB are located within the former Manzano Base in the eastern part of KAFB. RCRA-regulated wastes are typically transported to other SNL/NM Units for storage and/or treatment before being transported to permitted off-site facilities for further treatment, storage, and/or disposal. The MSB are operated under interim status. The comprehensive Part B permit request submitted to NMED in February 2002 included a Part B permit application for operation of the MSB, which superseded the application submitted to the NMED in December 1996. Sandia/DOE revised the application in response to NMED's comments dated June 25, 2004. The complete updated application for operation of five bunkers in the MSB is included in the November 2004 submittal.

  Two of the bunkers provided extra capacity that was not needed, and they were never used for storage of RCRA-regulated wastes under interim status. Sandia/DOE withdrew the Part B permit application for those two bunkers in April 2003. In December 2003, Sandia/DOE submitted a request to NMED for closure of the two bunkers. Sandia/DOE continue to operate the two Units under interim status until NMED approves the closure request.

- **Corrective action for SWMUs at SNL/NM.** Sandia/DOE have identified numerous SWMUs throughout SNL/NM, and, until issuance of a Compliance Order by the NMED in April 2004, conducted corrective action under Module IV of the Part B Permit issued by the U.S. Environmental Protection Agency (EPA) under the 1984 Hazardous and Solid Waste Amendments to RCRA. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included the required information for SWMUs and Areas of Concern (AOCs) that qualify to be on the permit as determined by NMED. Sandia/DOE updated the information in response to NMED's comments and included the updated information in the April 2003 submittal.

  Corrective action activities are now conducted under the terms of the Compliance Order on Consent between DOE, Sandia, and NMED, dated April 29, 2004.

- **Corrective Action Management Unit (CAMU).** The CAMU was used for staging, treatment, and containment of remediation wastes generated during ER Project activities. The CAMU included staging areas for bulk and containerized waste, a treatment pad, and a containment cell. The CAMU is located at SNL/NM SWMU 107 in the southeastern corner of SNL/NM TA-III, northwest of the CWL and the RMWMF. The 5-year authorization to operate the CAMU under Permit Module IV was issued by EPA on September 25, 1997, and expired on September 20, 2002. The comprehensive Part B permit request submitted to NMED on February 6, 2002 included a request for renewal of the operating authorizations associated with the CAMU. Sandia/DOE

completed treatment and containment operations at the CAMU in early 2003, and certified closure of the Unit on October 15, 2003. The CAMU consisted of the following:

- CAMU Temporary Unit (TU) for soil stabilization operations. The temporary unit was one of two treatment units used to treat remediation wastes at the CAMU. Sandia/DOE closed the TU in early 2003, and withdrew it from the comprehensive Part B permit request in August 2003.

- CAMU Low Temperature Thermal Desorption Unit (LTTD) Unit. The LTTD unit was the second of two treatment units used to treat remediation wastes at the CAMU. Sandia/DOE closed the LTTD in early 2003, and withdrew it from the comprehensive Part B permit request in May 2003.

- CAMU Containment Cell. The containment cell holds the remediation wastes. Sandia/DOE constructed a cover on the cell and completed closure in 2003. The CAMU is now maintained under the post-closure care conditions of the CAMU permit application. A comprehensive, stand-alone permit application for CAMU post-closure care was transmitted to the NMED on July 3, 2003. When approved, the post-closure care permit application will be incorporated into the SNL/NM Part B permit application.

2.0 COMPREHENSIVE PART B PERMIT REQUEST

The operations described in Section 1.0 have been addressed separately in past Sandia/DOE permitting activities. Each unit is included in this comprehensive Part B permit request, as requested by the NMED. The request is organized into five parts.

2.1 Part 1

Part 1 consists of this updated introduction; a summary of Sandia/DOE's public notice activities associated with the original permit request submitted in February 2002, and an updated general RCRA Part A permit request. The RCRA Part A includes a list of RCRA-regulated wastes managed at SNL/NM, types of management activities, capacities, waste volumes, and photographs of each unit.

2.2 Part 2

Part 2 consists of the updated Part B permit renewal request/application for the nine RCRA-regulated waste management units associated with ongoing operations at SNL/NM. Sandia/DOE have parts of the request in response to NMED's comments dated June 25, 2004. Part 2 includes complete applications and renewal requests for the HWMF, TTF, existing RMWMF/future CWMF, AHCF, and five MSB.

In order to minimize redundant information, the permit request is presented in the following format:

- A "general" Part B that serves as an umbrella document. The general Part B contains general and site-wide SNL/NM information applicable to all nine of the waste management units, addressing the general information requirements of NMAC Title 20, Chapter 4. The general Part B consists of main text and six appendices.
- Five "modules" – one for the set of five bunkers in the MSB, and one for each of the other units listed above. Each module contains unit-specific information addressing the requirements of NMAC Title 20, Chapter 4. For clarity and consistency, the information in each unit-specific module is arranged in the same order as the information in the General Part B.

The exact order of the information is shown in the table of contents at the beginning of the General Part B and in the tables of contents for each module. The General Part B includes a table of regulatory references and the location of the corresponding information in the permit renewal request/application.

2.3 Part 3

Part 3 consists of a revised discussion of the groundwater information for regulated units (the CWL is the only such unit at SNL/NM). The discussion was revised in response to NMED comments dated September 9, 2003.

2.4 Part 4

Part 4 consists of updated information about SWMUs at SNL/NM. It includes three sections:

- An introduction, including a description of the Sandia/DOE process for identifying SWMUs;
- A summary of the required information for each SWMU and AOC that qualifies to be on the permit as determined by NMED; and
- A summary of supplemental information about Canyons Groundwater, Technical Area III/V Groundwater, and Tijeras Arroyo Groundwater (TAG).

2.5 Part 5

Part 5 has not been updated at this time (November 2004). It consists of the requests for the renewal of authorization to operate the Corrective Action Management Unit (CAMU), its staging areas for bulk and containerized waste, the treatment pad, and the containment cell, that was submitted to NMED in February 2002. Part 5 will consist of the post-closure care plan for the CAMU containment cell when the plan is approved by the NMED. In addition, this Part will be amended to contain the post-closure care permit application for the CWL.

Sandia National Laboratories/New Mexico General Part A Permit Renewal Request/Application

Revision 9.0

October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

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MAIL THE COMPLETED FORM TO: The Appropriate EPA Regional or State Office.	United States Environmental Protection Agency **RCRA SUBTITLE C SITE IDENTIFICATION FORM**	
1. Reason for Submittal (See instructions on page 25) CHECK CORRECT BOX(ES)	**Reason for Submittal:** ☐ To provide initial notification (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities). ☐ To provide subsequent notification (to update site identification information). ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application. ☒ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #) ☐ As a component of the Hazardous Waste Report.	
2. Site EPA ID Number (See instructions on page 26)	**EPA ID Number:** *NM5 890 110 518*	
Site Name (See instructions on page 26)	**Name:** *Sandia National Laboratories*	
4. Site Location Information (See instructions on page 26)	**Street Address:** *1515 Eubank Blvd. SE*	
	City, Town, or Village: *Albuquerque*	**State:** *NM*
	County Name: *Bernalillo*	**Zip Code:** *87123*
5. Site Location (See instructions on page 26)	**Site Land Type :** ☐ Private ☐ County ☐ District ☒ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	
6. North American Industry Classification System (NAICS) Code(s) for the Site (See instructions on page 26)	**A.** *92811*	**B.** *54171*
	C.	**D.**
7. Site Mailing Address (See instructions on page 27)	**Street or P.O. Box:** *P.O. Box 5400, Sandia Site Office*	
	City, Town, or Village: *Albuquerque*	
	State: *NM*	
	Country: *USA*	**Zip Code:** *87185-5400*
8. Site Contact Person (See instructions on page 27)	**First Name:** *David* **MI:**	**Last Name:** *Rast*
	Phone Number: *(505)-845-5349*	**Phone Number Extension:**
9. Legal Owner and Operator of the Site (See instructions on pages 27 and 28)	**A. Name of Site's Legal Owner:** *US Department of Energy*	**Date Became Owner (mm/dd/yyyy):** *09/1945*
	Owner Type: ☐ Private ☐ County ☐ District ☒ Federal ☐ Indian ☐ Municipal ☐ State ☐ Other	
	B. Name of site's Operator: *Sandia Corporation*	**Date Became Operator (mm/dd/yyyy):** *11/01/1949*
	Operator Type: ☐ Private ☐ County ☐ District ☐ Federal ☐ Indian ☐ Municipal ☐ State ☒ Other	

EPA ID No.	N	M	5	8	9	0	1	1	0	5	1	8

10. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes. See instructions on pages 28 to 32)

A. Hazardous Waste Activities

1. Generator of Hazardous Waste
(Choose only one of the following three categories)

[X] a. LQG: Greater than 1,000 kg/mo (2,200 lbs./mo) of non-acute hazardous waste; or

[ ] b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs/mo.) of non-acute hazardous waste; or

[ ] c. CESQG: Less than 100 kg/mo (220 lbs./mo.) of non acute hazardous waste

In addition, indicate other generator activities (check all that apply)

[ ] d. United States Importer of Hazardous Waste

[X] e. Mixed Waste (hazardous and radioactive) Generator

For Items 2 through 6, check all that apply:

[ ] **2. Transporter of Hazardous Waste**

[X] **3. Treater, Storer, or Disposer of Hazardous Waste (at your site)** Note: A hazardous waste permit is required for this activity.

[ ] **4. Recycler of Hazardous Waste (at your site)** Note: A hazardous waste permit may be required for this activity.

5. Exempt Boiler and/or Industrial Furnace

[ ] a. Small Quantity On-site Burner Exemption

[ ] b. Smelting, Melting and Refining Furnace Exemption

[ ] **6. Underground Injection Control**

B. Universal Waste Activities *None*

1. Large Quantity Handler Of Universal Waste (accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste generated and/or accumulated at your site. (check all boxes that apply):

	Generated	Accumulated
a. Batteries	[ ]	[ ]
b. Pesticides	[ ]	[ ]
c. Thermostats	[ ]	[ ]
d. Lamps	[ ]	[ ]
e. Other (specify) _____	[ ]	[ ]
f. Other (specify) _____	[ ]	[ ]
g. Other (specify) _____	[ ]	[ ]

[ ] **2. Destination Facility for Universal Waste:**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities *None*

1. Used Oil Transporter – Indicate Type(s) of Activity(ies)

[ ] a. Transporter

[ ] b. Transfer Facility

2. Used Oil Processor and/or Re-refiner – Indicate Type(s) of Activity(ies)

[ ] a. Processor

[ ] b. Re-refiner

[ ] **3. Off-Specification Used Oil Burner**

4. Used Oil Fuel Marketer – Indicate Type(s) of Activity

[ ] a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner

[ ] b. Marketer Who First Claims the Used Oil Meets the Specifications

11. Description of Hazardous Wastes (See instructions on page 33) *(n/a per instructions)*

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

EPA ID No.	N	M	5	8	9	0	1	1	0	5	1	8

Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-regulated hazardous wastes handled at you site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed for waste codes.

12. Comments (See instructions on Page 33)

Facility latitude: 35 degrees, 01 minutes, 45 seconds North

Facility longitude: 106 degrees, 32 minutes, 30 seconds West

13. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. **(See instructions on page 33)**

Signature of owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Owner: Patty Wagner, Manager, DOE/SSO	10/24/05
	Co-Operator: Patty Wagner, Manager, DOE/SSO	10/24/5
	Co-Operator: Francisco A. Figueroa, Vice President, Sandia Corporation	10/12/05

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United States Environmental Protection Agency

HAZARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact (See instructions on page 35)	**First Name:** *David*	**MI:**	**Last Name:** *Rast*
	Phone Number: *505-845-5349*		**Phone Number Extension:**
2. Facility Permit Contact Mailing Address (See instructions on page 35)	**Street Address:** *P.O. Box 5400, US Department of Energy, Sandia Site Office*		
	City, Town, or Village: *Albuquerque*		**State:** *NM*
	County Name: *USA*		**Zip Code:** *87185-5400*
3. Legal Owner Mailing Address and Telephone Number (See instructions on page 36)	**Street or P.O. Box:** *P.O. Box 5400*		
	City, Town, or Village: *Albuquerque*		
	State: *NM*		
	Country: *USA*	**Zip Code:** *87185-5400*	**Phone Number:** *505-845-4094*
4. Operator Mailing Address and Telephone Number (See instructions on page 36)	**Street or P.O. Box:** *P.O. Box 5800, Department 6300*		
	City, Town, or Village: *Albuquerque*		
	State: *NM*		
	Country: *USA*	**Zip Code:** *87185-5400*	**Phone Number:** *505-844-8516*
5. Facility Existence Date (See instructions on page 36)	**Facility Existence Date (mm/dd/yyyy):** *11/19/1980*		

6. Other Environmental Permits (See instructions on page 36) *See Appendix A*

A. Permit Type	B. Permit Number	C. Description

7. Nature of Business (Provide a brief description; see instructions on page 37)

Sandia National Laboratories/New Mexico is a multi-program research and Development (R&D) laboratory of the U.S. Department of Energy. Missions include R&D related to nuclear weapons, energy, and other programs of national interest.

8. Process Codes and Design Capacities (See instructions on page 37)

A. PROCESS CODE - ***Enter the code from the list of process codes below that best describes each process to be used at the facility. Thirteen lines are provided for entering codes. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 9.***

B. PROCESS DESIGN CAPACITY- For each code entered in column A, enter the capacity of the process.

1. **AMOUNT - Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.**
2. **UNIT OF MEASURE** - ***For each amount entered in column B(1), enter the code in column B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.***

C. PROCESS TOTAL NUMBER OF UNITS - ***Enter the total number of units for each corresponding process code.***

PROCESS CODE	PROCESS	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
	Disposal:	
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectare-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
	Storage:	
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Acres; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
	Treatment:	
T01	Tank Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; or Metric Tons Per Hour
T02	Surface Impoundment Treatment	Gallons Per Day; Liters Per Day; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Pounds Per Hour; Short Tons per Day; Kilograms Per Hour; Metric Tons Per Day; or Metric Tons Per Hour
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per Day; Liters Per Hour; or Million Btu Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; Btu Per Hour; or Million Btu Per Hour
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour ; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Liters Per Hour; Kilograms Per Hour; or Million Btu Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	Gallons Per Day; Liters Per Day; Pounds Per Hour ; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; Gallons Per H our; Liters Per Hour; or Million Btu Per Hour
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
	Pulping Liquor Recovery	
T90	Furnace Combustion Device Used In	
T91	The Recovery Of Sulfur Values From Spent Sulfuric Acid Halogen Acid Furnaces Other Industrial Furnaces	
T92	Listed In 40 CFR §260.10	
T93		
T94	Containment Building –Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; Btu Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million Btu Per Hour
	Miscellaneous (Subpart X)	
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per H our; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour ; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; Btu Per Hour; or Million Btu Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
Gallons	G	Short Tons Per Hour	D	Cubic Yards	Y
Gallons Per Hour	E	Metric Tons Per Hour	W	Cubic Meters	C
Gallons Per Day	U	Short Tons Per Day	N	Acres	B
Liters	L	Metric Tons Per Day	S	Acre-feet	A
Liters Per Hour	H	Pounds Per Hour	J	Hectares	Q
Liters Per Day	V	Kilograms Per Hour	R	Hectare-meter	F
		Million BTU Per Hour	X	BTU Per Hour	I

8. Process Codes and Design Capacities (Continued) *See Appendix B*

EXAMPLE FOR COMPLETING Item 8 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure (Enter code)	C. Process Total Number of Units	For Official Use Only
1	S 0 1	570,386.0	G	012	
2	T 0 4	945.0	U	006	
3	T 0 4	52.0	J	004	
4					
5	X 0 1	20.8	G	001	

NOTE: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the lines sequentially, taking into account any lines that will be used for "other" processes (i.e., D99, S99, T04 and X99) in Item 9.

9. Other Processes (See instructions on page 37 and follow instructions from Item 8 for D99, S99, T04 and X99 process codes)

Line Number	A. Process Code (From list above)	B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure (Enter code)	C. Process Total Number of Units	D. Description of Process
2	T 0 4	120	U	002	Chemical Deactivation, gallons per day
2	T 0 4	895	U	002	Macroencapsulation, gallons per day (volume equivalent)
2	T 0 4	605	U	002	Stabilization, gallons per day
3	T 0 4	10	J	001	Thermal Deactivation, pounds per hour
3	T 0 4	40	J	002	Physical Treatment, pounds per hour
3	T 0 4	2	J	001	Amalgamation, pounds per hour

10. Description of Hazardous Wastes (See instructions on page 37)

A. EPA HAZARDOUS WASTE NUMBER - Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY - For each listed waste entered in column A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE - For each quantity entered in column B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	*CODE*	*METRIC UNIT OF MEASURE*	*CODE*
POUNDS	*P*	*KILOGRAMS*	*K*
TONS	*T*	*METRIC TONS*	*M*

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

a. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in column A select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate the waste will be stored, treated, and/or disposed at the facility.

For non-listed hazardous waste: For each characteristic or toxic contaminant entered in column A, select the code(s) from the list of process codes contained in Items 8A and 9A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

i. Enter the first two as described above.
ii. Enter "000" in the extreme right box of Item 10.D(1).
iii. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 10.E.

b. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in Item 10.D(2) or in Item 10.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER - Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

c. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B, C and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.

d. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.

e. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 10 (shown in line numbers X-1, X-2, X-3, and X-4 below) - A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number	*A. EPA Hazardous Waste No. (Enter code)*	*B. Estimated Annual Quantity Of Waste*	*C. Unit of Measure (Enter Code)*	*D. PROCESSES*	
				(1) PROCESS CODES (Enter Code)	*(2) PROCESS DESCRIPTION (If a code is not entered in D(1))*
X 1	K 0 5 4	900	P	T 0 3 D 8 0	
X 2	D 0 0 2	400	P	T 0 3 D 8 0	
X 3	D 0 0 1	100	P	T 0 3 D 8 0	
X 4	D 0 0 2				Include With Above

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
1	P001	125	K	S01				
2	P002	110	K	S01				
3	P003	110	K	S01				
4	P004	110	K	S01				
5	P005	125	K	S01				
6	P006	110	K	S01				
7	P007	110	K	S01				
8	P008	110	K	S01				
9	P009	110	K	S01				
10	P010	110	K	S01				
11	P011	125	K	S01				
12	P012	110	K	S01				
13	P013	110	K	S01				
14	P014	110	K	S01				
15	P015	110	K	S01				
16	P016	110	K	S01				
17	P017	110	K	S01				
18	P018	110	K	S01				
19	P020	110	K	S01				
20	P021	110	K	S01				
21	P022	200	K	S01				
22	P023	110	K	S01				
23	P024	110	K	S01				
24	P026	110	K	S01				
25	P027	110	K	S01				
26	P028	110	K	S01				
27	P029	1,600	K	S01				
28	P030	350	K	S01				
29	P031	110	K	S01				
30	P033	110	K	S01				
31	P034	110	K	S01				
32	P036	110	K	S01				
33	P037	110	K	S01				
34	P038	110	K	S01				
35	P039	110	K	S01				
36	P040	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
37	P041	110	K	S01				
38	P042	110	K	S01				
39	P043	110	K	S01				
40	P044	110	K	S01				
41	P045	110	K	S01				
42	P046	110	K	S01				
43	P047	110	K	S01				
44	P048	110	K	S01				
45	P049	110	K	S01				
46	P050	110	K	S01				
47	P051	110	K	S01				
48	P054	110	K	S01				
49	P056	110	K	S01				
50	P057	110	K	S01				
51	P058	110	K	S01				
52	P059	110	K	S01				
53	P060	110	K	S01				
54	P062	110	K	S01				
55	P063	110	K	S01				
56	P064	250	K	S01				
57	P065	110	K	S01				
58	P066	110	K	S01				
59	P067	110	K	S01				
60	P068	110	K	S01				
61	P069	110	K	S01				
62	P070	110	K	S01				
63	P071	110	K	S01				
64	P072	110	K	S01				
65	P073	110	K	S01				
66	P074	110	K	S01				
67	P075	110	K	S01				
68	P076	110	K	S01				
69	P077	110	K	S01				
70	P078	130	K	S01				
71	P081	110	K	S01				
72	P082	110	K	S01				
73	P084	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
74	P085	110	K	S01				
75	P087	150	K	S01				
76	P088	110	K	S01				
77	P089	110	K	S01				
78	P092	110	K	S01				
79	P093	110	K	S01				
80	P094	110	K	S01				
81	P095	110	K	S01				
82	P096	110	K	S01				
83	P097	110	K	S01				
84	P098	150	K	S01	T04			chemical deactivation
85	P099	110	K	S01				
86	P101	110	K	S01				
87	P102	110	K	S01				
88	P103	110	K	S01				
89	P104	200	K	S01				
90	P105	110	K	S01				
91	P106	1100	K	S01				
92	P108	110	K	S01				
93	P109	110	K	S01				
94	P110	110	K	S01				
95	P111	110	K	S01				
96	P112	110	K	S01				
97	P113	150	K	S01				
98	P114	110	K	S01				
99	P115	110	K	S01				
100	P116	110	K	S01				
101	P118	110	K	S01				
102	P119	110	K	S01				
103	P120	125	K	S01				
104	P121	110	K	S01				
105	P122	110	K	S01				
106	P123	110	K	S01				
107	P127	110	K	S01				
108	P128	110	K	S01				
109	P185	110	K	S01				
110	P188	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
111	P189	110	K	S01				
112	P190	110	K	S01				
113	P191	110	K	S01				
114	P192	110	K	S01				
115	P194	110	K	S01				
116	P196	110	K	S01				
117	P197	110	K	S01				
118	P198	110	K	S01				
119	P199	110	K	S01				
120	P201	110	K	S01				
121	P202	110	K	S01				
122	P203	110	K	S01				
123	P204	110	K	S01				
124	P205	110	K	S01				
125	U001	110	K	S01				
126	U002	1,100	K	S01				
127	U003	350	K	S01				
128	U004	110	K	S01				
129	U005	110	K	S01				
130	U006	110	K	S01				
131	U007	110	K	S01				
132	U008	200	K	S01				
133	U009	110	K	S01				
134	U010	110	K	S01				
135	U011	110	K	S01				
136	U012	125	K	S01				
137	U014	110	K	S01				
138	U015	110	K	S01				
139	U016	110	K	S01				
140	U017	110	K	S01				
141	U018	110	K	S01				
142	U019	250	K	S01				
143	U020	110	K	S01				
144	U021	110	K	S01				
145	U022	110	K	S01				
146	U023	110	K	S01				
147	U024	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
148	U025	110	K	S01				
149	U026	110	K	S01				
150	U027	110	K	S01				
151	U028	5,100	K	S01				
152	U029	110	K	S01				
153	U030	110	K	S01				
154	U031	600	K	S01				
155	U032	600	K	S01				
156	U033	110	K	S01				
157	U034	110	K	S01				
158	U035	150	K	S01				
159	U036	600	K	S01				
160	U037	150	K	S01				
161	U038	110	K	S01				
162	U039	110	K	S01				
163	U041	110	K	S01				
164	U042	110	K	S01				
165	U043	110	K	S01				
166	U044	250	K	S01				
167	U045	125	K	S01				
168	U046	110	K	S01				
169	U047	110	K	S01				
170	U048	110	K	S01				
171	U049	110	K	S01				
172	U050	110	K	S01				
173	U051	175	K	S01				
174	U052	125	K	S01				
175	U053	110	K	S01				
176	U055	125	K	S01				
177	U056	350	K	S01				
178	U057	125	K	S01				
179	U058	110	K	S01				
180	U059	110	K	S01				
181	U060	110	K	S01				
182	U061	110	K	S01				
183	U062	110	K	S01				
184	U063	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
185	U064	110	K	S01				
186	U066	110	K	S01				
187	U067	125	K	S01				
188	U068	110	K	S01				
189	U069	200	K	S01				
190	U070	150	K	S01				
191	U071	110	K	S01				
192	U072	110	K	S01				
193	U073	110	K	S01				
194	U074	110	K	S01				
195	U075	300	K	S01				
196	U076	110	K	S01				
197	U077	300	K	S01				
198	U078	150	K	S01				
199	U079	150	K	S01				
200	U080	1,100	K	S01				
201	U081	110	K	S01				
202	U082	110	K	S01				
203	U083	110	K	S01				
204	U084	110	K	S01				
205	U085	110	K	S01				
206	U086	110	K	S01				
207	U087	110	K	S01				
208	U088	110	K	S01				
209	U089	110	K	S01				
210	U090	110	K	S01				
211	U091	110	K	S01				
212	U092	110	K	S01				
213	U093	110	K	S01				
214	U094	110	K	S01				
215	U095	110	K	S01				
216	U096	110	K	S01				
217	U097	110	K	S01				
218	U098	110	K	S01				
219	U099	110	K	S01				
220	U101	110	K	S01				
221	U102	120	K	S01	T04			stabilization

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
222	U103	110	K	S01				
223	U105	110	K	S01	T04			physical treatment
224	U106	110	K	S01				
225	U107	150	K	S01	T04			stabilization
226	U108	150	K	S01				
227	U109	110	K	S01				
228	U110	110	K	S01				
229	U111	110	K	S01				
230	U112	1,100	K	S01				
231	U113	110	K	S01				
232	U114	110	K	S01				
233	U115	110	K	S01				
234	U116	110	K	S01				
235	U117	130	K	S01				
236	U118	110	K	S01				
237	U119	110	K	S01				
238	U120	110	K	S01				
239	U121	300	K	S01				
240	U122	600	K	S01				
241	U123	135	K	S01				
242	U124	110	K	S01				
243	U125	110	K	S01				
244	U126	110	K	S01				
245	U127	110	K	S01				
246	U128	110	K	S01				
247	U129	110	K	S01				
248	U130	110	K	S01				
249	U131	150	K	S01				
250	U132	125	K	S01				
251	U133	350	K	S01				
252	U134	2,100	K	S01				
253	U135	175	K	S01				
254	U136	110	K	S01				
255	U137	110	K	S01				
256	U138	110	K	S01				
257	U140	150	K	S01				
258	U141	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
259	U142	110	K	S01				
260	U143	110	K	S01				
261	U144	400	K	S01				
262	U145	110	K	S01				
263	U146	110	K	S01				
264	U147	200	K	S01				
265	U148	110	K	S01				
266	U149	110	K	S01				
267	U150	110	K	S01				
268	U151	1,400	K	S01	T04			amalgamation, physical treatment
269	U152	110	K	S01				
270	U153	110	K	S01				
271	U154	600	K	S01				
272	U155	110	K	S01				
273	U156	110	K	S01				
274	U157	110	K	S01				
275	U158	125	K	S01				
276	U159	225	K	S01				
277	U160	150	K	S01				
278	U161	150	K	S01				
279	U162	200	K	S01				
280	U163	110	K	S01				
281	U164	110	K	S01				
282	U165	1,100	K	S01				
283	U166	110	K	S01				
284	U167	110	K	S01				
285	U168	110	K	S01				
286	U169	300	K	S01				
287	U170	110	K	S01				
288	U171	125	K	S01				
289	U172	110	K	S01				
290	U173	110	K	S01				
291	U174	110	K	S01				
292	U176	110	K	S01				
293	U177	150	K	S01				
294	U178	150	K	S01				
295	U179	200	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
296	U180	200	K	S01				
297	U181	150	K	S01				
298	U182	125	K	S01				
299	U183	125	K	S01				
300	U184	125	K	S01				
301	U185	125	K	S01				
302	U186	150	K	S01				
303	U187	110	K	S01				
304	U188	125	K	S01				
305	U189	110	K	S01				
306	U190	110	K	S01				
307	U191	110	K	S01				
308	U192	110	K	S01				
309	U193	110	K	S01				
310	U194	110	K	S01				
311	U196	125	K	S01				
312	U197	110	K	S01				
313	U200	110	K	S01				
314	U201	125	K	S01				
315	U202	110	K	S01				
316	U203	110	K	S01				
317	U204	125	K	S01				
318	U205	110	K	S01				
319	U206	110	K	S01				
320	U207	110	K	S01				
321	U208	110	K	S01				
322	U209	120	K	S01				
323	U210	125	K	S01				
324	U211	200	K	S01				
325	U213	450	K	S01				
326	U214	110	K	S01				
327	U215	110	K	S01				
328	U216	110	K	S01				
329	U217	110	K	S01				
330	U218	110	K	S01				
331	U219	125	K	S01				
332	U220	600	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
333	U221	110	K	S01				
334	U222	110	K	S01				
335	U223	1,100	K	S01				
336	U225	150	K	S01				
337	U226	4,100	K	S01				
338	U227	1,600	K	S01				
339	U228	1,100	K	S01				
340	U234	110	K	S01	T04			physical treatment
341	U235	110	K	S01				
342	U236	110	K	S01				
343	U237	110	K	S01				
344	U238	110	K	S01				
345	U239	350	K	S01				
346	U240	110	K	S01				
347	U243	110	K	S01				
348	U244	110	K	S01				
349	U246	110	K	S01				
350	U247	110	K	S01				
351	U248	110	K	S01				
352	U249	110	K	S01				
353	U271	110	K	S01				
354	U278	110	K	S01				
355	U279	110	K	S01				
356	U280	110	K	S01				
357	U328	110	K	S01				
358	U353	110	K	S01				
359	U359	200	K	S01				
360	U364	110	K	S01				
361	U367	110	K	S01				
362	U372	110	K	S01				
363	U373	110	K	S01				
364	U387	110	K	S01				
365	U389	110	K	S01				
366	U394	110	K	S01				
367	U395	110	K	S01				
368	U404	110	K	S01				
369	U409	110	K	S01				

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
370	U410	110	K	S01				
371	U411	110	K	S01				
372	F001	265,000	K	S01	T04			macroencapsulation, stabilization, physical treatment
373	F002	272,000	K	S01	T04			macroencapsulation, stabilization, physical treatment
374	F003	275,000	K	S01	T04	X01		thermal treatment, macroencapsulation, stabilization, physical treatment
375	F004	1,500	K	S01	T04			macroencapsulation, stabilization, physical treatment
376	F005	262,000	K	S01	T04	X01		thermal treatment, macroencapsulation, stabilization, physical treatment
377	F006	200	K	S01				
378	F007	6,500	K	S01				
379	F008	200	K	S01				
380	F009	200	K	S01				
381	F010	200	K	S01				
382	F011	200	K	S01				
383	F012	100	K	S01				
384	F019	100	K	S01				
385	F020	100	K	S01				
386	F021	100	K	S01				
387	F022	100	K	S01				
388	F023	100	K	S01				
389	F024	100	K	S01				
390	F025	100	K	S01				
391	F026	100	K	S01				
392	F027	150	K	S01				
393	F028	100	K	S01				
394	FO32	100	K	S01				
395	F034	100	K	S01				
396	F035	100	K	S01				
397	F037	100	K	S01				
398	F038	100	K	S01				
399	F039	250,000	K	S01				
400	D001	125,500	K	S01	T04	X01		thermal treatment, thermal deactivation, chemical deactivation, physical treatment
401	D002	58,000	K	S01	T04			chemical deactivation, physical treatment
402	D003	41,000	K	S01	T04	X01		thermal treatment, thermal deactivation, chemical deactivation, physical treatment

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
403	D004	39,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
404	D005	48,000	K	S01	T04			thermal deactivation, chemical deactivation, stabilization, macroencapsulation, physical treatment
405	D006	105,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
406	D007	66,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
407	D008	125,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
408	D009	40,000	K	S01	T04			stabilization, macroencapsulation, amalgamation, physical treatment
409	D010	10,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
410	D011	45,000	K	S01	T04			stabilization, macroencapsulation, physical treatment
411	D012	25,050	K	S01				
412	D013	150	K	S01				
413	D014	150	K	S01				
414	D015	150	K	S01				
415	D016	150	K	S01				
416	D017	150	K	S01				
417	D018	32,000	K	S01	T04			physical treatment
418	D019	25,200	K	S01	T04			physical treatment
419	D020	25,050	K	S01	T04			physical treatment
420	D021	25,100	K	S01	T04			physical treatment
421	D022	26,000	K	S01	T04			physical treatment
422	D023	25,050	K	S01	T04			physical treatment
423	D024	25,050	K	S01	T04			physical treatment
424	D025	25,050	K	S01	T04			physical treatment
425	D026	25,100	K	S01	T04			physical treatment
426	D027	25,100	K	S01	T04			physical treatment
427	D028	26,000	K	S01	T04			physical treatment
428	D029	25,100	K	S01	T04			physical treatment
429	D030	25,500	K	S01	T04			physical treatment
430	D031	25,050	K	S01	T04			physical treatment
431	D032	25,100	K	S01	T04			physical treatment
432	D033	25,100	K	S01	T04			physical treatment
433	D034	25,500	K	S01	T04			physical treatment
434	D035	40,000	K	S01	T04			physical treatment
435	D036	25,100	K	S01	T04			physical treatment
436	D037	25,100	K	S01	T04			physical treatment

10. Description of Hazardous Wastes

Line Number	A. EPA Hazardous Waste No. (Enter code)	B. Estimated Annual Quantity Of Waste	C. Unit of Measure (Enter Code)	D. PROCESSES (1) PROCESS CODES (Enter Code)				(2) PROCESS DESCRIPTION (If a code is not entered in D(1))
437	D038	25,100	K	S01	T04			physical treatment
438	D039	27,000	K	S01	T04			physical treatment
439	D040	30,000	K	S01	T04			physical treatment
440	D041	25,050	K	S01	T04			physical treatment
441	D042	25,050	K	S01	T04			physical treatment
442	D038	25,100	K	S01	T04			physical treatment
443	D039	27,000	K	S01	T04			physical treatment
444	D040	30,000	K	S01	T04			physical treatment
445	D041	25,050	K	S01	T04			physical treatment
446	D042	25,050	K	S01	T04			physical treatment
447	D043	25,050	K	S01	T04			physical treatment

NOTE The treatment methods listed for each hazardous waste number are the methods that are appropriate for that waste number. Wastes with multiple numbers may undergo one or more types of treatment at SNL/NM for some or all of the characteristics and/or constituents. Wastes are then sent to off-site TSDFs for further treatment as needed before disposal.

11. Map (See instructions on page 38 : *See Figure B-1*

Attach to this application a topographic map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in this map area. See instructions for precise requirements.

12. Facility Drawing (See instructions on Page 39: *See Appendix B*

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

13. Photographs (See instructions on page 39): *See Appendix B*

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas (see instructions for more detail).

14. Comments (See instructions on page 39)

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APPENDIX A

ACTIVE ENVIRONMENTAL PERMITS

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Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12/31/04

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
SEWER WASTEWATER				
General	2069 A-6	7/1/03	12/31/07	COA
General	2069 F-6	08/01/03	01/31/08	COA
Microelectronics Development Laboratory	2069 G-5 Renewal Submitted	06/01/02	05/31/05	COA
General	2069 I-5	02/01/04	07/31/08	COA
General	2069 K-5	11/17/04	12/31/08	COA
SURFACE DISCHARGE				
Pulsed Power Development Facilities (Discharge Plan)	DP-530	09/21/01	09/21/06	NMED
STORM WATER				
National Pollution Discharge Elimination System "Multi-sector General" Permit	NMR05A961	02/01	09/30/05	EPA
NPDES CONSTRUCTION PERMITS				
CINT CORE Facility Construction Project	NMR15DC23	10/21/03	06/30/06	EPA
MESA	NM0002376	01/28/02	07/31/09	EPA
ECIM Exterior Communication Infrastructure Modernization Project	NMR15DC79	03/01/04	06/30/06	EPA
Aerial Cable Facilities Renovations	NMR15DD44	03/12/04	05/30/05	EPA
Building 755	NMR15DK40	08/09/04	04/15/05	EPA
TA-I Waterline Rehabilitation Project	NMR15DR15	09/09/04	10/30/05	EPA
Photovoltaics Parking Lot	NMR15DV49	11/05/04	06/30/05	EPA
Building 956 -Lot A	NMR15DW01	11/12/04	05/30/05	EPA
TA-II &TA-IV Improvements		12/08/04	06/30/05	EPA
NPDES CONSTRUCTION PERMIT WAIVERS				
Building 702 Construction	NMLEW108	11/07/04	06/15/05	EPA
Building 758 Construction	NA	12/21/04	07/08/05	EPA
Building 1090 (pending)	NMR15E170	02/15/04	09/30/05	EPA

NOTE:
[a] Applied for permit renewal, not yet received.
[b] Permit number not issued yet.
COA = City of Albuquerque
NMED = New Mexico Environment Department
EPA = U.S. Environmental Protection Agency
UST Bur. = Underground Storage Tank Bureau

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12/31/04 (Continued)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
ECOLOGICAL				
New Mexico Department of Game and Fish, for Scientific/Educational Purposes, Authorization for Taking of Protected Wildlife	2931	01/01/02	12/31/04	New Mexico Department of Game and Fish
Fish and Wildlife Special Purpose Salvage Permit (for migratory birds)	MB040780-0	05/30/01	12/31/04	U.S. Fish and Wildlife Service
Fish and Wildlife Service Special Purpose Relocate Permit	MB090256-0	06/25/04	12/31/04	U.S. Fish and Wildlife Service
UNDERGROUND STORAGE TANKS				
20,000 gal oil storage tank	1368	08/23/04	06/30/05	NMED
20,000 gal oil storage tank	1369	08/23/04	06/30/05	NMED.
ABOVEGROUND STORAGE TANKS				
50,000 gal storage tank	1370	08/23/04	06/23/05	NMED
50,000 gal storage tank	1370	08/23/04	06/23/05	NMED
10,000 gal storage tank	1370	08/23/04	06/30/05	NMED
10,000 gal storage tank	1370	08/23/04	06/30/05	NMED
10,000 gal storage tank	1370	08/23/04	06/30/05	NMED
1,500 gal storage tank	1370	08/23/04	06/23/05	NMED
2,000 gal storage tank	1370	08/23/04	06/23/05	NMED
25,000 gal storage tank	1370	08/23/04	06/30/05	NMED

NOTE:
[b] Permit number not issued yet.
NMED = New Mexico Environment Department

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12/31/04 (Continued)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
RCRA				
RCRA Part B Operating Permit for the Hazardous Waste Management Facility Module I - General Permit Conditions Module II - General Facility Conditions Module III - Containers	NM5890110518-1	08/06/92	08/06/02 [c]	NMED
RCRA Part B Operating Permit Module IV - Hazardous and Solid Waste Amendments Portion for Solid Waste Management Units	NM5890110518-1	08/26/93	09/20/02 [c]	EPA/NMED
RCRA Part B Operating Permit for the Thermal Treatment Facility Module I - General Permit Conditions Module II - General Facility Conditions Module III - Containers	NM5890110518-2	12/04/94	12/04/04 [c]	NMED
General Part A Permit Request Storage and/or treatment of the hazardous component of mixed waste at ten waste management Units.	NM5890110518	First submitted 8/90 Rev. 5, 04/16/03	Pending Review (No expiration date)	NMED
Class III Permit Modification for the Management of Hazardous Remediation Waste in the Corrective Action Management Unit (CAMU), Technical Area III	NM5890110518	09/25/97	09/20/02 [c] 4/19/04 [d]	NMED
Comprehensive Part B Permit Request Storage and/or treatment of RCRA-regulated waste at nine waste management Units.	NM5890110518	02/06/02 [c]		NMED
TSCA				
Risk-Based Approval Request under 40 CFR 761.61(c); Risk-Based Method for Management of PCB Materials; Chemical Waste Landfill and CAMU		06/26/02	No expiration date[d]	EPA

NOTE:

[a] Applied for permit renewal; not yet received

[c] Submitted application for renewal on 02/06/2002, undergoing NMED review. Application has been revised in response to NMED comments.

[d] CAMU closure report submitted in 4/19/04, undergoing agency review.

EPA = U.S. Environmental Protection Agency
NMED = New Mexico Environment Department
RCRA = Resource Conservation and Recovery Act
TSCA = Toxic Substances Control Act

Sandia National Laboratories/New Mexico
Active Environmental Permits as of 12/31/04 (Concluded)

Permit Type and/or Facility Name	Permit Number	Issue Date	Expiration Date	Regulatory Agency
AIR (Open Burn Permits)				
Lurance Burn Site (9830)	04-001	01/05/04	12/31/04	COA
9920 and Sled Track	04-002	01/05/04	12/31/04	COA
Thermal Treatment Facility (permit must be submitted to NMED within 30 days of receipt)	04-003	01/05/04	12/31/04	COA
Explosive testing (above ground)	04-004	01/05/04	12/31/04	COA
Explosive testing (D test)	04-008	01/15/04	12/31/04	COA
Burn Site (Large Pool Fire Tests)	04-009	01/15/04	12/31/04	COA
Burn Site/Sled Track	04-010	01/15/04	12/31/04	COA
Fire Extinguisher (Fire Training)	04-012	06/01/04	12/31/04	COA
Explosive Testing	04-021	06/02/04	12/31/04	COA
5000 foot Track Bunker	04-031	08/17/04	12/31/04	COA
Water Impact Facility	04-033	09/03/04	12/31/04	COA
Burn Site	04-037	09/28/04	12/31/04	COA
AIR (Permits & Registrations)				
Hammermill Facility	144	08/28/85	Biennial update	COA
Fire Laboratory used for the Authentication of Modeling and Experiments	196	05/19/88	Registration†	COA
Neutron Generator Facility	374- M1	07/17/98	Biennial update	COA
Neutron Generator Recertification	396	05/07/96	Biennial update	COA
Standby diesel generators (four)	402	05/07/96	Biennial update	COA
Radioactive & Mixed Waste Management Facility	415- M1	05/10/97	Biennial update	COA
Isotope Production Facility	428	07/08/96	Biennial update	COA
Title V Operating Permit	515 (pending)	Submitted [a] 03/1/96	Pending (5 yr renewal)	COA
Classified Waste Landfill	560	12/17/96	Biennial update	COA
Classified Waste Landfill	NESHAP	06/96	Approval ††	EPA
Advanced Manufacturing Processes Laboratory	646	01/23/97	Biennial update	COA
Portable Burn Pools	647	05/05/97	Biennial update	COA
Chemical Waste Landfill (CWL) Excavation	540	5/19/99	Registration †	COA
High Energy Radiation Megavolt Electron Source-III	NESHAP	6/29/88	Approval ††	EPA
Advanced Manufacturing Prototype Facility	1406	11/6/00	Registration †	COA
Microelectronics Development Laboratory	1678	12/23/02	Biennial update	COA
Emergency Generator	924	5/5/98	Biennial update	COA
Processing and Environmental Technology Laboratory	925-M1	03/05/01	Biennial update	COA
Processing and Environmental Technology Laboratory	936	05/05/04	Registration †	COA
Steam Plant	1705	11/10/04	Biennial update	COA

NOTE:

[a] Applied for permit renewal; not yet received

[e] COA issues open burn permits annually. Sandia/DOE applied for this permit for calendar year 2004.

† Registration = Certificate, no permit required.

†† Approval = EPA does not issue a permit.

EPA = U.S. Environmental Protection Agency

APPENDIX B

LOCATION-SPECIFIC PROCESS CODE LISTINGS, DESIGN CAPACITIES, ANNUAL QUANTITIES, FIGURES, AND PHOTOGRAPHS

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LOCATION-SPECIFIC PROCESS CODE LISTINGS, DESIGN CAPACITIES, AND ANNUAL QUANTITIES

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Explanation of Process Code Listings and Design Capacities at the Hazardous Waste Management Facility

Description	Capacity	Associated Structure/Building
Line 1 S01 Container Storage [a]		
Container storage area	59,950 gallons	Building 958
Container storage area	7,590 gallons	Building 959
Container storage area	5,000 gallons	Modular Storage Building 958B
Container storage area	5,000 gallons	Modular Storage Building 958C
Total S01	**7,7540 gallons**	

See footnotes at end of section

Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the Thermal Treatment Facility

Description	Capacity	Annual Quantity	Associated Structure/Building
Line 5 X01 Treatment: Thermal [b]			
Thermal treatment of explosive waste	20.8 gallons/batch 190 pounds/batch	9,500 pounds/year	South of Building 6715
Total X01	**20.8 gallons/batch** **190 pounds/batch**	**9,500 pounds/year**	

See footnotes at end of section

Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the Radioactive and Mixed Waste Management Facility (RMWMF)

Description	Capacity		Associated Structure/Building
Line 1 S01 Container Storage [a]			
Container storage area	13,420 gallons		Building 6920
Container storage area	7,810 gallons		Building 6921
Container storage area	83,160 gallons		Building 6925
Container storage area	83,160 gallons		Building 6926
Container storage area	1,100 gallons		Modular Storage Building TP150
Container storage area	1,100 gallons		Modular Storage Building TP153
Container storage area	19,800 gallons		Asphalt area N, E, and W of Building 6920
Total S01	**209,550 gallons**		

See footnotes at end of section

Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the Radioactive and Mixed Waste Management Facility (RMWMF) (Continued)

Description	Capacity	Annual Quantity	Associated Structure/Building
Line 3 T04 Other Treatment (in containers) [c, d, e]			
Chemical deactivation	65 gallons/day	3,000 gallons/year	Building 6920, Building 6921
Macroencapsulation	840 gallons/day	6,000 gallons/year	Building 6920, Building 6921, Building 6925
Stabilization	550 gallons/day	6,000 gallons/year	Building 6920, Building 6921
Thermal deactivation	10 pounds/hour	150 pounds/year	Building 6920, Building 6921
Amalgamation	2 pounds/hour	100 pounds/year	Building 6920, Building 6921
Total T04	**780 gallons/day and 12 pounds/hour**	**15,000 gallons/year and 250 pounds/year**	

Description	Capacity	Annual Quantity	Associated Structure/Building
Line 4 T04 Other Treatment (physical treatment) [f]			
Physical treatment	20 pounds/hour	4,000 pounds/year	Building 6920, Building 6921
Total T04	**20 pounds/hour**	**4,000 pounds/year**	

See footnotes at end of section

Explanation of Process Code Listings and Design Capacities at the High Bay Waste Storage Facility

Description	Capacity	Associated Structure/Building
Line 1 S01 Container Storage [a]		
Container storage area	100,320 gallons	Building 6596
Total S01	**100,320 gallons**	

See footnotes at end of section

Explanation of Process Code Listings, Design Capacities, and Annual Quantities at the Auxiliary Hot Cell Facility

Description	Capacity	Associated Structure/Building
Line 1 S01 Container Storage [a]		
Container storage area	3,520 gallons	Building 6597
Storage silos	1,456 gallons	Building 6597
Hot cell	900 gallons	Building 6597
Fume hood	110 gallons (capacity included in work area)	Building 6597
Work area	2,200 gallons	Building 6597
Total S01	**6,976 gallons**	

Description	Capacity	Annual Quantity	Associated Structure/Building
Line 2 T04 Other Treatment (in containers) [c, d]			
Chemical deactivation	55 gallons/day	2,000 gallons/ year	Building 6597
Macroencapsulation	55 gallons/day	6,000 gallons/year	Building 6597
Stabilization	55 gallons/day	2,000 gallons/year	Building 6597
Total T04	**165 gallons/day**	**10,000 gallons/year**	

Description	Capacity	Annual Quantity	Associated Structure/Building
Line 4 T04 Other Treatment (physical treatment) [f]			
Physical treatment	20 pounds/hour	4,000 pounds/year	Building 6597
Total T04	**20 pounds/hour**	**4,000 pounds/year**	

See footnotes at end of section

Explanation of Process Code Listings and Design Capacities at the Manzano Storage Bunkers

Description	Capacity	Associated Structure/Building
Line 1 S01 Container Storage [a]		
Container storage area	50,160 gallons	Type B Bunkers Bunkers 37034 and 37063
Container storage area	50, 160 gallons	Type C Bunkers Bunkers 37078 and 37118
Container storage area	55,440 gallons	Type D Bunkers Bunkers 37045, 37055, and 37057
Total S01	**155,760 gallons**	

See footnotes at end of section

Footnotes for Process Codes and Capacities

[a] Wastes are stored in a variety of containers, including large boxes, 55-gallon drums, and smaller containers.

[b] The quantity of waste undergoing treatment at any one time cannot exceed the 20.8-gallon capacity of the burn pan.

[c] Wastes are treated by stabilization, chemical deactivation, and amalgamation in a variety of containers, including 55-gallon drums, 5-gallon buckets, laboratory glassware, and other containers as appropriate for the process.

[d] Wastes are placed in suitable containers and macroencapsulated. The container size is determined by the quantity of waste requiring treatment and the macroencapsulation process. Containers include 7 ft X 4 ft X 4 ft boxes (equivalent volume of 840 gallons), 55-gallon drums, and smaller containers. Liquid wastes are not treated through macroencapsulation; the volume of waste treated is equivalent to the number of gallons listed.

[e] Wastes are placed in the thermal deactivation equipment and treated. The time required to complete treatment depends on the waste.

[f] Physical separation volumes depend on the size of the equipment or other item undergoing treatment (e.g., size reduction, separation). Volumes vary widely.

FIGURES

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TO VIEW THE MAP/MAPS ASSOCIATED WITH THIS DOCUMENT PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

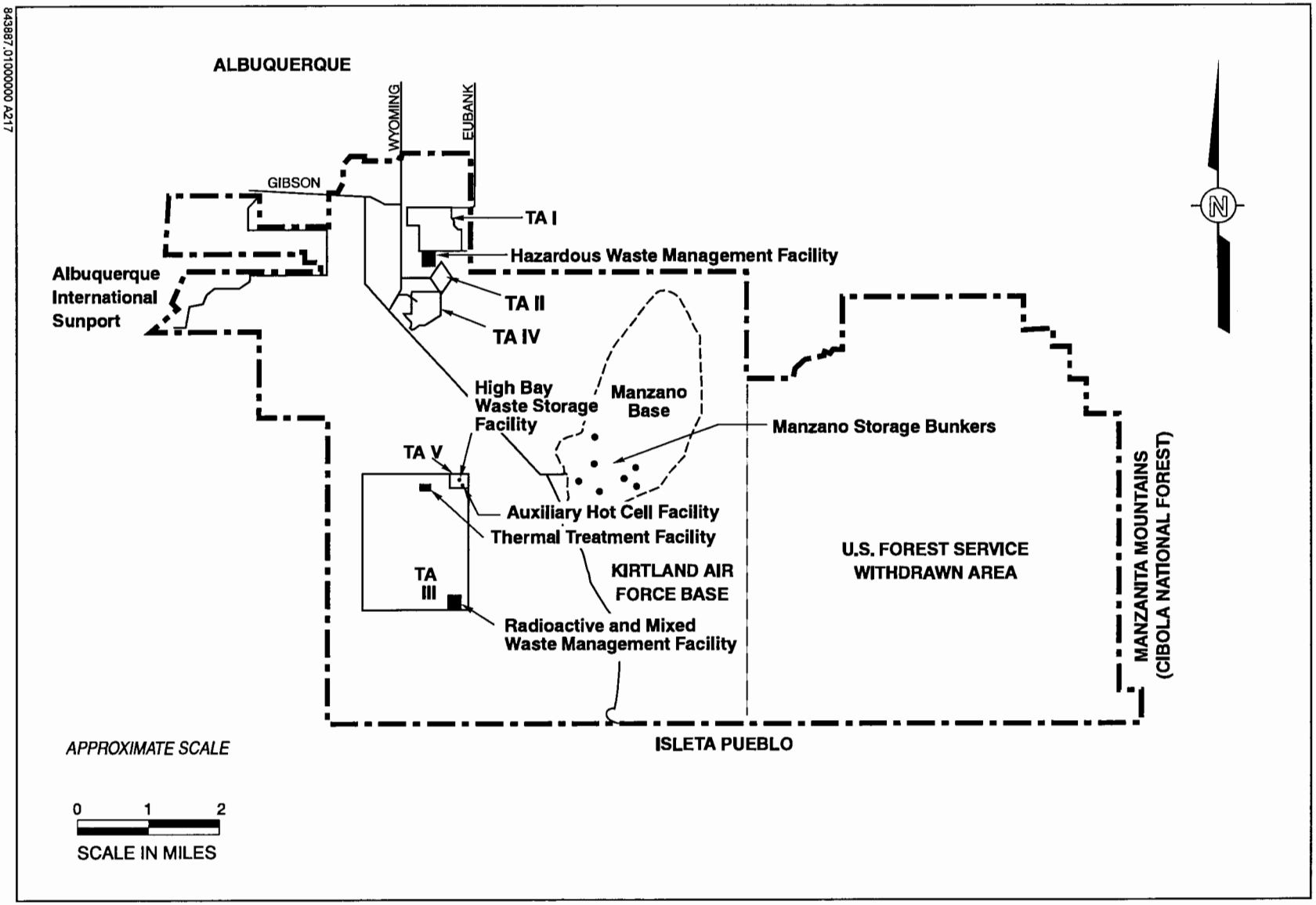

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Figure B-2

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

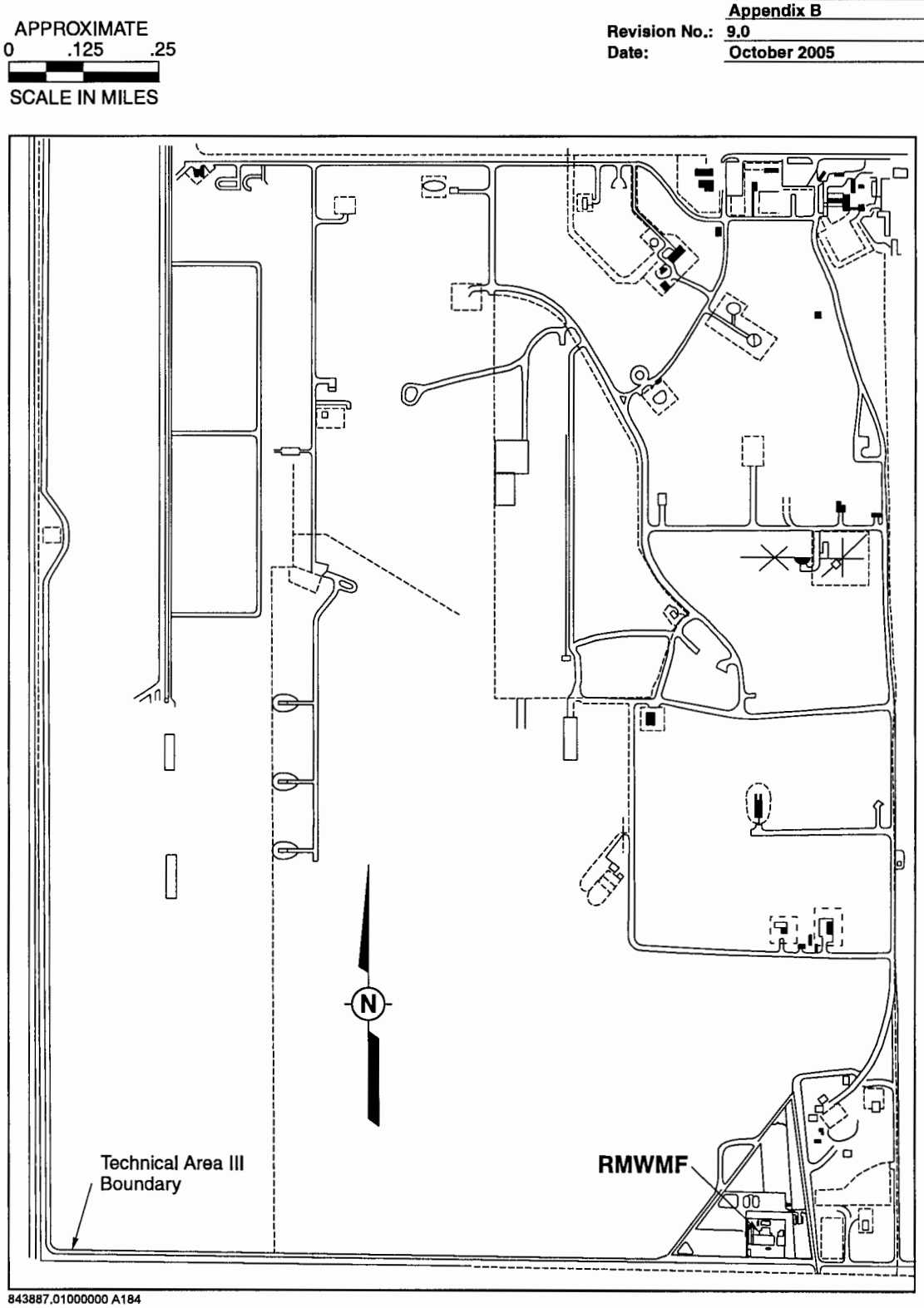

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Figure B-8
Location of the Radioactive and Mixed Waste Management Facility in Technical Area III

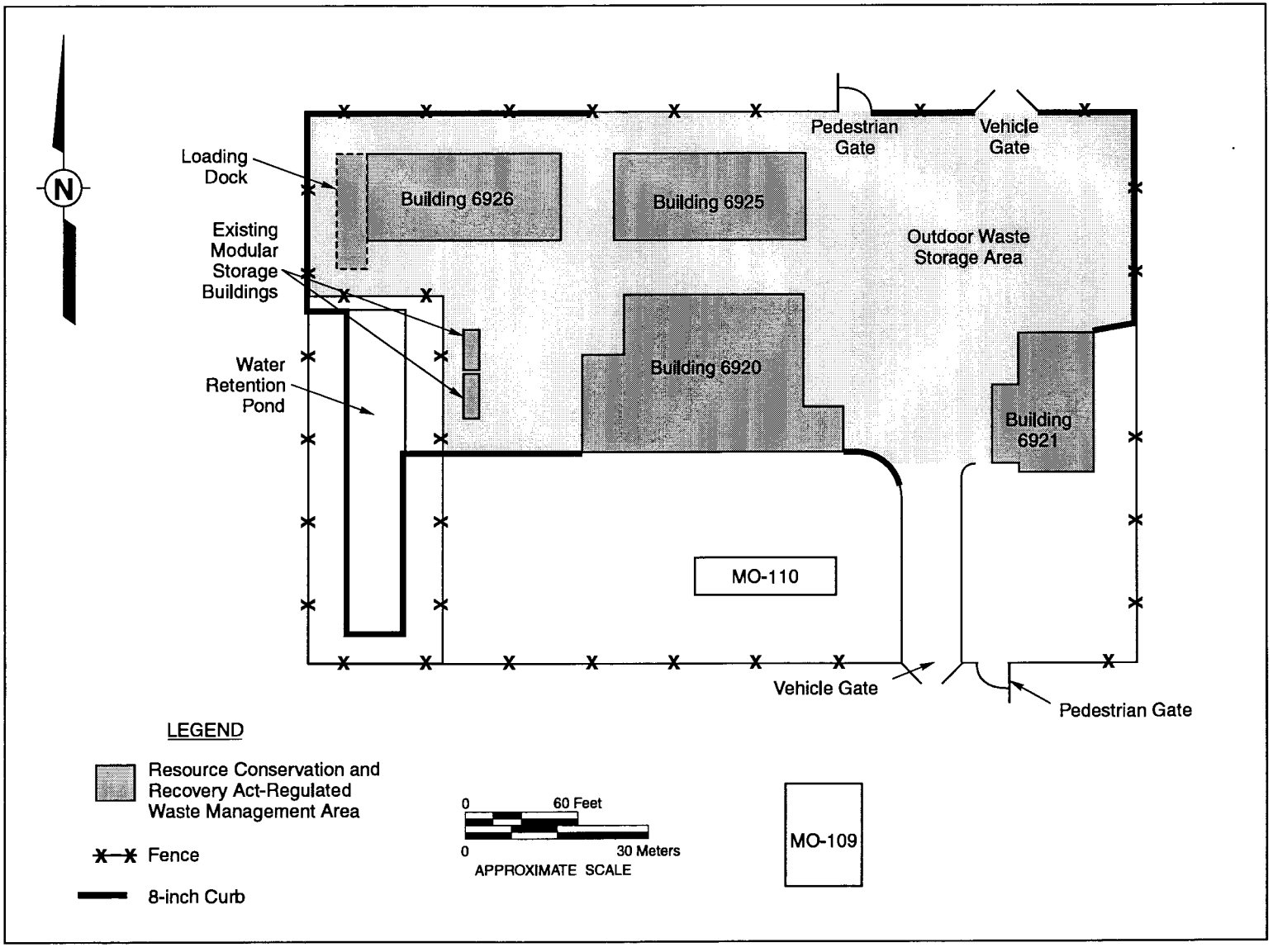


Figure B-9
Radioactive and Mixed Waste Management Facility,
Resource Conservation and Recovery Act-Regulated Waste Management Areas

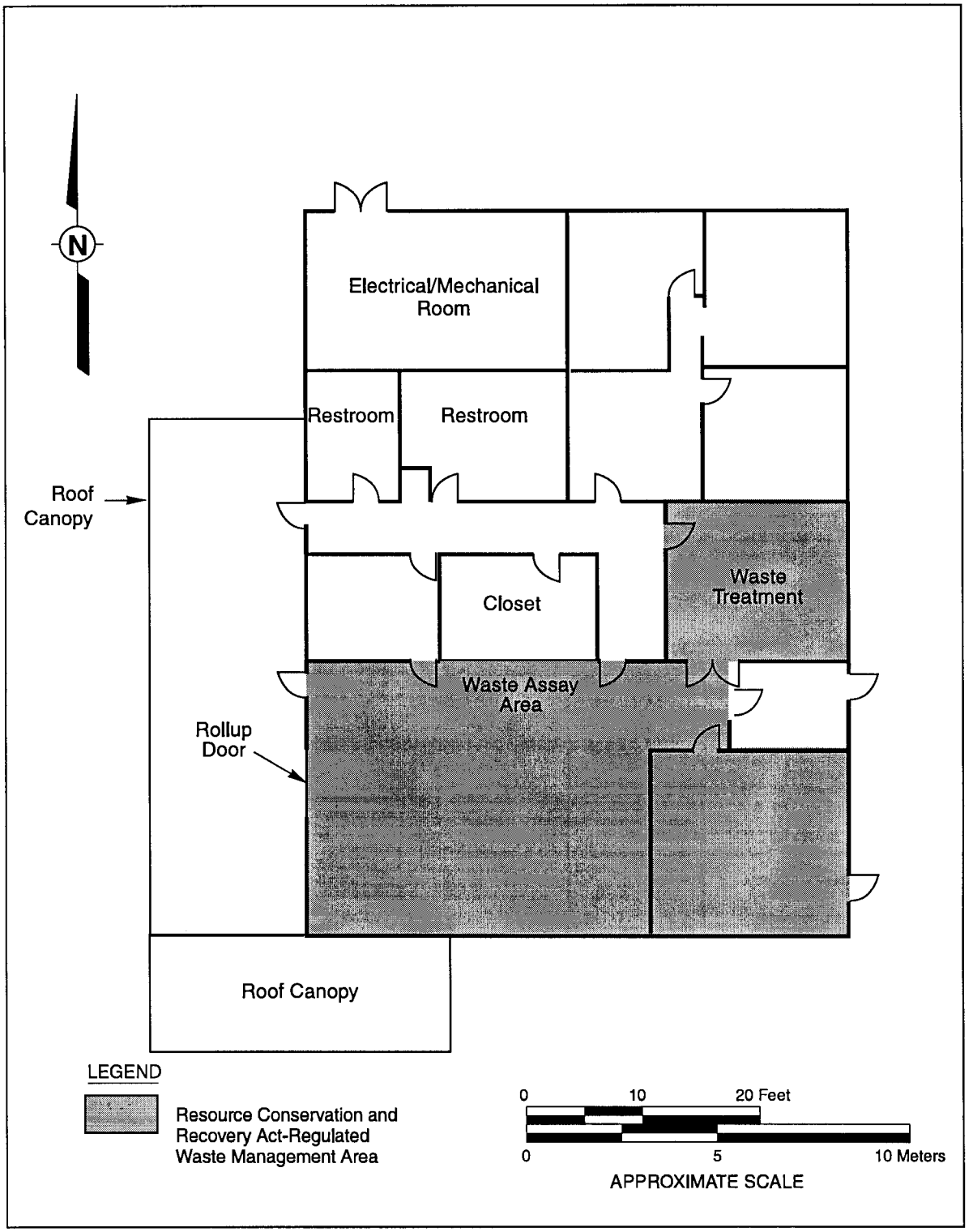


Figure B-11
Radioactive and Mixed Waste Management Facility, Building 6921, Resource Conservation and Recovery Act-Regulated Waste Management Areas

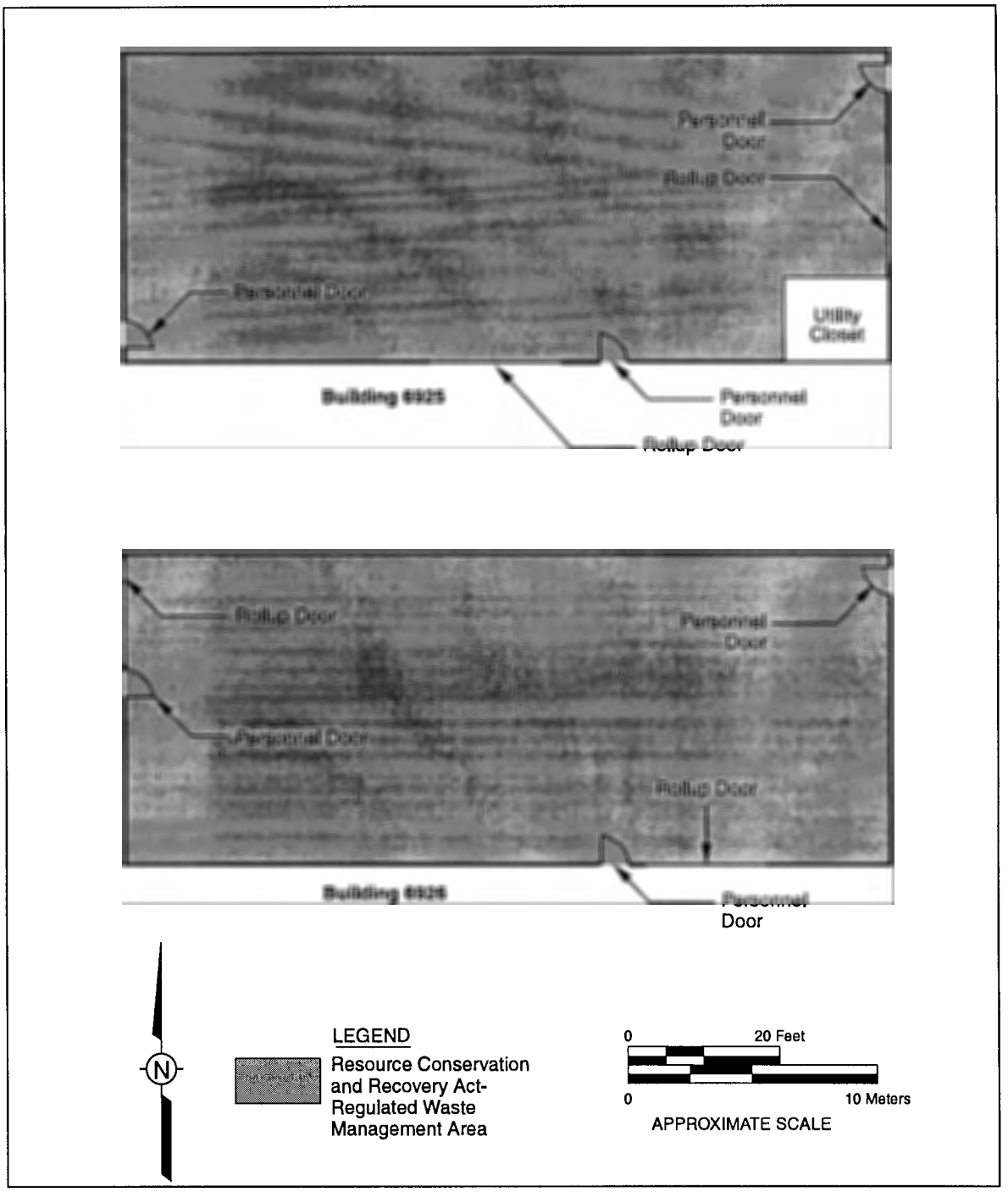


Figure B-12

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

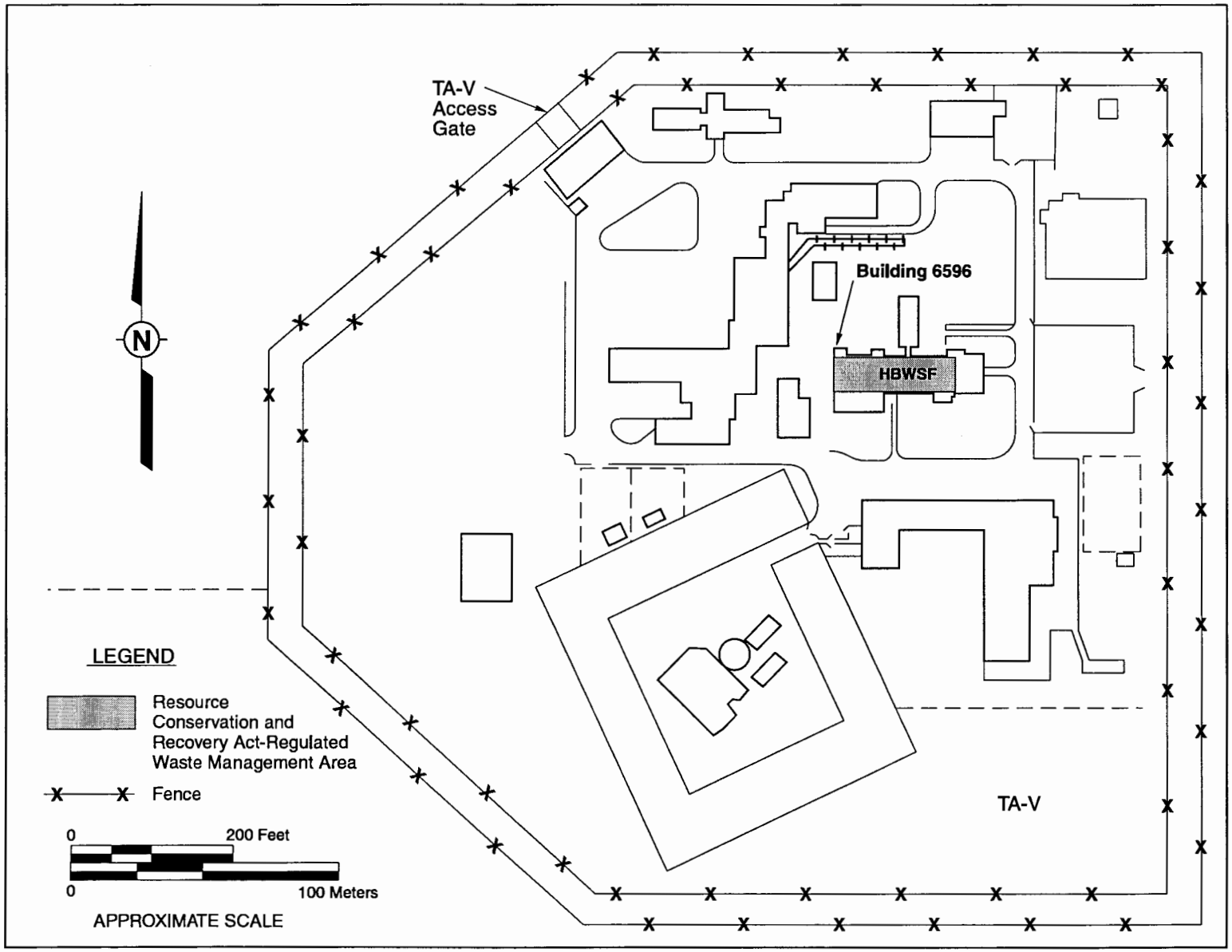


Figure B-13
Location of the High Bay Waste Storage Facility (HBWSF) in Technical Area (TA) V

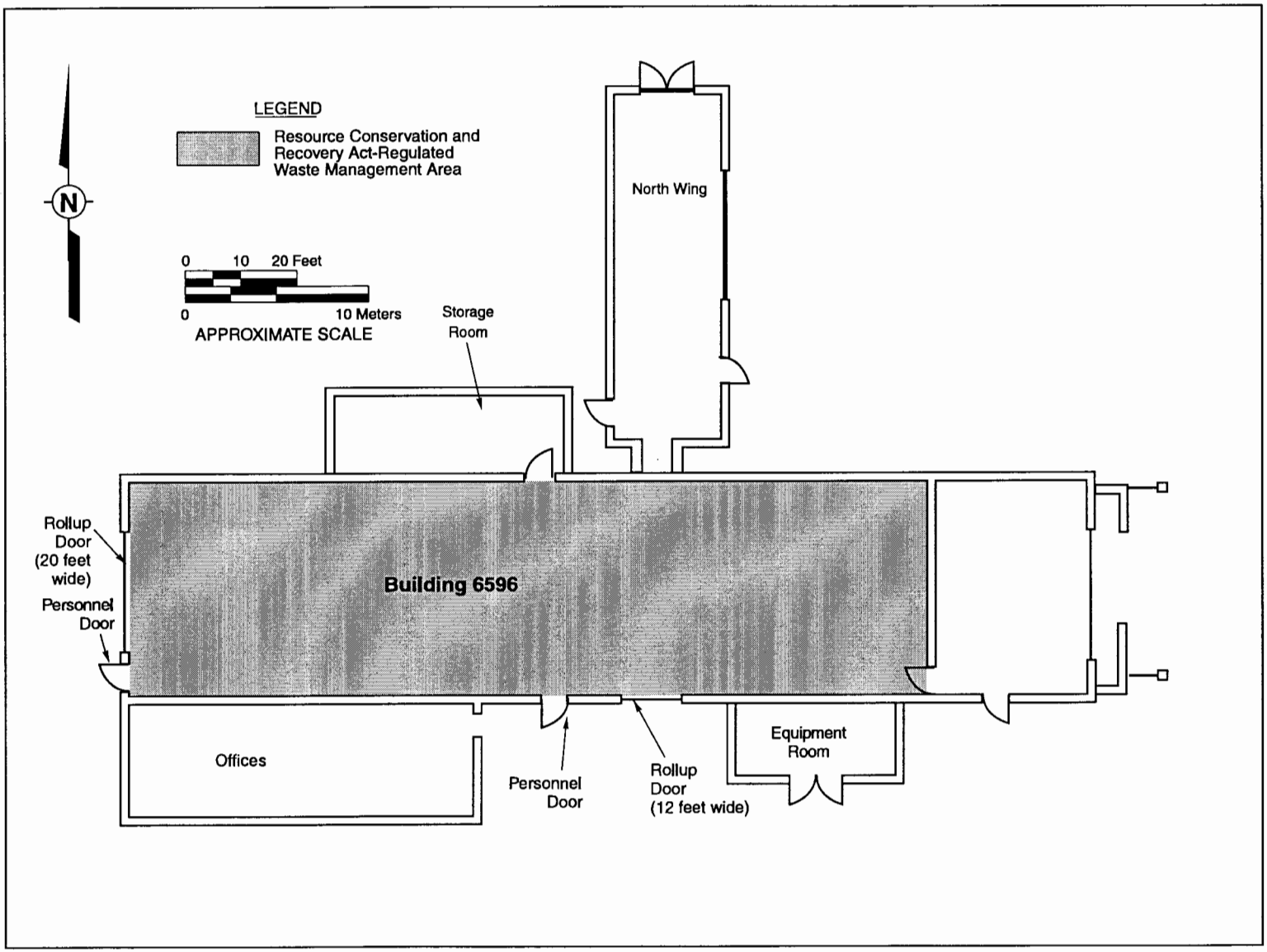


Figure B-14
High Bay Waste Storage Facility,
Resource Conservation and Recovery Act-Regulated Waste Management Area

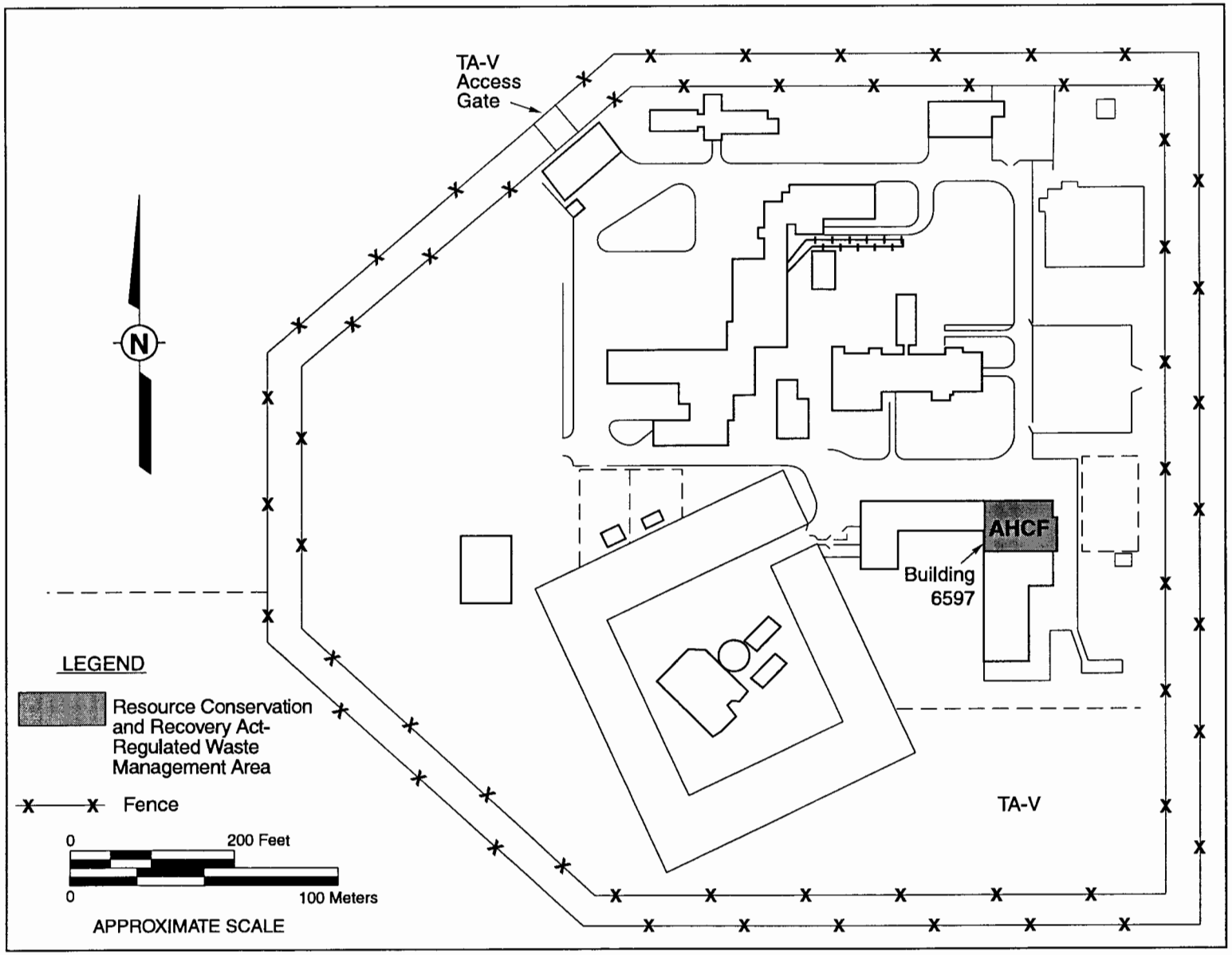
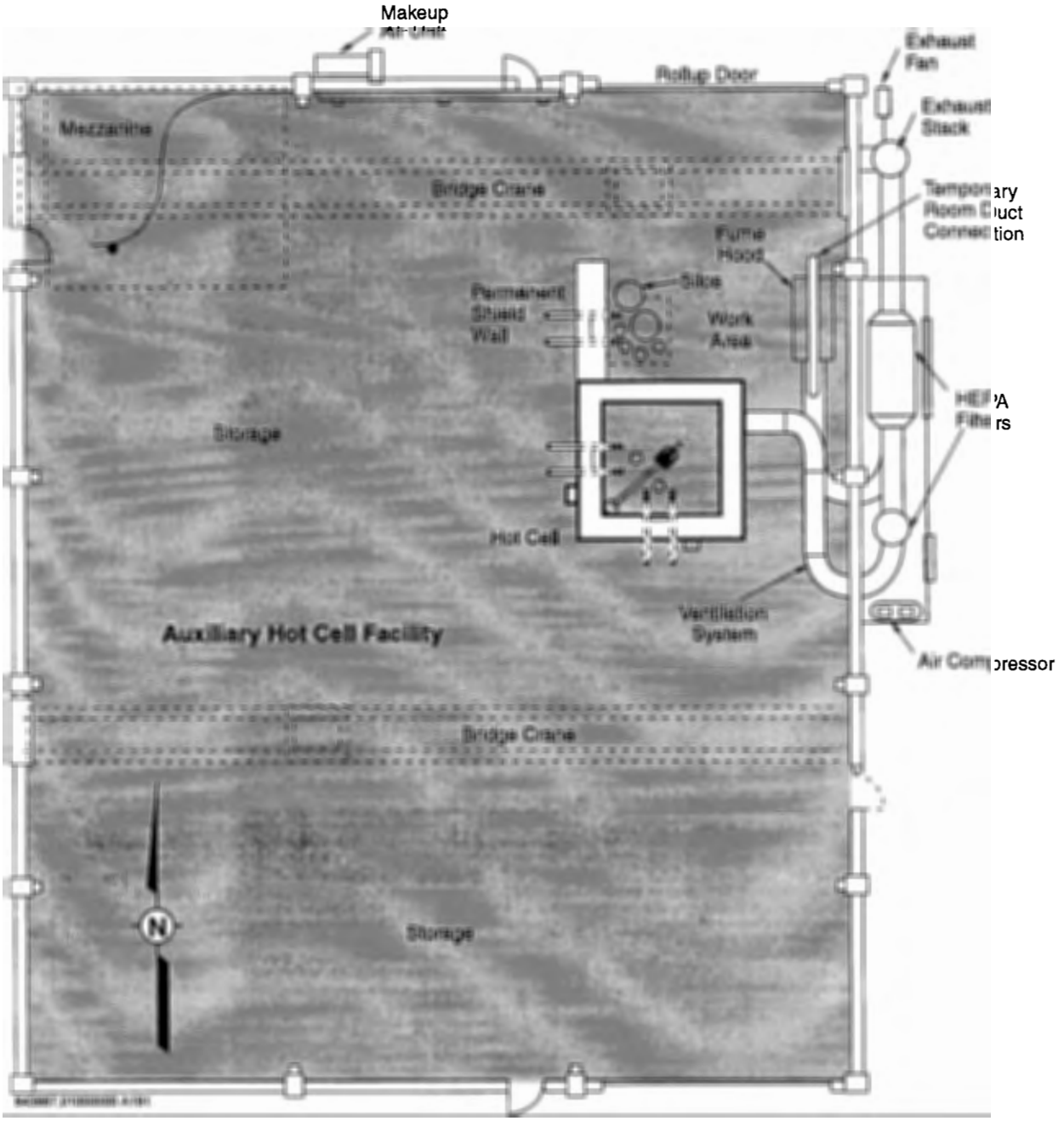


Figure B-15
Location of the Auxiliary Hot Cell Facility (AHCF) in Technical Area (TA) V



APPROXIMATE SCALE

0 7.5 15

SCALE IN FEET

LEGEND

Resource Conservation and Recovery Act-Regulated Waste Management Area

Figure B-16

Auxiliary Hot Cell Facility, Resource Conservation and Recovery Act-Regulated Waste Management Areas

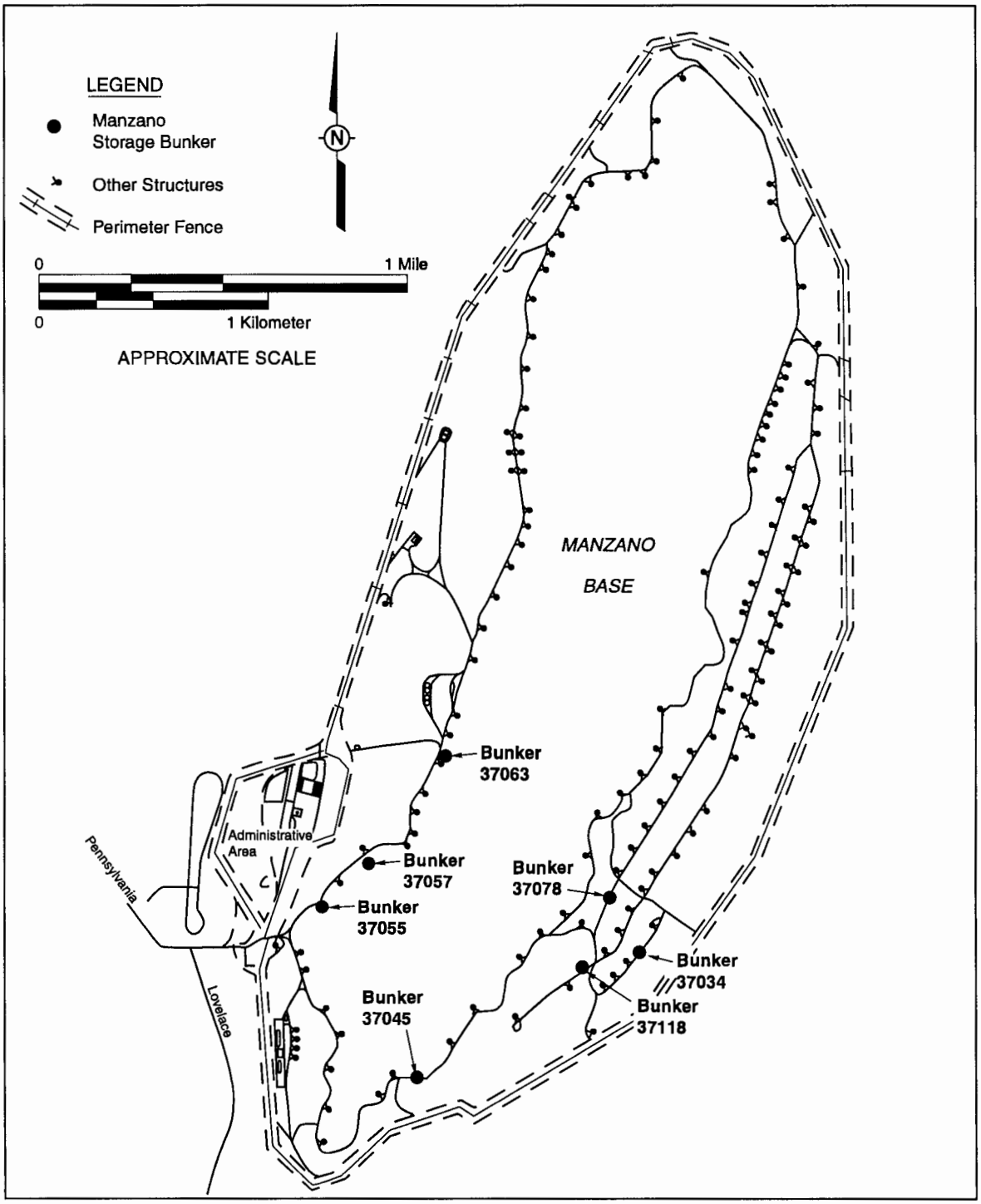


Figure B-17
Location of the Manzano Storage Bunkers at Manzano Base

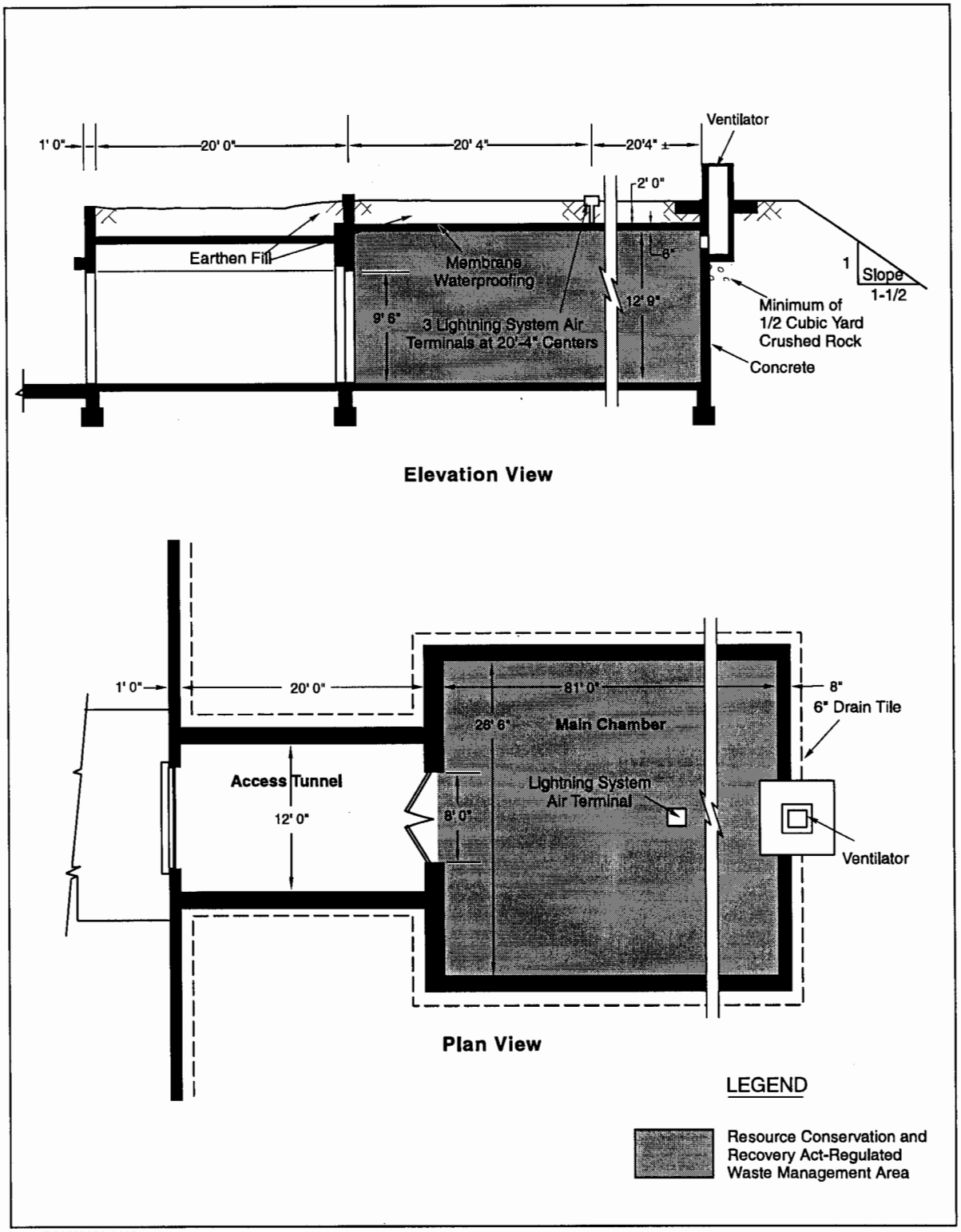


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Figure B-18
Manzano Storage Bunkers, Type B, Bunkers 37034 and 37063

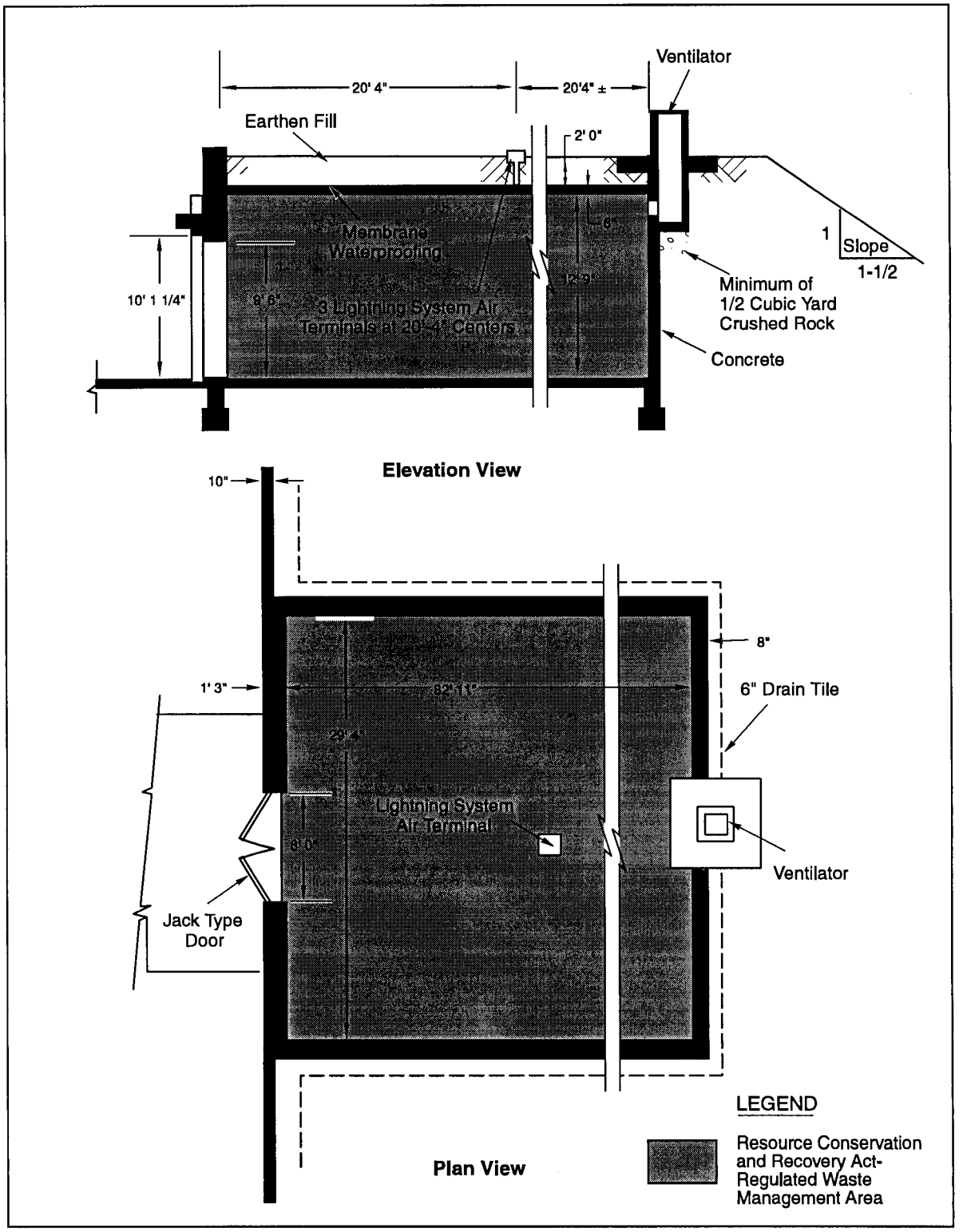

Figure B-19
Manzano Storage Bunkers, Type C, Bunkers 37078 and 37118

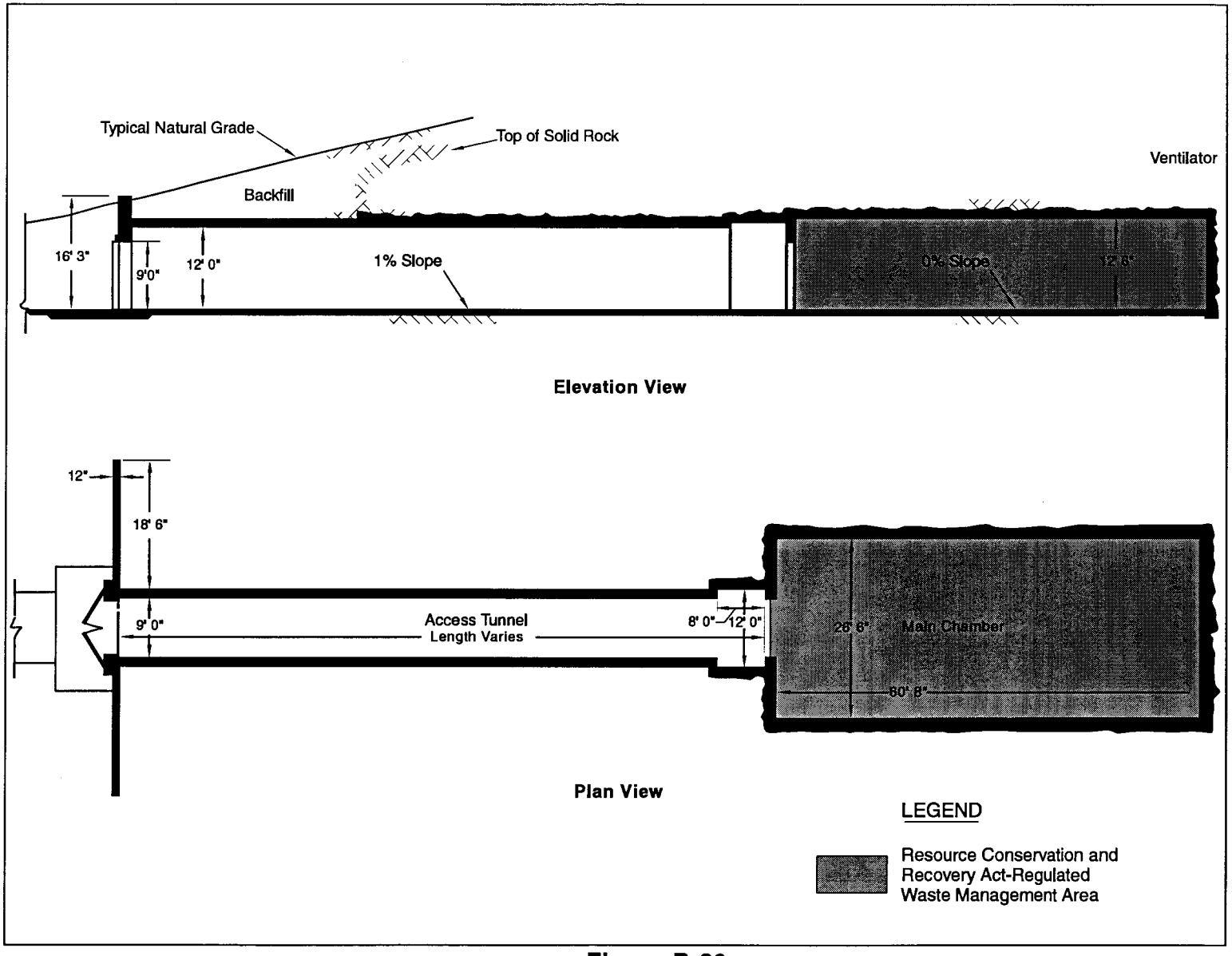

Figure B-20
Manzano Storage Bunkers, Type D
Bunkers 37045, 37055, and 37057

PHOTOGRAPHS

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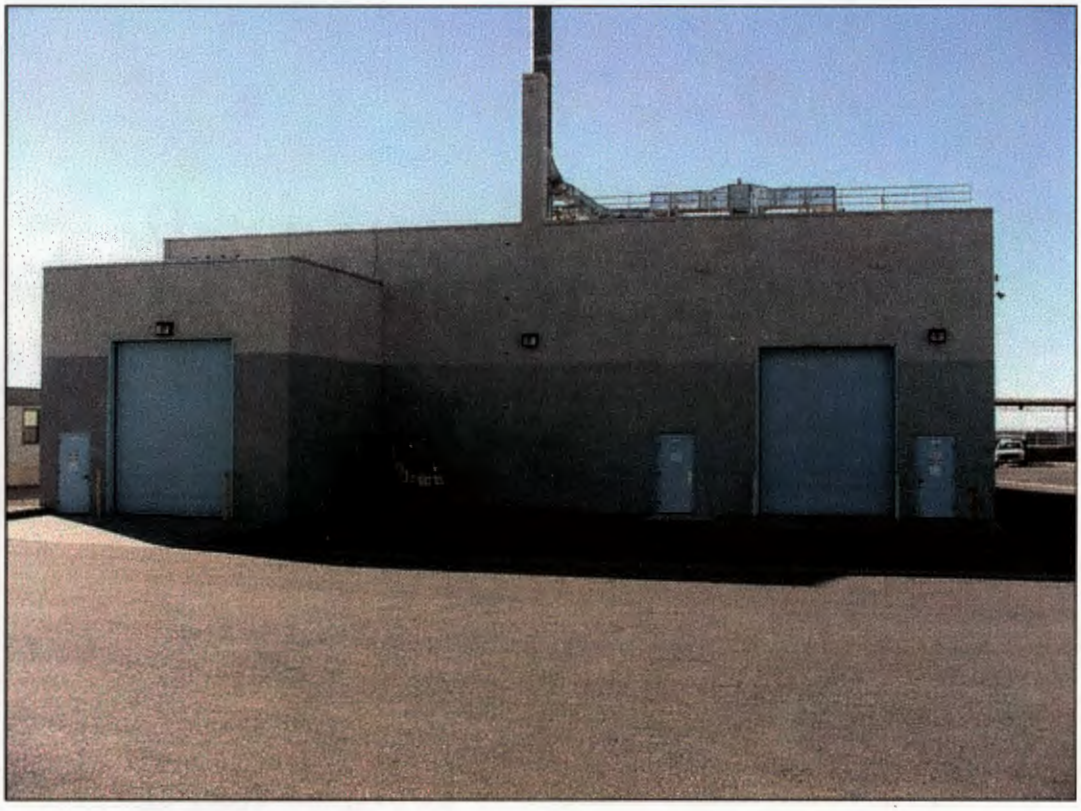


Radioactive and Mixed Waste Management Facility, East Side of Building 6920
Photograph Taken on December 5, 2001
Process Codes: S01, T04

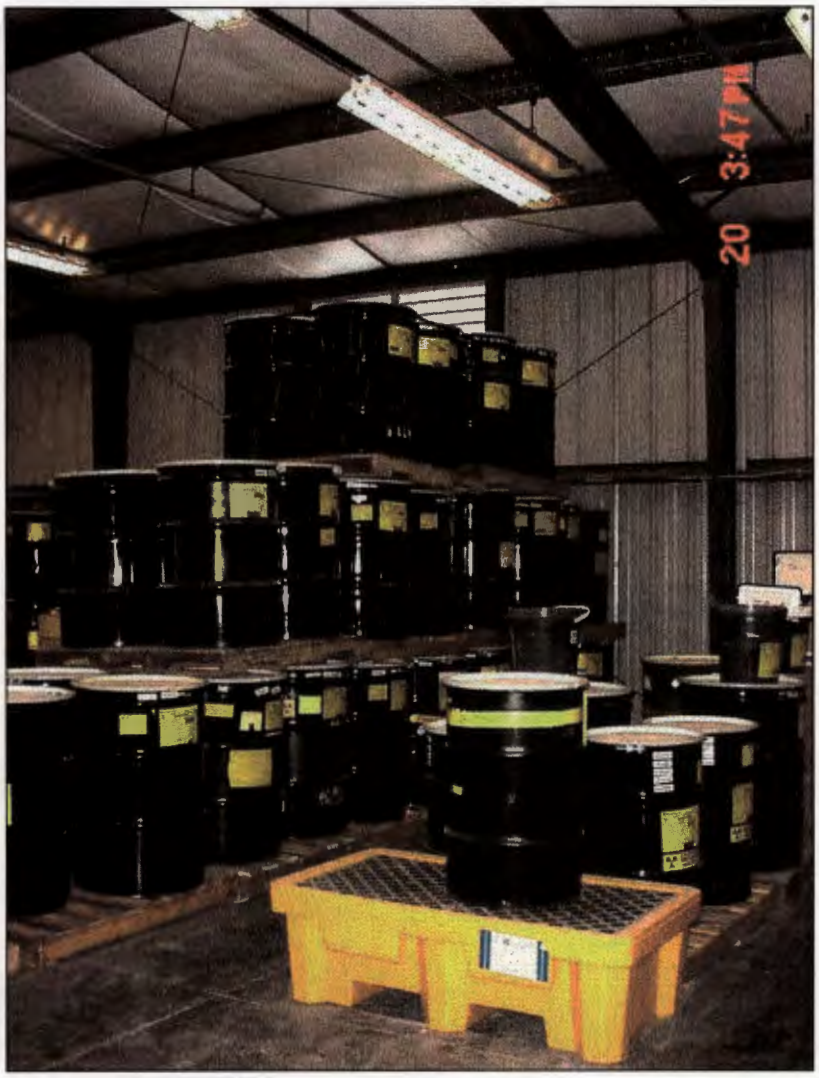
Radioactive and Mixed Waste Management Facility, West Side of Building 6920
Photograph Taken on December 5, 2001
Process Codes: S01, T04

Radioactive and Mixed Waste Management Facility, Building 6920, South Bay
Photograph Taken on December 20, 2001
Process Codes: S01, T04

The south bay is used for storage of RCRA-regulated wastes in containers and for treatment. The doors to three of the four rooms in the south bay are visible at the left edge of the picture. Treatment operations typically occur in these rooms. The roll-up door at the far (east) end of the room leads to an additional storage/work area. Containers of liquid RCRA-regulated waste are stored over the secondary containment sump shown on the right in the photograph. Containers of solid RCRA-regulated waste may also be stored over the sump.

Radioactive and Mixed Waste Management Facility, Building 6921
Photograph Taken on December 5, 2001
Process Codes: S01, T04

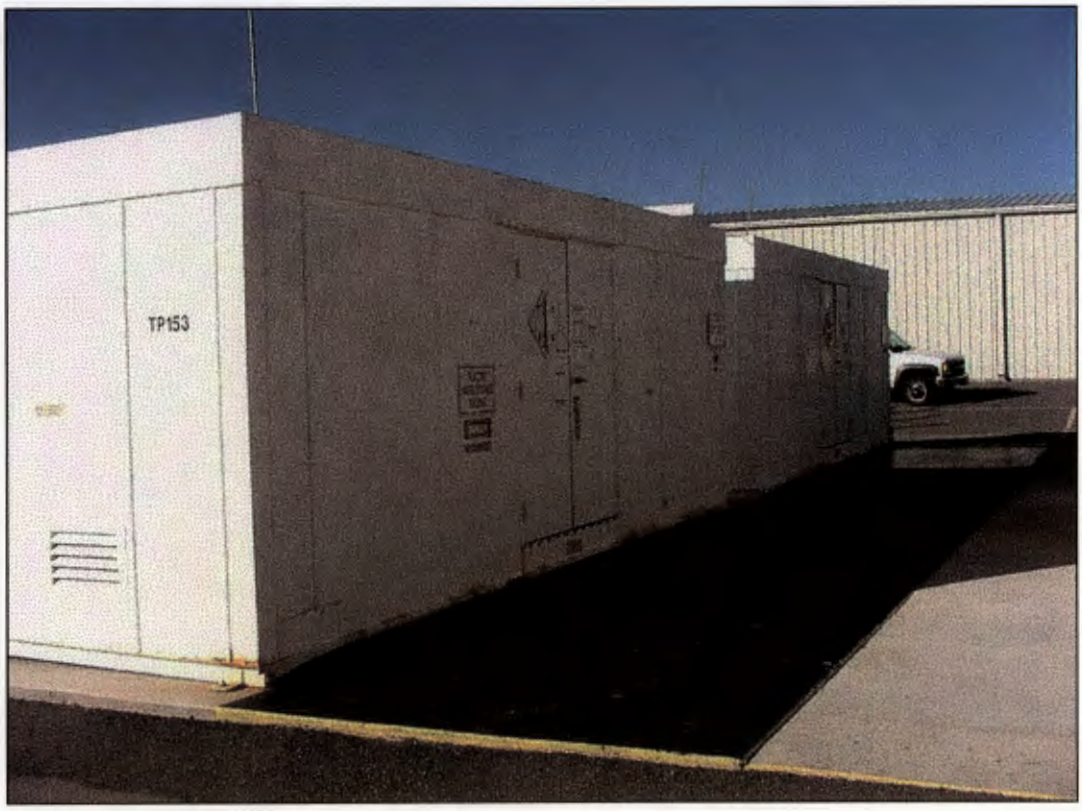
Radioactive and Mixed Waste Management Facility, Building 6925
Photograph Taken on December 5, 2001
Process Codes: S01, T04



Radioactive and Mixed Waste Management Facility, Building 6925, Interior
Photograph Taken on December 20, 2001
Process Codes: S01, T04

The drum in the front of the row on the right contains liquid RCRA-regulated waste and is stored on a portable spill containment pallet.

Radioactive and Mixed Waste Management Facility, Building 6926
Photograph Taken on December 5, 2001
Process Codes: S01



Radioactive and Mixed Waste Management Facility, Modular Storage Buildings
Photograph Taken on December 5, 2001
Process Code: S01

Sandia National Laboratories/New Mexico General Part B Permit Renewal Request/Application

Revision 6.0

October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

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LIST OF APPENDICES

Appendix	Title
A	Site-Wide Description for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units
B	Site-Wide Waste Analysis Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units
C	Site-Wide Inspection Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units
D	Site-Wide Personnel Training Plan for Sandia National Laboratories/ New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units
E	Site-Wide Contingency Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units
F	Site-Wide Closure Plan for Sandia National Laboratories/New Mexico Resource Conservation and Recovery Act-Regulated Waste Management Units

LIST OF MODULES

Module	Title
I	HWMF-Hazardous Waste Management Facility
II	TTF-Thermal Treatment Facility
III	RMWMF-Radioactive and Mixed Waste Management Facility
IV	Reserved
V	AHCF-Auxiliary Hot Cell Facility
VI	MSB-Manzano Storage Bunkers

ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	microgram(s) per cubic meter
20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
A/BCAQCB	Albuquerque/Bernalillo County Air Quality Control Board
AHCF	Auxiliary Hot Cell Facility
ALARA	as low as reasonably achievable
ARPA	Archeological Resources Protection Act
ASTM	American Society for Testing and Materials
CMU	concrete masonry unit
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOI	U.S. Department of the Interior
DOT	U.S. Department of Transportation
DQO	data quality objective
DR	disposal request
EC	Emergency Coordinator
EOC	Emergency Operations Center
EPA	U.S. Environmental Protection Agency
ER	Environment Restoration
ERO	Emergency Response Organization
^{o}F	degree(s) Fahrenheit
ft	foot/feet

ACRONYMS AND ABBREVIATIONS (Continued)

ft^2	square foot/feet
ft^3	cubic foot/feet
HEPA	high efficiency particulate air
HSWA	Hazardous and Solid Waste Amendments
HWMF	Hazardous Waste Management Facility
IC	Incident Commander
ICS	Incident Command System
ID	inner diameter
in.	inch(es)
KAFB	Kirtland Air Force Base
KOP	knowledge of process
lb/ft^2	pound(s) per square foot/feet
LDR	land disposal restriction
m^3	cubic meter(s)
mi	mile(s)
mph	mile(s) per hour
MSB	Manzano Storage Bunkers
MSDS	Material Safety Data Sheet
NFPA	National Fire Protection Association
NHPA	National Historic Preservation Act
NMED	New Mexico Environment Department
ppmw	part(s) per million by weight

SANDIA NATIONAL LABORATORIES/NEW MEXICO GENERAL PART B PERMIT RENEWAL REQUEST/APPLICATION

This "Sandia National Laboratories/New Mexico (SNL/NM) General Part B Permit Renewal Request/Application," hereinafter referred to as the General Part B, is submitted by Sandia Corporation (Sandia) and the U.S. Department of Energy (DOE), as co-operators of the SNL/NM site, to address requirements applicable to Resource Conservation and Recovery Act (RCRA)-regulated waste storage and treatment operations at SNL/NM RCRA-regulated waste management units (Units) (Figure 1). The U.S. Environmental Protection Agency (EPA) Identification Number for SNL/NM is NM5890110518.

Sandia National Laboratories/New Mexico (SNL/NM) is located on Kirtland Air Force Base (KAFB) southeast of Albuquerque, New Mexico. SNL/NM consists of five technical areas (TAs) and several remote testing areas situated on the 80-square-mile KAFB. Sandia generates and manages wastes that are regulated under the Resource Conservation and Recovery Act (RCRA) and the New Mexico Hazardous Waste Act and implementing regulations, specifically the New Mexico Administrative Code (NMAC) Title 20, Chapter 4. In this comprehensive Part B permit request, these wastes are referred to as RCRA-regulated wastes (i.e., wastes that meet the regulatory definition of hazardous or mixed wastes). RCRA-regulated wastes are generated during SNL/NM operations and ongoing corrective actions for solid waste management units (SWMUs). The corrective actions are conducted under the SNL/NM Environmental Restoration (ER) Project.

There are 11 RCRA-regulated waste management units (Units) included in this comprehensive Part B permit request. Nine of the Units (listed in Table 1) are used for management of wastes from ongoing operations and from the ER project. These units are addressed in this part (Part 2) of the comprehensive Part B permit request. One of the remaining units is a corrective action management unit (containment cell) used exclusively for management of remediation wastes generated through the ER project. It was closed in 2003. The other unit is a landfill that was operated under interim status and is undergoing closure. Sandia/DOE will conduct post-closure care and maintenance at the containment cell and the landfill; both Units are addressed in Part 5 of the comprehensive Part B permit request. Three additional units will be undergoing closure under interim status and will not require post-closure care. They are included in Part 1.

The information in Part 2 is separated into site-wide and Unit-specific information to minimize redundancy. Part 2 information for the Units listed in Table 1 includes:

- General information (the General Part B) that serves as an "umbrella" document addressing the general requirements of the New Mexico Hazardous Waste Act and implementing regulations, specifically the New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subparts V and IX (20 NMAC 4.1.500 and .900), revised October 1, 2003 [10-1-03]. 20 NMAC 4.1.500 and .900 adopt, with limited exceptions, all of the Code of Federal Regulations, Title 40, Parts 264 and 270 (40 CFR 264 and 270). Information that is applicable to most or all of the Units is included in the General Part B.

  Appendices containing site-wide information addressing a specific topic (e.g., waste analysis, training, or closure).

Table 1
Resource Conservation and Recovery Act – Regulated Waste Management Units Included in Part 2 of Comprehensive Part B Permit Request

Name	Acronym	Location, Size	Types of Operations	Types of Waste	Operating Status	Permit Status
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. 1.35 acres	Storage, Repackaging	All wastes listed in General Part A	Existing, operational	Permit expired August 6, 2002. Submitted renewal request February 6, 2002. Requesting that permit be updated and renewed for continued operation.
Thermal Treatment Facility	TTF	Northern part of TA-III. 196 square feet	Treatment	Ignitable, reactive, toxic, and listed wastes	Existing, on standby	Permit expires November 4, 2004. Submitted renewal request February 6, 2002. Requesting that permit be updated and renewed for continued operation.
Radioactive and Mixed Waste Management Facility	RMWMF	Southeast corner of TA-III. 3.11 acres	Storage, Treatment, Repackaging	All wastes listed in General Part A	Existing, operational	Interim status. Requesting that permit be issued using updated information provided in this application.
Auxiliary Hot Cell Facility	AHCF	TA-V. 5578 square feet	Storage, Treatment, Repackaging	All wastes listed in General Part A	Existing, expected to start operations in 2006	Added under interim status. Requesting that permit be issued using information provided in this application.
Manzano Storage Bunkers (set of 5 Units)	MSB	In Manzano Area on KAFB. 0.4 acres occupied by 5 bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	All wastes listed in General Part A	Existing, operational	Interim status. Requesting that permit be issued using updated information provided in this application.

containment system is sufficiently impervious to contain leaks, spills, or accumulated precipitation until the liquid is removed, as described below.

Unit personnel begin taking action to evaluate and remove accumulated liquids upon discovery to prevent overflow. Personnel evaluate the liquids for two purposes: to determine the most appropriate method of removing the liquid from the containment; and to characterize the removed liquid for appropriate further management.

Personnel attempt to find the source of liquids that accumulate in secondary containment for stored containers of RCRA-regulated wastes. If the source can be clearly identified (e.g., a leaking container in a small secondary containment area) personnel characterize the liquid based on knowledge of the source, as described in Appendix B, Section B.1.3.12, remove it, and manage it appropriately. If the source(s) cannot be identified, personnel may sample the liquid and characterize it as needed to determine the most appropriate method of removing the liquid from the containment. The liquid is then pumped into containers or collected onto absorbent material, picked up, and placed in containers. The containerized liquid is sampled and analyzed for the parameters listed in Appendix B, Table B-2 to characterize it for further management.

Accumulated liquids or waters generated during fire suppression activities may be characterized as a newly-generated waste using acceptable knowledge or may be analyzed, as applicable, for hazardous waste constituents known to be components of the wastes involved in the fire. In either case, the liquids will be characterized using the process described above. Containers of collected liquids are also stored with adequate secondary containment.

Accumulated liquids from precipitation or snowmelt, for which there is no evidence of a release, will be discharged to the ground or to the sanitary sewer after sampling (as needed) and approval, as needed.

1.1.2 Requirements for Ignitable, Reactive, and Incompatible Waste (20 NMAC 4.1.900/40 CFR 270.14[b][9] and 270.15[d]; 20 NMAC 4.1.500/40 CFR 264.17, 264.176, and 264.177)

20 NMAC 4.1.900/40 CFR 270.14(b)(9) [10-1-03], requires a description of precautions taken to prevent accidental ignition or reaction of ignitable, reactive, or incompatible RCRA-regulated wastes as required to demonstrate compliance with 20 NMAC 4.1.500/40 CFR 264.17(c) [10-1-03]. 20 NMAC 4.1.900/40 CFR 270.15(d) [10-1-03], requires a description of procedures used to ensure compliance with 20 NMAC 4.1.500/40 CFR 264.17(b) and (c) [10-1-03], and 264.176 and 264.177.

1.1.2.1 Measures to Prevent Accidental Ignition or Reaction (20 NMAC 4.1.500/ 40 CFR 264.17[a])

At SNL/NM, appropriate measures are taken to prevent accidental ignition or reaction of ignitable and reactive RCRA-regulated wastes, as described below.

All containers are kept closed unless wastes are being added, removed, inspected, sampled, repackaged, or treated as noted in Section 1.2.2.

Ignitable and reactive wastes are labeled and separated from other wastes. Such wastes may be stored in designated WMAs at each Unit, as described in the Unit-specific modules. Open flames and welding activities are prohibited in the vicinity of ignitable or reactive wastes at all Units. If the wastes cannot be removed from the area before such activities take place, the wastes are protected by a non-combustible barrier before and during work. Hot surfaces, frictional heat, sources of sparks, and radiant heat (e.g., heat-generating wastes) are also prohibited in the vicinity of ignitable and reactive wastes. Unit personnel are not allowed to operate forklifts or other motorized equipment in the vicinity of open containers of ignitable or reactive wastes unless such equipment is designed for use in flammable environments.

Spark-proof tools may be used to open and close containers holding ignitable or reactive wastes. When large quantities of flammable or reactive liquids are transferred from one container to another, grounding procedures are typically used. During such operations, each container is connected to a grounding cable that remains in place during liquid transfer to dissipate static charge created by liquid flow.

Smoking is not allowed within any Unit. "No Smoking" signs are conspicuously placed at the entrance to each Unit, as required by 20 NMAC 4.1.500/40 CFR 264.17(a) [10-1-03].

Ignitable and reactive wastes are stored under controlled conditions as needed to prevent spontaneous combustion. For example, pyrophoric wastes (liquids or solids that can ignite in contact with air without an external ignition source) are stored in closed containers under oil or other inert liquid, or in sealed containers under an inert gas, to prevent contact with air and moisture.

Water-reactive wastes may be stored in WMAs equipped with automatic water sprinkler systems. When water-reactive wastes are present in such WMAs, Unit personnel will isolate the wastes with water-resistant barriers such as cabinets or overpack drums to keep water from coming into contact with the waste.

Buildings and areas where operations include open containers of ignitable or reactive wastes are equipped with intrinsically safe (spark-proof) electrical systems. All other buildings are equipped with electrical systems that meet applicable codes (e.g., storage of hazardous materials).

1.1.2.2 Precautions to Prevent Uncontrolled Reactions (20 NMAC 4.1.500/40 CFR 264.17[b, c], 40 CFR 264.176, 40 CFR 264.177 and 40 CFR 264.17[b])

Unit personnel rarely mix incompatible wastes together or with other materials. Personnel perform treatment of ignitable and reactive wastes at the TTF, RMWMF, and AHCF. As described in Section 8.0 of Modules II, III, and V, Unit personnel plan such activities carefully to prevent reactions that could:

8.0 TREATMENT

Sandia/DOE perform and plan to perform limited treatment of RCRA-regulated wastes at some SNL/NM Units (i.e., TTF, RMWMF, AHCF). Treatment will be performed to render RCRA-regulated wastes nonhazardous and/or safer to manage on site and/or dispose of off site. Treatment operations requiring a permit are described in Section 8.0 of the Unit-specific module for each Unit where treatment is performed.

8.1 Handling and Treatment of Unstable Wastes

Because of the nature of Sandia/DOE activities, there are a number of chemicals that are used in various laboratories that, with age or improper storage, may become explosive, unstable, or dangerous to handle. Examples of such chemicals include unknown or damaged compressed gas or liquid cylinders; or expired, sensitized chemicals, such as picric acid, crystallized ether, tetrahydrofuran, heavy metal azides, or organic peroxides. Unit personnel may be required to handle and dispose of unstable chemicals.

If the material has deteriorated such that handling the chemical would pose an imminent and substantial threat of a release that could be harmful to human health or the environment, on-site stabilization may be performed to render the material nonhazardous. Treatment may include venting of known, nonhazardous gas cylinders or stabilizing (e.g., rehydrating) the chemical. Unknown gas cylinders are not vented to the atmosphere; however, a sample of the gas may be taken and analyzed to characterize the gas. According to 20 NMAC 4.1.500/ 40 CFR 264.1(g)(8) [10-1-03], and 20 NMAC 4.1.900/40 CFR 270.1(c)(3)(i) [10-1-03], treatment of this type is exempt from permitting requirements and from 20 NMAC 4.1.500/40 CFR 264. Once the material has been stabilized and is safe to handle, it will be disposed of according to normal procedures through the appropriate Unit.

8.2 Preventing Releases to the Atmosphere (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC)

Subpart AA

Sandia/DOE do not use any of the processes identified in 20 NMAC 4.1.500/40 CFR 264, Subpart AA [10-1-03] for the treatment of RCRA-regulated wastes. Therefore, the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart AA [10-1-03] do not apply to SNL/NM.

Subpart BB

During treatment, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations $\geq$ 10 percent by weight in process equipment identified in 20 NMAC 4.1.500/ 40 CFR 264, Subpart BB [10-1-03] except during treatment at the TTF. Sandia/DOE

occasionally manage such waste using process equipment identified above at the RMWMF and AHCF.

Equipment at the Units is used less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052-.1060 as noted in 20 NMAC 4.1.500/40 CFR 264.1050(f). A list of the equipment will be maintained in the Unit records, as described in Section 9.0.

Subpart CC

RCRA-regulated wastes are treated in containers at the RMWMF and AHCF. Such wastes and treatment processes may be subject to 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03], "Air Emission Standards for Tanks, Surface Impoundments, and Containers," based on applicability criteria specified in 20 NMAC 4.1.500/40 CFR 264.1080 [10-1-03]. These standards are not applicable to:

1. Containers that held RCRA-regulated waste prior to December 6, 1996, and to which no RCRA-regulated waste has been added on or after December 6, 1996;

2. Containers having a design capacity of less than or equal to 0.1 cubic meter (m^3) or approximately 26 gallons;

3. Containers used solely for on-site management of RCRA-regulated waste placed in the Unit as a result of implementing remedial activities under corrective action authorities;

4. Containers used solely for the management of radioactive mixed waste; or

5. Containers equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation (20 NMAC 4.1.500/40 CFR 264.1080[b] [10-1-03].

Furthermore, a container is exempt from the 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03] container standards in 20 NMAC 4.1.500/40 CFR 264.1086 [10-1-03] if:

- The RCRA-regulated waste in a container has an average volatile organic concentration at the point of waste origin of less than 500 parts per million by weight (ppmw), or

- The organic content of all RCRA-regulated waste entering a container has been reduced by an organic destruction or removal process achieving any one of the conditions specified in 20 NMAC 4.1.500/40 CFR 264.1082(c)(2)(i)-(vi) [10-1-03] (20 NMAC 4.1.500/40 CFR 264.1082 [10-1-03]), or

- The RCRA-regulated waste in the container meets the treatment standards in 20 NMAC 4.1.800/40 CFR 268.40 for organic hazardous constituents present in the waste.

12.0 CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Francisco A. Figueroa
Vice President, Infrastructure Operations and Business Management
and Chief Financial Officer
Sandia Corporation
Albuquerque, New Mexico
Co-Operator

10/12/05
Date Signed

Patty Wagner
Manager
U.S. Department of Energy
National Nuclear Security Administration
Sandia Site Office
Albuquerque, New Mexico
Owner and Co-Operator

10/24/5
Date Signed

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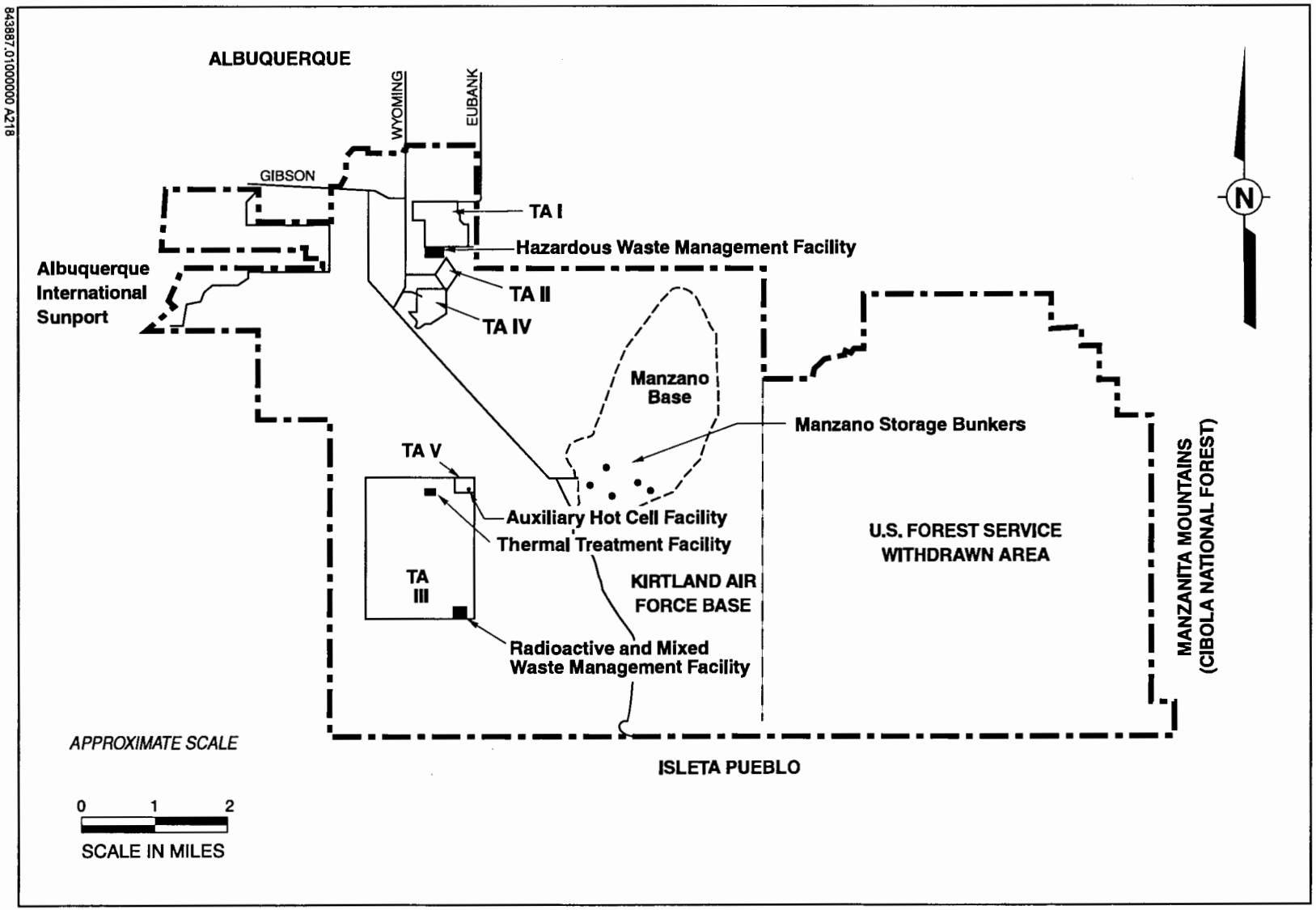

Figure 1

Sandia National Laboratories/New Mexico
Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units in Relation to Kirtland Air Force Base

APPENDIX A

SITE-WIDE DESCRIPTION FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
AHCF	Auxiliary Hot Cell Facility
DOE	U.S. Department of Energy
ft	foot/feet
HWMF	Hazardous Waste Management Facility
KAFB	Kirtland Air Force Base
MSB	Manzano Storage Bunkers
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
TA	Technical Area
TTF	Thermal Treatment Facility
Unit	RCRA-regulated waste management unit
USFS	U.S. Forest Service

SITE-WIDE DESCRIPTION FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO

The information provided in this appendix is submitted in accordance with the applicable requirements of New Administrative Code, Title 20, Chapter 4, Part 1, Subparts V and IX (20 NMAC 4.1.1500– and .900), revised October 1, 2003 [10-1-03]. 20 NMAC 4.1.500 and .900 adopt, with limited exceptions, all of the Code of Federal Regulations, Title 40, Parts 264 and 270 (40 CFR 264 and 270). The following subject areas are addressed in this appendix or in Section 2.0 of each Unit-specific module.

- A general description of the Sandia National Laboratories/New Mexico (SNL/NM) site (20 NMAC 4.1.900/40 CFR 270.14[b][1] [10-1-03]);
- Site-wide security procedures and equipment (20 NMAC 4.1.900/40 CFR 270.14[b][4] and 270.14[b][19][viii] [10-1-03]; 20 NMAC 4.1.500/40 CFR 264.14 [10-1-03]);
- Site-wide traffic patterns, volume, and controls (20 NMAC 4.1.900/40 CFR 270.14[b][10] [10-1-03]);
- Site location information for compliance with the seismic standard and floodplain requirements (20 NMAC 4.1.900/40 CFR 270.14[b][11] [10-1-03], and 20 NMAC 4.1.500/ 40 CFR 264.18[a] and [b] [10-1-03]);
- Site-wide topographic map requirements (20 NMAC 4.1.900/40 CFR 270.14[b][19] [10-1-03]);
- Site-wide groundwater monitoring and protection information (20 NMAC 4.1.900/40 CFR 270.14[c] [10-1-03], and 20 NMAC 4.1.500/40 CFR 264.90[a] [10-1-03]); and
- Other permit activities.

Together, the information in this appendix, in the General Part B, and in each Unit-specific Part B module meets the applicable regulatory requirements. Individual Units are listed in Table A-1.

For the purposes of this permit renewal request/application, SNL/NM (the facility) is owned by DOE and co-operated by Sandia and DOE.

A.1 GENERAL SITE DESCRIPTION (20 NMAC 4.1.900/40 CFR 270.14[b][1])

SNL/NM is located on Kirtland Air Force Base (KAFB) immediately southeast of the Albuquerque city limits in Bernalillo County, New Mexico. SNL/NM occupies an area of approximately 2,842 acres within the 80-square-mile KAFB (Figure A-1).

Table A-1
RCRA-Regulated Waste Management Units

Unit Name	Acronym	Location, Size	Types of Operations	Operating Status
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. 1.35 acres	Storage, Repackaging	Existing, operational
Thermal Treatment Facility	TTF	Northern part of TA-III. 196 square feet	Treatment	Existing, on standby
Radioactive and Mixed Waste Management Facility	RMWMF	Southeast corner of TA-III. 3.11 acres	Storage, Treatment, Repackaging	Existing, operational
Auxiliary Hot Cell Facility	AHCF	TA-V. 5578 square feet	Storage, Treatment, Repackaging	Existing, expected to start operations in 2006
Manzano Storage Bunkers (Set of five Units)	MSB	In Manzano Area on KAFB. 0.4 acres occupied by bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	Existing, operational

SNL/NM (U.S. Environmental Protection Agency Identification Number NM5890110518) is a multidisciplinary laboratory engaged in research and development of weapons and alternative energy sources. SNL/NM is managed by Sandia, a wholly-owned subsidiary of Lockheed Martin, for the DOE, with work also performed for others. Activities at SNL/NM fall under North American Industry Classification System Numbers 92811 (National Security) and 54171 (Research and Development in the Physical, Engineering, and Life Sciences).

The major Sandia/DOE research and administration functions are located at five Technical Areas (TAs), designated I through V. TAs I, II, and IV are located north of Tijeras Arroyo and Arroyo del Coyote (Figures A-2 and A-3). TAs III and V occupy contiguous tracts of land south of Tijeras Arroyo and west of Arroyo del Coyote.

A.2 SECURITY PROCEDURES AND EQUIPMENT (20 NMAC 4.1.900/40 CFR 270.14[b][4]; 20 NMAC 4.1.500/40 CFR 264.14)

In accordance with 20 NMAC 4.1.500/40 CFR 264.14(a) [10-1-03], an owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of a facility. The following sections describe the security provisions provided at SNL/NM to prevent unknowing or unauthorized entry onto the active portions of Units.

A.4.3 Floodplain Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][iii through v]; 20 NMAC 4.1.500/40 CFR 264.18[b])

SNL/NM is located near the middle of the upper Rio Grande basin that originates in southern Colorado. SNL/NM occupies generally flat, gently west-sloping mesa land located between the Rio Grande Valley to the west and the Manzano and Manzanita Mountains to the east. The nearest surface water body is the Rio Grande, located about 7 miles west of SNL/NM.

The locations of the 100-year floodplains of Tijeras Arroyo and Arroyo del Coyote are shown in Figure A-2. The floodplain portion of Figure A-2 was derived from a U.S. Army Corps of Engineers map (COE, 1979), prepared using Federal Emergency Management Administration guidelines that are equivalent to the mapping techniques used to prepare Federal Insurance Administration floodplain maps. None of the SNL/NM Units are located within a 100-year floodplain, as defined in 20 NMAC 4.1.500/40 CFR 264.18(b)(2)(i) [10-1-03], and as regulated under 20 NMAC 4.1.500/40 CFR 264.18(b)(1) [10-1-03] and 20 NMAC 4.1.900/ 40 CFR 270.14(b)(11)(iv) [10-1-03]. Therefore, all SNL/NM Units are compliant with the floodplain standards.

A.5 TOPOGRAPHIC MAPS (20 NMAC 4.1.900/40 CFR 270.14[b][19])

Figure A-2 is provided to meet the requirements of the 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03]. Figure A-2 is a topographic map of KAFB that shows the SNL/NM TAs and includes the following:

- Map scale and date
- The 100-year floodplain area
- Surface water bodies, including intermittent streams
- Wind roses
- Map orientation (north arrow)
- Legal boundaries of the SNL/NM facility
- Access control features (i.e., fences and gates)
- Groundwater monitoring, withdrawal, and water supply wells both on site and off site at KAFB and SNL/NM in the vicinity of the Units
- Buildings and other structures (e.g., access and internal roads)
- Locations of the HWMF, TTF, RMWMF, AHCF, and MSB.
- Areas of residential land use within KAFB.

A.4.3 Floodplain Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][iii through v]; 20 NMAC 4.1.500/40 CFR 264.18[b])

SNL/NM is located near the middle of the upper Rio Grande basin that originates in southern Colorado. SNL/NM occupies generally flat, gently west-sloping mesa land located between the Rio Grande Valley to the west and the Manzano and Manzanita Mountains to the east. The nearest surface water body is the Rio Grande, located about 7 miles west of SNL/NM.

The locations of the 100-year floodplains of Tijeras Arroyo and Arroyo del Coyote are shown in Figure A-2. The floodplain portion of Figure A-2 was derived from a U.S. Army Corps of Engineers map (COE, 1979), prepared using Federal Emergency Management Administration guidelines that are equivalent to the mapping techniques used to prepare Federal Insurance Administration floodplain maps. None of the SNL/NM Units are located within a 100-year floodplain, as defined in 20 NMAC 4.1.500/40 CFR 264.18(b)(2)(i) [10-1-03], and as regulated under 20 NMAC 4.1.500/40 CFR 264.18(b)(1) [10-1-03] and 20 NMAC 4.1.900/ 40 CFR 270.14(b)(11)(iv) [10-1-03]. Therefore, all SNL/NM Units are compliant with the floodplain standards.

A.5 TOPOGRAPHIC MAPS (20 NMAC 4.1.900/40 CFR 270.14[b][19])

Figure A-2 is provided to meet the requirements of the 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03]. Figure A-2 is a topographic map of KAFB that shows the SNL/NM TAs and includes the following:

- Map scale and date
- The 100-year floodplain area
- Surface water bodies, including intermittent streams
- Wind roses
- Map orientation (north arrow)
- Legal boundaries of the SNL/NM facility
- Access control features (i.e., fences and gates)
- Groundwater monitoring, withdrawal, and water supply wells both on site and off site at KAFB and SNL/NM in the vicinity of the Units
- Buildings and other structures (e.g., access and internal roads)
- Locations of the HWMF, TTF, RMWMF, AHCF, and MSB.
- Areas of residential land use within KAFB.

These items are also shown on topographic maps in the Unit-specific modules. The Unit-specific maps show Unit features and the area surrounding each Unit in greater detail.

A.5.1 Wells (20 NMAC 4.1.900/40 CFR 270.14[b][19][ix])

There are no injection wells at SNL/NM. Groundwater monitoring wells and withdrawal wells located at SNL/NM are shown in Figure A-2. None of the wells shown in Figure A-2 are expected to be influenced by activities at any SNL/NM RCRA-regulated waste management Unit because waste management activities occur in contained areas. KAFB water-supply wells, City of Albuquerque wells, and other wells located within 1,000 ft of the KAFB boundaries are shown on Figure A-2.

A.5.2 Wind Rose (20 NMAC 4.1.900/40 CFR 270.14[b][19][v])

A network of meteorological towers is used to monitor weather conditions at SNL/NM. Data indicate that the overall prevailing winds at SNL/NM are from the east, except that winter winds at the 100-ft elevation are from the north. Rapid night time ground cooling after sunset on cloudless or near-cloudless nights produces strong temperature inversions in which temperature increases with elevation (an atmospheric condition resulting from a reversal of the normal temperature lapse rate). This rapid cooling effect generates nighttime drainage winds out of the mountains, which are strongest at the mouths of the larger canyons. Nighttime winds in these areas are typically from the east and southeast, while daytime winds are typically from the southwest, west, and northwest. It also appears that Tijeras Arroyo diverts surface air flow between TAs III and V on the south and TAs I, II, and IV, and Albuquerque on the north (SNL/NM 2002, 2004). The channeling of wind through Tijeras Canyon can be seen by comparing the wind roses from these two areas (SNL/NM, 2002). Figure A-2 shows wind roses that summarize wind speeds and directions for TA-II (near the HWMF), the southeast corner of TA-III (near the RMWMF), and the northeast corner of TA-III (near the AHCF and TTF). Wind roses are also shown on the Unit-specific topographic maps.

A.5.3 Surrounding Land Use (20 NMAC 4.1.900/40 CFR 270.14[b][19][iv])

Albuquerque is the largest population center in Bernalillo County and also the closest population center to KAFB and SNL/NM. According to Census 2000 data, the total population of the Albuquerque metropolitan area is 448,607 (U.S. Census Bureau, 2000). This population includes permanent residents of KAFB living in the KAFB housing areas. An additional 108,071 people live outside the Albuquerque metropolitan area but within Bernalillo County (U.S. Census Bureau, 2000).

SNL/NM is essentially surrounded by KAFB, with co-use agreements on some portions of KAFB. An additional 22,500-acre area to the east of KAFB has been withdrawn from the U.S. Forest Service (USFS) for the exclusive use of KAFB. High explosive tests, explosives storage, and other operations are buffered and barricaded by the mountainous terrain toward the eastern edge of this withdrawal area. Areas to the west and south, by agreements with the State of New Mexico and Isleta Pueblo, serve as buffer zones for other test operations.

Land use in the vicinity of SNL/NM and KAFB is urban to the northwest, north, and northeast. Undeveloped grazing land of Isleta Pueblo is located to the south. Undeveloped public grazing land lies to the west and southwest of KAFB and the buffer zones.

The urbanized area immediately northeast, north, and northwest of SNL/NM is predominantly residential, with commercial development along more heavily-traveled streets. Military (i.e., KAFB) housing is located north of F Street (adjacent to the northern edge of SNL/NM TA-I). Additional military housing is located west of Pennsylvania Avenue, north of Hardin Blvd (west of SNL/NM TA-1), as shown on Figure A-2. Albuquerque International Sunport is located west of the northern part of KAFB. Figure A-8 shows land uses for the areas adjacent to and within KAFB boundaries.

Some areas of KAFB and SNL/NM are within flight paths for aircraft that are taking off and landing at the Albuquerque International Sunport. Sandia/DOE studied the likelihood and potential impact of airplane crashes into SNL/NM facilities (DOE, 1999). The analysis covered several operations and facilities throughout SNL/NM, including the RMWMF and facilities near the HWMF and the AHCF. Such accidents were determined to be very unlikely; the annual probability varies from 2.8 in 1,000,000 at the RMWMF to 90 in 1,000,000 near the HWMF.

The SNL/NM facility is comprised of five TAs and several additional test areas spread over 17,845 acres, which are under diverse land ownership. SNL/NM occupies 2,842 acres owned by the DOE and an additional 15,003 acres that have been made available through a series of land-use agreements or permits among DOE-Albuquerque Operations, DOE Transportation Safeguards Division, KAFB, USFS, Bureau of Land Management, State of New Mexico, Phillips Laboratory (a private contractor), DOE Central Training Academy, and Isleta Pueblo.

The HWMF is approximately 2 miles south of Interstate 40 and 6 miles east of Interstate 25 and downtown Albuquerque. At their nearest points, the AHCF and the TTF are approximately 3 miles south of Interstate 40 and 6.5 miles east of Interstate 25 and downtown Albuquerque. The MSB are approximately 5 miles south of Interstate 40 and 7.5 miles east of Interstate 25 and downtown Albuquerque. The RMWMF is approximately 5.5 miles south of Interstate 40 and 6.5 miles east of Interstate 25 and downtown Albuquerque. Land use in the vicinity of each RCRA-regulated Unit is predominantly or completely industrial. There are no residential areas within 1 mile of any of the SNL/NM Units. The closest residences are in Zia Park, a KAFB residential area located approximately 1 mile west of TA-I and approximately 3.9 miles north-northwest of TA-V.

A.5.4 Drainage Control Features (20 NMAC 4.1.900/40 CFR 270.14(b)(8)(ii)

Drainage control features (e.g., run-on/runoff, drainage barriers, storm water discharge) are shown on figures provided in each Unit-specific module.

A.5.5 Waste Management Areas

Locations of the waste management areas at each SNL/NM Unit are shown on figures provided in each Unit-specific module.

TO VIEW THE MAP/MAPS ASSOCIATED WITH THIS DOCUMENT PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

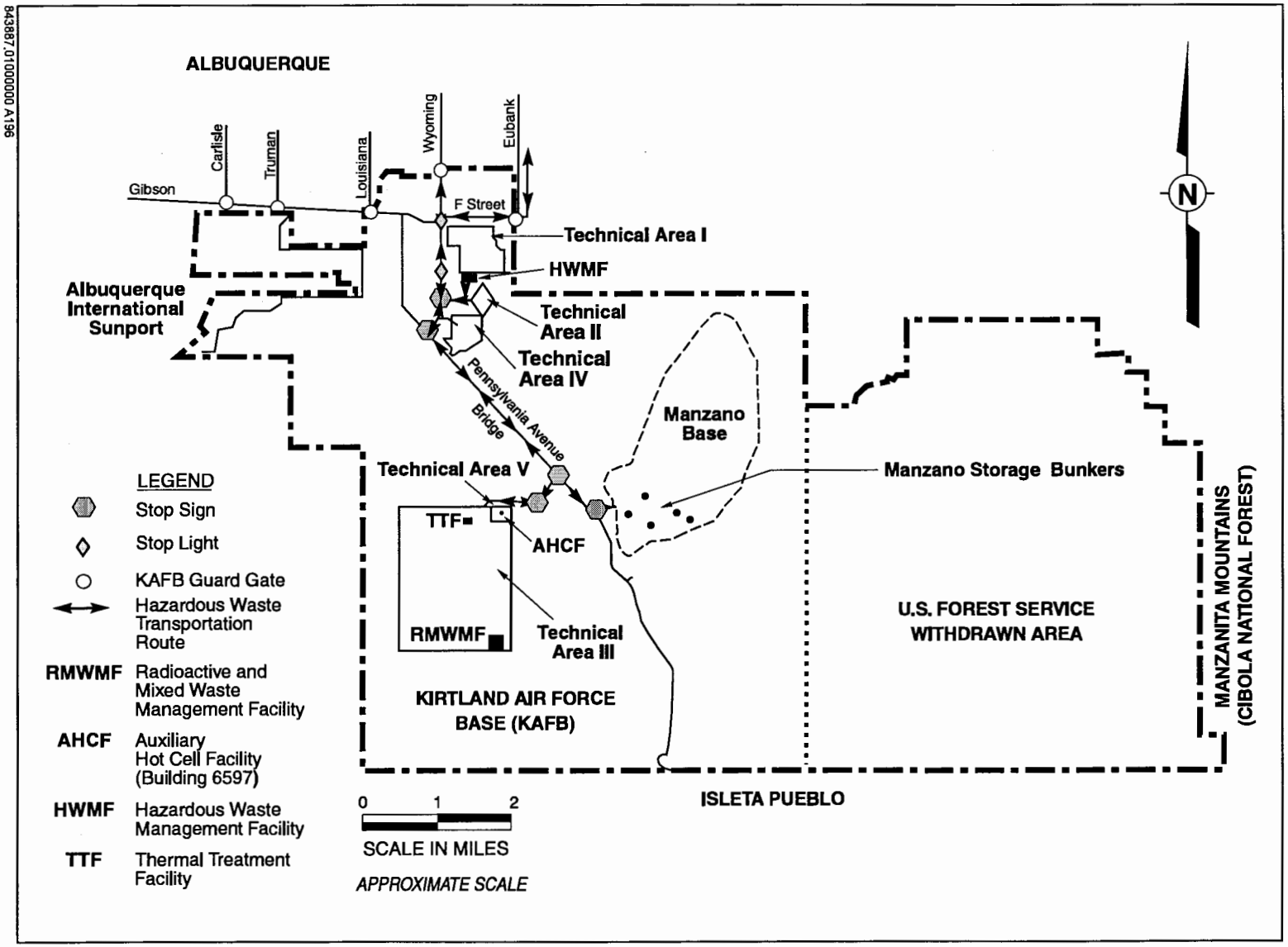

Figure A-4
Resource Conservation and Recovery Act-Regulated Waste Transportation Routes, Sandia National Laboratories/New Mexico

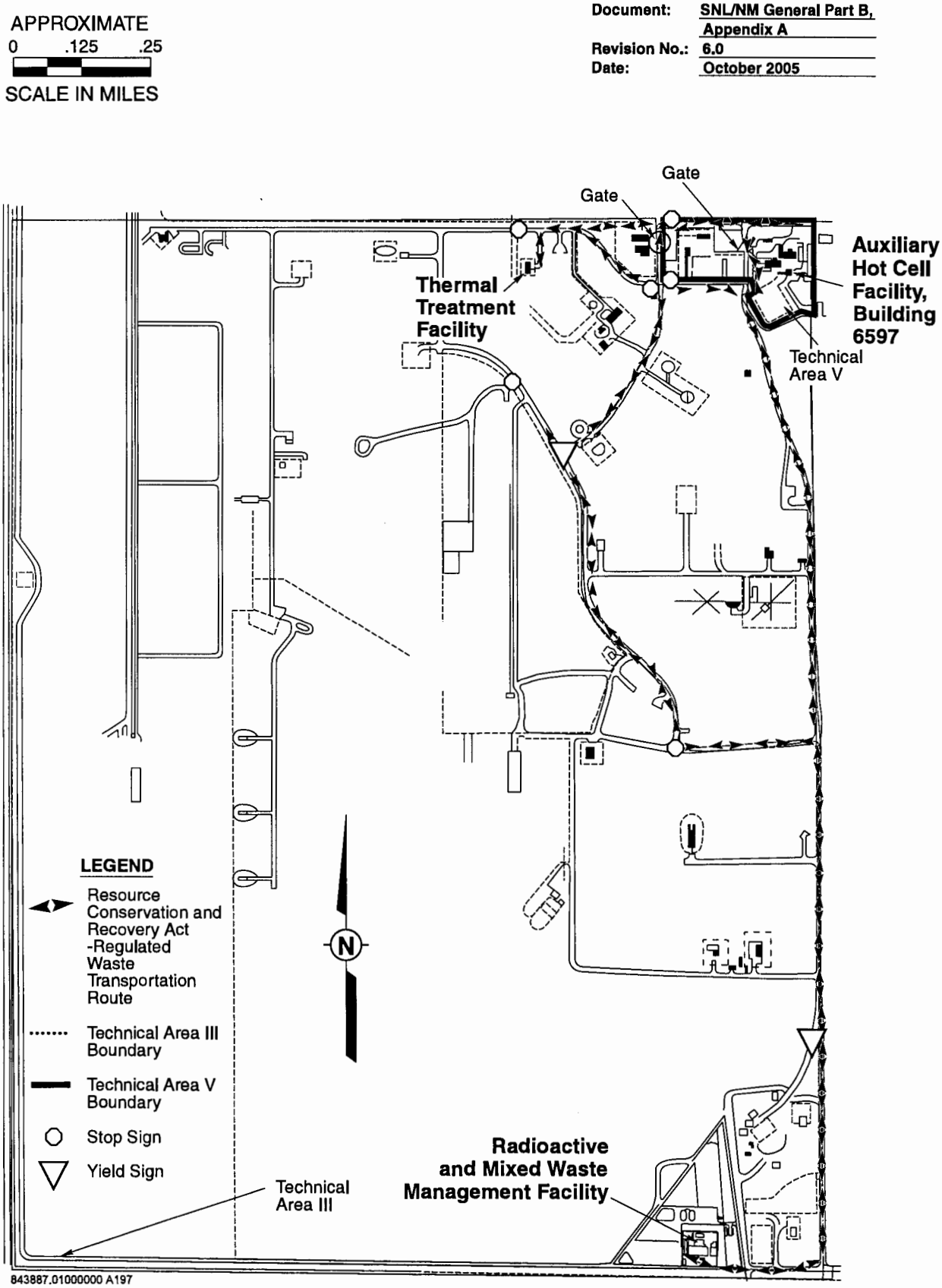

Figure A-6
Resource Conservation and Recovery Act-Regulated Waste Transportation Routes in Technical Areas III and V

APPENDIX B

SITE-WIDE WASTE ANALYSIS PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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ABBREVIATIONS AND ACRONYMS

20 NMAC 4.1.*XX*	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *XX*
40 CFR *XXX.XX*	Code of Federal Regulations, Title 40, Part *XXX*, Section *XXX.XX*
AHCF	Auxiliary Hot Cell Facility
ASTM	American Society for Testing and Materials
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DR	disposal request
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
ER	Environmental Restoration
FFCO	Federal Facilities Compliance Order
KAFB	Kirtland Air Force Base
LDR	land disposal restriction
MSDS	Material Safety Data Sheet
PETN	pentaerythritol tetranitrate
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
R&D	research and development
RMWMF	Radioactive and Mixed Waste Management Facility
RTL	regulatory threshold limit
Sandia	Sandia Corporation

LIST OF ABBREVIATIONS/ACRONYMS (Concluded)

SASN	silver acetylide/silver nitrate
SNL/NM	Sandia National Laboratories/New Mexico
SVOC	semivolatile organic compound
TC	toxicity characteristic
TCLP	Toxicity Characteristic Leaching Procedure
TSDF	treatment, storage, and disposal facility
TTF	Thermal Treatment Facility
UHC	underlying hazardous constituent
Unit	RCRA-regulated waste management unit
VOC	volatile organic compound
WAP	waste analysis plan

- Auxiliary Hot Cell Facility (AHCF): Container storage and repackaging of RCRA-regulated wastes and treatment of RCRA-regulated wastes in containers; and

- Manzano Storage Bunkers: Container storage of RCRA-regulated wastes.

The General Part A lists the EPA Hazardous Waste Numbers that may* be assigned to the wastes stored in containers at SNL/NM Units1. The General Part A also lists the EPA Hazardous Waste Numbers that may* be assigned to the wastes that will be treated in containers or the miscellaneous unit at SNL/NM.

B.1.2 SNL/NM Waste-Generating Processes and Activities

RCRA-regulated waste is generated at SNL/NM from design, development, and testing of weapon systems and components; material research; pulsed power research; reactor safety research; support activities; RCRA corrective action activities (through the Sandia/DOE Environmental Restoration [ER] project); and decontamination and decommissioning (D&D) activities. Sandia/DOE also accept small volumes of RCRA-regulated waste for storage and/or treatment from off-site facilities. Some of the RCRA-regulated waste generated at SNL/NM also meets the definition of low-level or transuranic waste as these terms are defined in DOE Order 435.1-1 (DOE, 1999).

It is not feasible to provide detailed descriptions of all possible wastes that could be managed at one or more of the SNL/NM Units. Table B-1 summarizes information on RCRA-regulated waste types typically generated at SNL/NM. The following sections contain general descriptions of the typical waste types the associated waste-generating processes and/or activities, and the waste forms associated with each type. For the purposes of this WAP, a waste type is a general category used to describe one or more wastes or waste streams that share key features (e.g., type of waste-generating process, waste form). Also for the purposes of this WAP, a waste stream is defined as waste that is routinely generated as part of a well-defined waste-generating process and is distinguishable from other waste by some unique combination of one or more of the following: specific waste source or generating process; EPA Hazardous Waste Numbers; SNL/NM Unit-specific handling requirements; off-site treatment, storage, and disposal facility (TSDF) handling requirements; LDR status; waste compatibility issues; or waste characterization requirements.

1 In this WAP, the term "may" when marked with an asterisk, denotes a statement where the uncertainty implied by "may" instead of "will" is technically accurate and appropriate.

Table B-1
Descriptions of Types of Resource Conservation and Recovery Act-Regulated Waste Stored and/or Treated at Sandia National Laboratories/New Mexico Waste Management Units

Waste Type Description	Principal Waste-Generating Activity	Basis for Hazardous Waste Designation	Potential[a] EPA Hazardous Waste Numbers	Potential[a] Hazardous Constituents and/or Characteristics in the Waste
Laboratory Chemical Waste	Weapon systems and components design, development, fabrication, and testing and material research	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed	D001 D002 D003 D004-D043 All P- and U-EPA Hazardous Waste Numbers	Ignitability Corrosivity Reactivity Toxicity[c] Discarded commercial chemical products and off-specification species
Contaminated Used Oil	Weapon systems and components design, development, fabrication, and testing, material research, pulsed-power research, reactor safety research, and off-site generated waste	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed Fingerprint Analysis[d] (off-site waste)	D001 D002 D003 D004-D043 F001-F005	Ignitability Corrosivity Reactivity Toxicity[c] Spent solvents
Process Wastes	Weapon systems and components design, development, fabrication, and testing, material research, ER Project activities, and of-site generated waste	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed Fingerprint Analysis[d] (off-site waste)	D001 D002 D003 D004-D043 F001-F005	Ignitability Corrosivity Reactivity Toxicity[c] Spent solvents
Explosive Waste	Weapon systems and components design, development, fabrication, and testing	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed	D001 D003 D008 D011 F003	Ignitability Reactivity Lead Silver Acetone
Batteries	Weapon systems and components design, development, and testing	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed	D001 D002 D003 D005 D006 D007 D008 D009 D011	Ignitability Corrosivity Reactivity Barium Cadmium Chromium Lead Mercury Silver
Elemental Lead	Pulsed-power research, reactor safety research, ER Project and D&D activities, and of-site generated waste	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed Fingerprint Analysis[d] (off-site waste)	D008	Lead
Unknown Liquids and Solids	Legacy wastes from historical weapons system design, development and testing; materials research; and ER Project and D&D activities	Acceptable Knowledge[b] supplemented by Sampling and Analysis, as needed	D001 D002 D003 D004-D043	Ignitability Corrosivity Reactivity Toxicity[c]

B.1.4 Types of Waste Treated at SNL/NM Units

RCRA-regulated waste is treated at the TTF, which is a miscellaneous unit. RCRA-regulated wastes are treated in containers at the RMWMF and AHCF. Typical RCRA-regulated wastes and waste streams that are treated at SNL/NM Units are described in the following sections. Sandia/DOE personnel use the waste characterization procedures described in this WAP (Section B.2) to determine whether treated wastes and treatment residues are RCRA-regulated wastes, to determine whether they meet the treatment standards in 20 NMAC 4.1 800/40 CFR 268, and to assign appropriate EPA Hazardous Waste Numbers.

B.1.4.1 Waste Treated at the TTF

Explosive (D003) waste treated at the TTF is a silver acetylide/silver nitrate (SASN) mixture that is generated as a result of a specific process that is well defined and well controlled, enabling Sandia/DOE to characterize the waste stream on the basis of knowledge of the process and the raw materials used. SASN is present in the solid and liquid wastes treated at the TTF. The waste also meets the definition of ignitable waste (D001), and often bears EPA Hazardous Waste Numbers D011 and F003, depending on the silver concentration and the presence of spent solvents. The treatment is performed to eliminate the hazardous waste characteristics of reactivity and ignitability. The waste is composed of:

- A liquid or slurry containing varying amounts of acetone, acetonitrile, nitric acid, water, and typically some SASN crystals. The liquid or slurry may* also contain pentaerythritol tetranitrate (PETN), another explosive.

- Solid items that may* contain small quantities of SASN, including paper wipes, cotton rags and swabs, filter elements, incidental silver nitrate that did not react to form SASN, and traces of Viton™ fluoroelastomer. Small quantities of PETN may* also be present on the solids.

Furthermore, the explosive waste thermally treated at the TTF is not:

- Potentially fragment-producing when treated,

- Explosives that are confined,

- Explosives packaged as a unit with items that could become projectiles (e.g., wood, metal, or plastic) when treated, or

- Unknown or uncharacterized explosives.

Specific information about the treatment process is included in Section 8.0 of Module II.

B.1.4.2 Wastes Treated at the RMWMF and AHCF

RCRA-regulated wastes that are treated at the RMWMF and AHCF may* be generated from specific

R&D processes and activities. Other wastes may* be manufactured items or radioactive mixed wastes that are not amenable to sampling and analysis. Consequently, Sandia/DOE characterize RCRA-regulated wastes and waste streams treated at the RMWMF and AHCF using process knowledge, supplemented by sampling and analysis as needed. The process knowledge often includes knowledge of the item or a full accounting of the raw materials used in generating the waste. To ensure that detailed and accurate waste characterization exists, the process outlined in Section B.2 is used.

Wastes that are treated at the RMWMF and AHCF include any of the following:

- Solid items exhibiting the hazardous waste characteristics of ignitability and/or reactivity;
- Solid items (including debris) exhibiting the hazardous waste characteristic of toxicity (excluding the high mercury subcategory) or containing spent solvents or commercial chemical products;
- Liquid wastes and wastewaters exhibiting the hazardous waste characteristics of ignitability, corrosivity, or reactivity; and
- Liquid wastes and wastewaters containing toxicity characteristic (TC) metals .

Treatment processes and the associated treatment goals at the RMWMF and AHCF are discussed in Section 8.0 of Modules III and V, respectively. They include:

- Chemical deactivation to eliminate the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity.
- Thermal deactivation to eliminate the hazardous waste characteristic of reactivity in reactive wastes, including explosives other than primary explosives.
- Amalgamation to immobilize elemental mercury into a solid, leach-resistant form.
- Stabilization to immobilize hazardous waste toxicity characteristic metals and/or eliminate free liquids.
- Macroencapsulation to immobilize hazardous constituents.
- Physical treatment to change the physical character of the waste to make it more amenable to subsequent treatment and/or storage, or to reduce waste volume.

The RCRA-regulated wastes to be treated at the RMWMF and the AHCF typically are assigned one or more of the following EPA Hazardous Waste Numbers: D001-D011, D018-D043, and F001-F005. As noted in the Part A, other RCRA-regulated wastes may* also be treated if the treatment methods are appropriate. The EPA Hazardous Waste Numbers for RCRA-regulated waste to be treated at the RMWMF and AHCF are determined through the characterization process described in Section B.2, in which available knowledge is supplemented by sampling and analysis..

B.1.4.2.1 Waste Treated by Chemical Deactivation

RCRA-regulated wastes are treated by chemical deactivation at the RMWMF and AHCF to remove the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity. RCRA-regulated wastes that are chemically deactivated at the RMWMF and AHCF generally consist of solids or liquids generated during R&D activities, and are described below.

Laboratory chemical waste consists of commercial chemical products; manufacturing chemical intermediates; solid laboratory materials (such as laboratory wipes); or excess, off-specification, or no longer usable chemical products that may* contain water-reactive metals (such as elemental sodium or lithium); pyrophoric metal powders and particulates; or acidic or alkaline liquids.

Process waste consists of liquid or solid chemicals, solutions, or mixtures that are acidic, alkaline, or oxidizers.

B.1.4.2.2 Waste Treated by Thermal Deactivation

RCRA-regulated wastes are treated by thermal deactivation at the RMWMF to remove the hazardous waste characteristic of reactivity. These wastes generally consist of solid items and are generated primarily from R&D activities and ER Project activities, and are described below.

Batteries consist of unfired waste thermal batteries that contain reactive material.

- *Explosive waste* consists of explosives and explosive components, and solid items (e.g., paper towels, rags, and wipes) contaminated with static-sensitive explosives. The quantity of explosive (reactive) waste thermally treated at the RMWMF at any one time will be equivalent to 25 grams of trinitrotoluene or less.

B.1.4.2.3 Waste Treated by Amalgamation

RCRA-regulated wastes are treated by amalgamation at the RMWMF to immobilize elemental mercury into a solid, leach-resistant form that has minimal potential for emission of mercury vapor. The RCRA-regulated waste that is treated by amalgamation is liquid elemental mercury.

B.1.4.2.4 Waste Treated by Stabilization

RCRA-regulated wastes are treated by stabilization at the RMWMF and AHCF to immobilize hazardous waste toxicity characteristic metals and/or eliminate free liquids.

RCRA-regulated wastes that are stabilized at the RMWMF and AHCF generally consist of liquids, soils, and particulate-type wastes.

Laboratory chemical waste consists of commercial chemical products, manufacturing chemical intermediates, small pieces of solid laboratory materials such as laboratory wipes, or excess, off-specification, or no longer usable chemical products in particulate or liquid forms that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D activities.

Process waste consists of liquid or solid chemicals, solutions, or mixtures that contain or are contaminated with hazardous waste constituents. This waste is generated primarily from R&D activities. The liquids are typically aqueous or oils.

Contaminated soil consists of soils that are contaminated with hazardous waste constituents. This waste is generated primarily from ER Project and other cleanup and excavation operations.

B.1.4.2.5 Waste Treated by Macroencapsulation

RCRA-regulated solid waste items, including debris, are treated by macroencapsulation at the RMWMF and AHCF to immobilize hazardous waste constituents.

Debris consists of solid, heterogeneous, compactable and non-compactable solids that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D, D&D, and ER Project activities.

B.1.4.2.6 Waste Treated by Physical Treatment

RCRA-regulated wastes are treated physically at the RMWMF and AHCF to reduce waste volume and change the physical character of the waste to make it more amenable to subsequent treatment and/or storage. RCRA-regulated wastes that are physically treated at the RMWMF and AHCF generally consist of solid items that exhibit the hazardous waste characteristics of ignitability, reactivity, and/or toxicity, and are described below.

Unknown solids consist of legacy wastes that originated from historical laboratory activities and can be dismantled. Waste items with hazardous waste constituents vary in size. The wastes typically exhibit the characteristics of ignitability, reactivity, and/or toxicity.

Debris consists of solid, heterogeneous, compactable and non-compactable materials, or solid items such as laboratory equipment or other laboratory items that were used in experiments or other processes that contain or are contaminated with hazardous waste constituents. This waste is generated primarily by R&D, D&D, and ER Project activities.

Table B-3 (Concluded)
Additional Parameters, Characterization Methods, and Rationale for Wastes Treated at Sandia National Laboratories/New Mexico Waste Management Units

[a] Acceptable knowledge is broadly defined as process knowledge, supplemental waste analysis data, and/or facility records of analysis (EPA, 1994). Acceptable knowledge also includes published information regarding chemical properties.

[b] Parameters listed are in addition to those shown in Table B-2. Parameters shown in italics are mandatory; the others are selected based on obtaining additional information necessary for treatment or for characterizing the treated waste.

[c] The hazardous waste characteristic of reactivity as defined in 20 NMAC 4.1.200/40 CFR 261.23 [10-1-03] is based on the properties of the waste and DOT hazard class as identified in 40 CFR 173, and is not measured through analysis. The presence of sulfides and cyanides may* cause waste to be reactive.

[d] The hazardous waste characteristic of ignitability as defined in 20 NMAC 4.1.200/40 CFR 261.21 for solids is based on the properties of the waste and DOT hazard class as identified in 40 CFR 173, and is not measured through analysis.

[e] Use of the terms "hazardous waste metals," hazardous waste VOCs," and "hazardous waste SVOCs" refer to hazardous waste as defined in 20 NMAC 4.1.200/ 40 CFR 261.24 [10-1-03] and to RCRA-regulated waste as defined in the General Part B.

[f] Underlying hazardous constituents that are reasonably expected to be present in the untreated waste are part of the treatment standard for wastes exhibiting the hazardous waste characteristics of ignitability, corrosivity, reactivity, or toxicity as defined in 20 NMAC 4.1.200/40 CFR 261 Subpart C (referred to as "characteristic wastes").

[g] Treatment standards are those listed in 20 NMAC 4.1.800/40 CFR 268 Subpart D. Compliance with the treatment standards is determined for treated wastes that will be sent to an off-site TSDF without further treatment.

[h] "Listing criteria" refers to hazardous waste as defined in 20 NMAC 4.1.200/40 CFR 261 Subpart D.

[i] Macroencapsulation is defined in 20 NMAC 4.1.800/40 CFR 268.42 and 268.45

CFR Code of Federal Regulations
DOT U.s. Department of Transportation
NMAC New Mexico Administrative Code
SVOC semivolatile organic compound
TSDF Treatment, storage, and disposal facility managing RCRA-regulated wastes
UHC Underlying hazardous constituents
VOC volatile organic compound

B.2.4.2 Waste to be Treated at the RMWMF and AHCF

Wastes to be treated at the RMWMF and AHCF will be characterized based on acceptable knowledge, supplemented by sampling and analysis if necessary before treatment takes place to meet the objectives noted above. For wastes that will be treated to meet the treatment standards, the characterization includes the presence of UHCs that are reasonably expected to be present if UHCs are part of the treatment standards.

B.2.5 Characterization of Treated Wastes

Treated wastes are characterized through knowledge of process, supplemented by analytical data as needed, using the general process described in Section B.2.1.2. In addition to the objectives listed in Section B.2.1.1, treated wastes and residues are characterized to determine one or more of the following, as applicable, for each waste:

- Whether the characteristic of interest has been treated effectively
- Compliance with applicable treatment standards if compliance is a treatment goal,
- Continued presence of UHCs that are reasonably expected to be present in the waste as generated if compliance with applicable treatment standards is a treatment goal,
- Presence of hazardous waste constituents and characteristics that could have been introduced during treatment,
- Whether the treated waste or residue requires further management as a RCRA-regulated waste, and/or
- Suitability for further treatment by one or more methods available on site to make the waste safer and more amenable to further management on site or off site.

These characterization criteria are summarized in Table B-3.

Characterization for treated wastes and residues derived from treatment processes will include consideration of both listed and characteristic wastes that were present in the untreated wastes. In particular, Sandia/DOE will follow the requirements of 20 NMAC 4.1.200/40 CFR 261.3(g) [10-1-03] in characterizing wastes that are listed solely because they exhibit one or more of the characteristics of ignitability, reactivity, or corrosivity.

Wastes that are treated using technologies specified in 20 NMAC 4.1.800/40 CFR 268.40-45 [10-1-03] will not necessarily be subjected to sampling and analysis. Such treatment technologies include but are not limited to physical treatment, deactivation, and macroencapsulation. In these cases, treatment effectiveness will be determined by visual examination of the treated waste and/or knowledge of the treatment process as discussed in Section 8.0 of Modules II, III, and V. Other treated wastes will be subjected to sampling and analysis to characterize the waste and determine the effectiveness of the treatment as appropriate.

B.2.5.1 Treated Wastes at the TTF

Waste residues from the thermal treatment of explosive (reactive) waste at the TTF include decomposition by-products. The principal by-products are ash (carbon) produced from burned solid items (e.g., paper, filters) and gases (i.e., nitrogen, water vapor, carbon dioxide, carbon monoxide, diatomic oxygen, and traces of nitrous oxides) produced by the decomposition of SASN, PETN, acetone, and acetonitrile. Elemental silver is also present in the ash when SASN is treated at the TTF.

The reactive and ignitable characteristics of the residue at the TTF is assessed by visually screening the residue in the burn pan for the presence of unreacted SASN (and PETN, as applicable).

Ash residue generated as a result of the treatment of explosive waste at the TTF is declared to be hazardous waste (D011) based on knowledge of the constituents and treatment process. Alternatively, Sandia/DOE may* use sampling and analysis to determine the silver content of the residue. The contents of the burn pan are containerized and transferred to one of the other SNL/NM Units for storage and transportation to an off-site TSDF. Sandia/DOE will characterize the residue as needed for further treatment or direct disposal at a permitted off-site TSDF.

Because the TTF is located outside, the steel-lined concrete pad periodically collects water from precipitation; the water drains into the catch tank. Unless waste spills, untreated waste "kicks out" (i.e., is ejected from the burn pan) during treatment, or otherwise contaminates the steel-lined concrete pad, the water collected in the catch tank consists of precipitation. If water collected in the catch tank is known to be contaminated with hazardous waste constituents treated at the TTF, arrangements will be made for disposal into the City of Albuquerque wastewater system with a one-time notice placed in the facility file in accordance with 20 NMAC 4.1.800/40 CFR 268.7(a)(6) [10-1-03]. If the wastewater cannot be discharged into the City of Albuquerque wastewater system, it will be handled through waste management procedures at one of the other SNL/NM Units.

B.2.5.2 Treated Wastes at the RMWMF and AHCF

Effectiveness of treatment is determined one or more ways that are specific to the type of treatment and the waste undergoing treatment. Evaluations are described in detail in Section 8.3 of Modules III and V. Treated wastes and residues resulting from treatment of RCRA-regulated wastes at the RMWMF and AHCF are characterized using one or more of the following methods:

- Reactive metals, metal-containing particulates, and oxidizers treated by chemical deactivation at the RMWMF and AHCF are deactivated using water, a water/alcohol solution, other organic liquid, or portland cement. Alcohol and other organic liquids may* exhibit the characteristic of ignitability, and can typically be characterized using knowledge of the treatment process. Unit personnel use knowledge of process to determine whether the treated waste exhibits the hazardous waste characteristics of reactivity or ignitability, and the flash point test, as needed, for determination of ignitability. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Corrosive aqueous liquids treated by chemical deactivation at the RMWMF and AHCF are characterized for corrosivity through a pH check. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Reactive wastes treated by chemical deactivation at the RMWMF and AHCF are characterized for the presence of sulfides and cyanides through a chemical check if their presence caused the waste to be reactive. The treated wastes are analyzed for the presence of UHCs if they will not undergo further treatment on site.

- Reactive batteries and other reactive/explosive items treated by thermal deactivation at the RMWMF are characterized for reactivity through knowledge of the treatment process and operations. The wastes may* also exhibit the hazardous waste characteristic of toxicity. The treated wastes are characterized for the presence of UHCs through process knowledge or analysis if they will not undergo further treatment. Characterization for the presence of UHCs is not necessary if the wastes will be further treated through macroencapsulation either on site or off site.

- Elemental mercury treated by amalgamation at the RMWMF is not subject to further analysis.

- Aqueous liquids treated by stabilization at the RMWMF and AHCF (including liquids that have previously been neutralized) are checked for the presence of free liquids. The treated wastes are analyzed for the presence of UHCs reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Oils and organic liquids exhibiting the hazardous waste characteristic of toxicity that are treated by stabilization at the RMWMF and AHCF are characterized through process knowledge or sampling and analysis. The treated wastes are analyzed for the presence of the toxicity characteristic constituents and UHCs present or reasonably expected to be present in the untreated waste if they will not undergo further treatment on site.

- Soils and particulates exhibiting one or more of the hazardous waste characteristics of ignitability, reactivity, and toxicity are treated by deactivation and stabilization at the RMWMF and AHCF, and may* contain UHCs. The treated wastes no longer exhibit the characteristics of ignitability and reactivity. The treated wastes are characterized for toxicity (if applicable) through sampling and analysis. The treated wastes are analyzed for the presence of UHCs if they will not undergo further treatment on site.

- Wastes exhibiting the characteristic of toxicity and/or containing or contaminated with spent solvents that are treated by macroencapsulation at the RMWMF and AHCF are visually examined to determine whether treatment met the standards.

- Wastes treated by physical treatment include components containing listed wastes and/or exhibiting the characteristics of ignitability, reactivity, corrosivity, and/or toxicity. After the items are successfully detached and separated from larger items, both items are characterized as described in Section B.2.1.2 to determine whether they are RCRA-regulated wastes.

- Wastes that are treated to reduce the size of individual pieces at the RMWMF and AHCF do not undergo further characterization because the treatment does not affect hazardous waste constituents or characteristics of the waste.

- Liquids and pressurized containers treated by physical treatment at the RMWMF are characterized separately following treatment. If the containers are empty, they are no longer RCRA-regulated waste. The collected liquids are characterized in the same manner as mixed and blended wastes (described in Section B.2.3). If the liquids will not undergo further treatment on site, they are characterized to determine compliance with treatment standards applicable to all components, including the presence of UHCs in characteristic wastes.

B.2.6 Verification and Reevaluation Frequencies [20 NMAC 4.1.500/40 CFR 264.13(a)(3)(i) and 264.13(b)(4); 20 NMAC 4.1.800/40 CFR 268.7(b)]

Sandia/DOE will review air emissions data and status at least once every 12 months for RCRA-regulated wastes subject to 20 NMAC 4.1.500/40 CFR 264, Subpart CC [10-1-03].

As described in previous sections, initial generators and Unit personnel obtain and evaluate information to characterize individual RCRA-regulated wastes managed at the SNL/NM Units. The evaluation needed for a single waste item depends on the item.

The duration of the characterization and its applicability to wastes generated in the future depends on the type of waste. For example, information about the contents of each container of used laboratory chemicals is applicable only to that container; however, information about the chemical composition and hazardous waste characteristics of batteries is applicable to all batteries of the same type.

The Sandia/DOE waste verification process is designed to provide additional assurance that wastes are adequately characterized for management at the Units. The process applies to the verification of wastes and waste streams received at a Unit and designated for storage and/or treatment prior to off-site disposal. Treated wastes are characterized as described in Section B.2.5, and are not subject to the verification and reevaluation procedures described in this section. Unit personnel involved in verification activities are trained and qualified for the activities they perform.

B.2.6.1 Verification of Wastes

Wastes are selected for further evaluation as part of the verification program using one or more of the following criteria:

- Random selection;
- Adequacy of information previously provided by the initial waste generators;
- Recommendations from Unit personnel;
- Incomplete or inconsistent documentation; and
- Other waste-specific criteria.

During each calendar year, Sandia/DOE will verify the characterization using personnel independent of the initial waste characterization for one percent of the SNL/NM RCRA-regulated waste items that meet all of the following conditions:

- The waste is received at a SNL/NM Unit for storage or treatment,
- The waste is not part of a waste stream,
- The waste was initially characterized through acceptable knowledge,
- The waste is not a commercial chemical product, off-specification species, container residue, or spill residue identified in 20 NMAC 4.1.200/40 CFR 261.33 [10-1-03],
- The waste is not material in a factory-sealed container or original container, and
- The information that would be obtained during the verification is needed for further management of the waste at the SNL/NM Unit (i.e., the verification will be limited to necessary information).

Once the waste is selected for verification, Unit personnel will be notified of its pending arrival at a Unit. Some wastes may* only require a visual verification of the container's contents. If the visual verification of a container's contents is found to be inconsistent with the initial generator's waste characterization documentation, further verification is required, and Unit personnel will decide whether to accept the waste for management pending resolution of the discrepancy. Depending on the severity of the discrepancy, the initial waste generator may* be subject to increased review.

For wastes that were initially characterized using acceptable knowledge, the independent personnel will review applicable waste characterization documentation to verify that it adequately describes the wastes. Verification analyses, if needed, will be conducted at SNL/NM or an approved laboratory, in conformance with appropriate methods (discussed in Section B-4).

B.2.6.2 Reevaluation of Waste Streams

Characterization information for routinely generated waste streams is evaluated periodically to verify that they have not changed. Any information that indicates a change in the process that generates the waste and may* affect the waste will cause the waste to be recharacterized no later than the next time the waste is generated.

In addition to the verification activities described above for individual wastes, Sandia/DOE will reevaluate initial characterization information for routinely generated RCRA-regulated waste streams as needed for any of the following reasons (Routinely generated waste streams are those that are generated at least once per month in quantities of 30 gallons or greater):

- To verify the accuracy of the initial waste characterization when Unit personnel suspect the characterization is not accurate;
- To verify that applicable treatment standards have been met for those wastes treated at one of the SNL/NM Units;

APPENDIX C

SITE-WIDE INSPECTION PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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Figure C-1
Resource Conservation and Recovery Act (RCRA)-Regulated Waste Management Unit Daily Inspection Form – Example

1. Area(s) Inspected (i.e., Loading/Unloading Area, Treatment Area) _____
2. Structure(s) Inspected (i.e., HWMF, TTF, RMWMF, AHCF, MSB Bunker #)
3. Inspection Date _____
4. Inspection Time _____ am/pm
5. Inspector Name (print) _____

5. Loading/ Unloading Area(s)[a]	Inspection Criteria	Yes	No	NA ( ) load	Corrective Action Issue	Corrective Action Taken and Closure Date
Loading/Unloading Area[c]	Good condition, safe working surface, no spills					
Waste Handling Equipment[c]	Good condition, operational					
Container(s) Loaded/ Unloaded	Good condition					

6. Treatment Area(s)[b,c]	Inspection Criteria	Yes	No	NA ( ) treat	Corrective Action Issue	Corrective Action Taken and Closure Date
Treatment Area	Good condition					
Treatment Unit and/or Equipment (e.g., hand tools, containers)	Good condition (i.e., no releases or corrosion), maintains established parameters					
Monitoring Equipment	Good condition, operational					

7. Comments and Notes Comment on deficiencies by referencing section and question.

Inspector Signature: _____

Immediately file the completed inspection form in the Unit operating record.

[a] Required on days loading/unloading operations involving RCRA-regulated wastes are conducted.
[b] Required on days treatment operations involving RCRA-regulated wastes are conducted.
[c] Required monthly with facility operating and structural equipment if RCRA-regulated wastes are not managed at Unit during the month.

Figure C-2
Resource Conservation and Recovery Act (RCRA)-Regulated Waste Management Unit Weekly/Monthly Inspection Form – Example

1. Structure(s) Inspected (i.e., HWMF, TTF, RMWMF, AHCF, MSB Bunker #) _____
2. Inspection Date _____ 5. Monthly ☐
3. Inspection Time _____ am/pm Weekly ☐
4. Inspector Name (print) _____

6. Status[a]	Inspection Criteria	Yes	No
RCRA-regulated waste currently stored at Unit	Storage status (Yes–waste present, No–waste not present)		
RCRA-regulated waste currently undergoing treatment at Unit	Treatment status (Yes–waste present, No–waste not present)		

7. Safety & Emergency Equipment[b]	Inspection Criteria	Yes	No	NA ( ) weekly	Corrective Action Issue	Corrective Action Taken and Closure Date
Spill Control Equipment	Present, good condition					
Fire Extinguisher(s)	Present, good condition, charged					
Decontamination Equipment	Present, good condition					
External Communication System	Present, operational					
Internal Communication and Alarm System	Present, operational					
Fire Suppression System (e.g., Water, Dry Chemical)	Present					

8. Security Devices[b]	Inspection Criteria	Yes	No	NA ( ) weekly	Corrective Action Issue	Corrective Action Taken and Closure Date
Facility Fence	Good condition					
Gate(s) and Door(s)	Operational					
Warning Sign(s)	Present, legible					
Lock(s) and Tamper Indication Device(s)	Present, good condition					

Refer to footnotes at end of form.

APPENDIX E

SITE-WIDE CONTINGENCY PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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SITE-WIDE CONTINGENCY PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO

This appendix presents site-wide contingency measures applicable to all Resource Conservation and Recovery Act (RCRA)–regulated waste management units (Unit) at Sandia National Laboratories/New Mexico (SNL/NM), co-operated by Sandia Corporation (Sandia) and the U.S. Department of Energy (DOE). Unit-specific Contingency Plan information is provided in Section 6.0 of each Unit-specific module. Together, information in the General Part B, in this appendix, and in each Unit-specific module meets the applicable regulatory requirements.

This Contingency Plan is intended to meet the requirements specified in the New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart V (20 NMAC 4.1.500), adopting by reference the Code of Federal Regulations, Title 40, Part 264 (40 CFR 264), Subpart D, revised October 1, 2003 [10-1-03], "Contingency Plan and Emergency Procedures," and 20 NMAC 4.1.900/40 CFR 270.14(b)(7) [10-1-03], for hazardous waste treatment, storage, or disposal facilities.

The provisions of this Contingency Plan will be carried out immediately to minimize hazards whenever there is an emergency, as required by 20 NMAC 4.1.500/40 CFR 264.51(b) [10-1-03].

E.1 SNL/NM SITE DESCRIPTION

SNL/NM is a multidisciplinary laboratory engaged in research and development of weapons and alternative energy sources. SNL/NM is managed by Sandia, a wholly owned subsidiary of Lockheed Martin, for the DOE, with work also performed for others. SNL/NM falls under North American Industry Classification System Numbers 92811 (National Security) and 54171 (Research and Development in the Physical, Engineering, and Life Sciences).

SNL/NM is located on Kirtland Air Force Base (KAFB) immediately southeast of the Albuquerque city limits in Bernalillo County, New Mexico. SNL/NM occupies an area of approximately 2,842 acres (1,150 hectares) within the 80-square-mile KAFB. SNL/NM consists of five Technical Areas, I through V, and remote test areas situated in the eastern half of KAFB (Figure E-1).

E.1.1 Unit Descriptions

The Units subject to 20 NMAC 4.1.500/40 CFR 264, Subpart D [10-1-03] and this Contingency Plan are listed in Table E-1. Additional detail about each Unit is provided in Section 6.0 of each Unit-specific module.

E.1.2 Waste Description

RCRA-regulated wastes at SNL/NM are generated primarily from laboratory research activities, process operations, and environmental restoration activities. Typical laboratory research waste includes bottles of excess or residual chemical mixtures and solutions, and solid laboratory items

Table E-1
RCRA – Regulated Waste Management Units Included in Contingency Plan

Name	Acronym	Location, size	Types of operations	Operating hours	Staff
Hazardous Waste Management Facility	HWMF	South of TA-I, north of entrance to TA-II. Includes Buildings 958, 959. 1.35 acres	Storage, Repackaging	M-F 8:00 am 4:30 pm	Staffed during operating hours
Thermal Treatment Facility	TTF	Northern part of TA-III, south of Building 6715. 196 square feet	Treatment	M-F 7:00 am 5:00 pm	Staffed only during operations at Unit
Radioactive and Mixed Waste Management Facility	RMWMF	Southeast corner of TA-III. Includes Buildings 6920, 6921, 6925, and 6926. 3.11 acres	Storage, Treatment, Repackaging	M-Th 7:00 am – 5:30 pm	Staffed during operating hours
Auxiliary Hot Cell Facility	AHCF	TA-V, Building 6597. 5578 square feet	Storage, Treatment, Repackaging	M-F 8:00 am – 4:30 pm	Staffed during operating hours
Manzano Storage Bunkers	MSB	In Manzano Area on KAFB. 0.4 acres occupied by 5 bunkers (approximately 1600 to 2100 square feet in each bunker)	Storage	M-Th 7:00 am – 5:30 pm	Staffed only during operations at Unit
Corrective Action Management Unit	CAMU	Southeast corner of TA-III. Includes containment cell located due north of RMWMF.	Post-closure monitoring of containment cell.		Staffed only during monitoring operations at Unit.
Chemical Waste Landfill	CWL	Southeast corner of TA-III. Includes landfill located due east of RMWMF.	Landfill undergoing closure.		Staffed only during closure and monitoring operations at Unit.

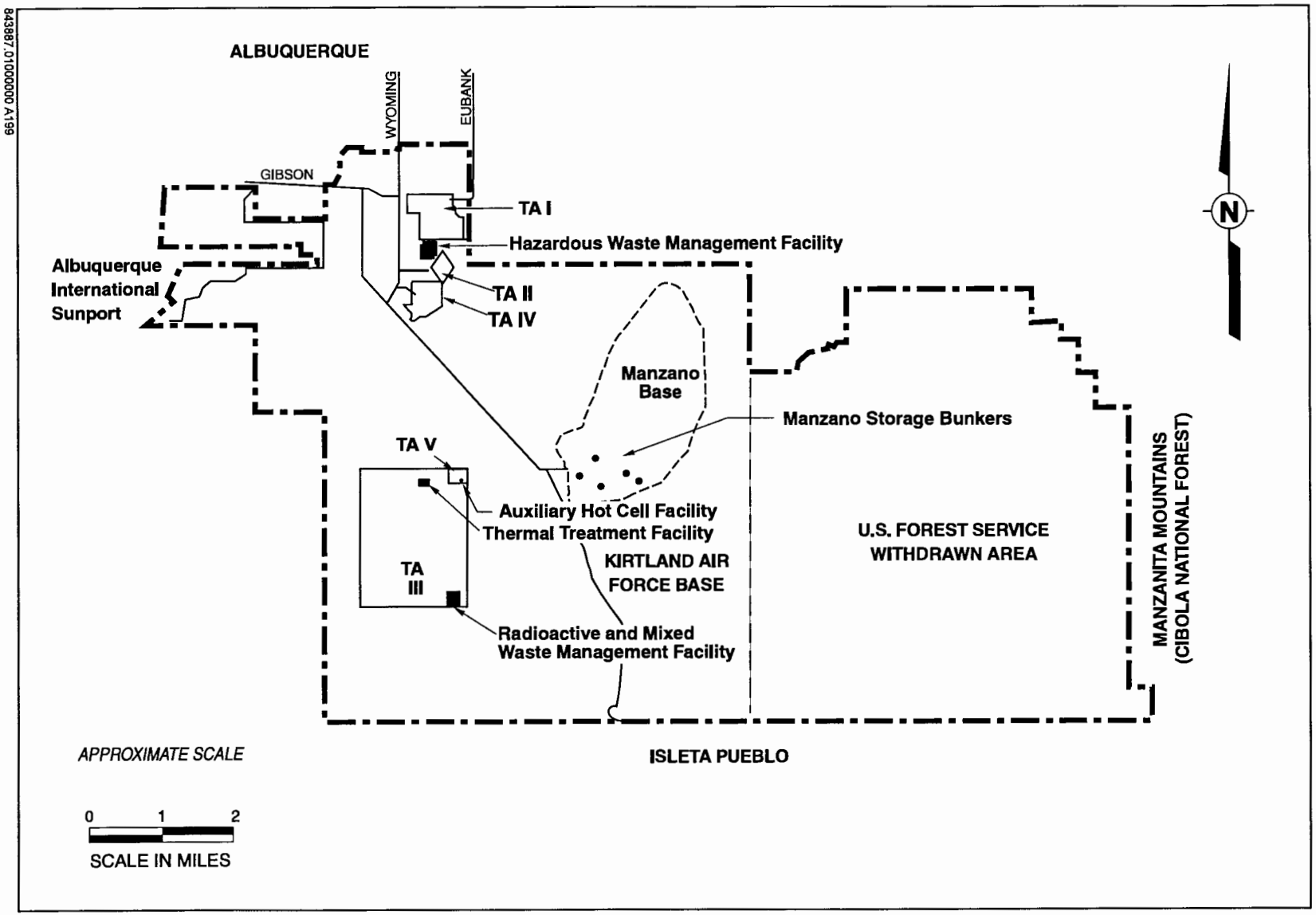

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Figure E-1

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

APPENDIX F

SITE-WIDE CLOSURE PLAN FOR SANDIA NATIONAL LABORATORIES/NEW MEXICO RESOURCE CONSERVATION AND RECOVERY ACT-REGULATED WASTE MANAGEMENT UNITS

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LIST OF FIGURES

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F-1	Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2*XX*, Section 2*XX.XX*
AHCF	Auxiliary Hot Cell Facility
ASTM	American Society for Testing and Materials
DOE	U.S. Department of Energy
DQO	data quality objective
EPA	U.S. Environmental Protection Agency
HWMF	Hazardous Waste Management Facility
NAAG	National Association of Attorneys General
NMED	New Mexico Environment Department
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
SAP	sampling and analysis plan
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
TSDF	treatment, storage, or disposal facility
TTF	Thermal Treatment Facility
Unit	RCRA-regulated waste management unit
WMA	waste management area

- Only those areas (e.g., floor grids) that do not meet closure criteria (based on results from rinse water sampling) will require further decontamination and verification sampling.

- Before transport off site or use elsewhere on site, all equipment used for closure will be decontaminated via scraping and rinsing with high pressure water, steam, or other appropriate industrial cleaning solution until no visible evidence of contamination is present. Equipment decontamination may be performed in a specific decontamination staging area with adequate containment.

- Used wash water and rinse water may be discharged into the City of Albuquerque sewer treatment system, provided the results of sampling and analysis meet the criteria of the discharge permit.

- Most personal protective equipment, plastic sheeting, and sampling equipment used by personnel performing decontamination activities will be disposable. These materials will be placed in containers and characterized to determine if they are RCRA-regulated wastes, in accordance with all applicable requirements of 20 NMAC 4.1.200/40 CFR 261 [10-1-03].

- Any RCRA-regulated wastes generated during closure (e.g., equipment, contaminated floor sweepings) will be managed in accordance with all applicable requirements of 20 NMAC 4.1.300/40 CFR 262.34 [10-1-03], pending arrangements for transfer to an active SNL/NM Unit or an off-site permitted TSDF.

- Sandia/DOE may propose improved decontamination technologies or an alternative demonstration of decontamination at the time of closure. This information would be submitted to NMED prior to implementation of closure in a revised Unit-specific closure plan.

- Sandia/DOE will continue the long-standing practice of providing radionuclide data to NMED on a voluntary basis, in accordance with: 1) the joint guidance developed by the National Association of Attorneys General (NAAG), (NAAG, 1998), and 2) the data-sharing provisions of the current Agreement-in-Principle between DOE and the State of New Mexico (DOE, 2000).

The following sections describe decontamination procedures applicable to specific types of Units.

F.5.2.1 Treatment Units

The closure processes described below are appropriate for indoor storage areas and for indoor areas at Units where treatment in containers occurs (i.e., the Radioactive and Mixed Waste Management Facility and the Auxiliary Hot Cell Facility). The closure processes described below are also appropriate for the Thermal Treatment Facility (TTF) treatment equipment. Closure activities (if needed) for areas immediately surrounding the TTF treatment equipment are addressed in the SAP in Section 7.5 of Module II.

Many of the closure processes appropriate for floor surfaces in storage and treatment areas are also appropriate for large pieces of equipment (e.g., fume hoods). The processes for equipment

decontamination are described in the following section. Alternatively, Sandia/DOE may choose to manage treatment equipment (e.g., exhaust ductwork from fume hoods in treatment areas) as solid waste.

F.5.2.2 Container Storage Units

The decontamination procedures described below are designed to satisfy closure performance standards by describing the steps taken to remove or decontaminate all RCRA-regulated waste residues and contaminated containment system components, equipment, and structures during closure. Soil and groundwater are not expected to be impacted by operations at container storage Units, as the Units are located inside buildings for protection from the weather, are equipped with impermeable secondary containment systems, and are regularly inspected and maintained.

The decontamination techniques described below apply to hardened surfaces present in container storage Units (e.g., asphalt, concrete, sheet plastic, and metal). These surfaces may include floors, secondary containment structures, and miscellaneous equipment. Not all steps will be required for each surface; some steps are contingent on the outcome of prior steps. The procedures described below are intended to allow structures and equipment in the Units to be returned to service in the management of non-RCRA regulated materials, and may be revised before closure to incorporate new practices or technology.

- Remove gross residual material (e.g., soil from floors) using brooms, mechanical sweepers, or similar equipment.
- Collect a composite grab sample of the floor sweepings to be analyzed for the indicator parameters identified in Unit-specific SAPs.
- Inspect all surfaces for cracks or gaps prior to decontamination.
- Formulate a wash solution of water and non-phosphate detergent for decontamination. Prior to use, collect a grab sample of the wash solution to be analyzed for the indicator parameters identified in Unit-specific SAPs.
- Wash appropriate hardened surface areas (e.g., floors, secondary containment, non-disposable equipment) with the non-phosphate detergent solution. Large areas to be washed will be cleaned according to grids established in Unit-specific SAPs. Washing may be done with mops/sponges or with pressure washers, depending on the degree of contamination or other conditions at the time of closure.
- Use portable berms or other containment structures (e.g., enclosed areas covered with polyethylene sheeting) to contain and collect decontamination wash and rinse waters.
- Allow surfaces to air dry.
- Conduct a walk-through visual inspection of all decontaminated surfaces.

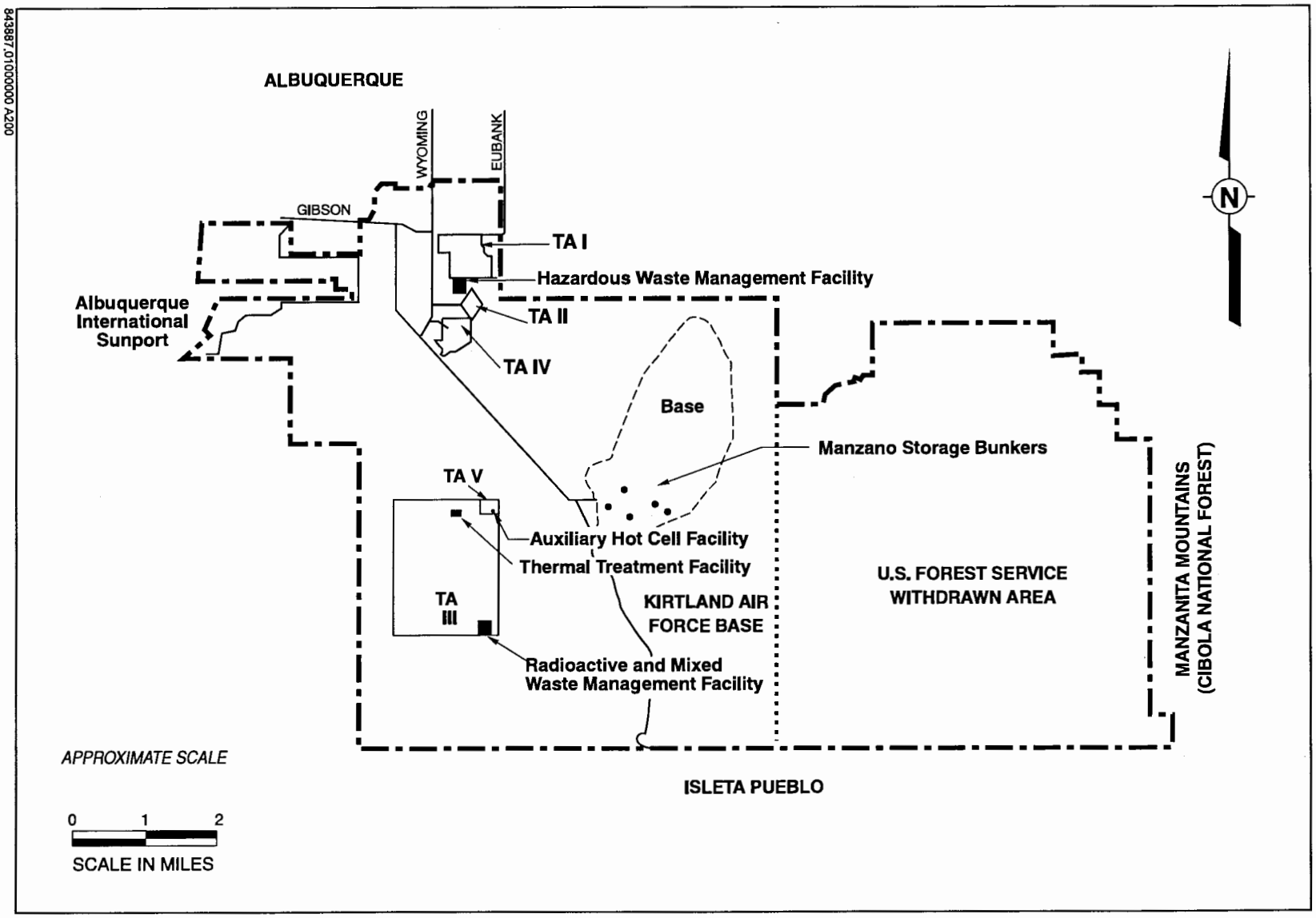

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Figure F-1

Sandia National Laboratories/New Mexico, Technical Areas (TAs) and Resource Conservation and Recovery Act-Regulated Waste Management Units

Sandia National Laboratories/New Mexico Radioactive and Mixed Waste Management Facility Part B Permit Application

Module III

Revision 6.0

October 2005

Prepared by
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Prepared for
The U.S. Department of Energy

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ACRONYMS AND ABBREVIATIONS

20 NMAC 4.1.*X*00	New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subpart *X*
40 CFR 2*XX.XX*	Code of Federal Regulations, Title 40, Part 2XX, Section 2*XX.XX*
CMU	concrete masonry unit
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ft	foot/feet
ft^2	square foot/feet
HSWA	Hazardous and Solid Waste Amendments
in.	inch(es)
lb/ft^2	pound(s) per square foot/feet
NMED	New Mexico Environment Department
QA/QC	quality assurance/quality control
RCRA	Resource Conservation and Recovery Act
RMWMF	Radioactive and Mixed Waste Management Facility
SAP	sampling and analysis plan
Sandia	Sandia Corporation
SNL/NM	Sandia National Laboratories/New Mexico
SWMU	solid waste management unit
TA	Technical Area
TSDF	treatment, storage, and disposal facility
Unit	RCRA-regulated waste management unit
WMA	waste management area

SANDIA NATIONAL LABORATORIES/NEW MEXICO RADIOACTIVE AND MIXED WASTE MANAGEMENT FACILITY PART B PERMIT APPLICATION

This Sandia National Laboratories/New Mexico (SNL/NM) Radioactive and Mixed Waste Management Facility (RMWMF) Part B Permit Application is submitted to address the New Mexico Administrative Code, Title 20, Chapter 4, Part 1, Subparts V and IX (20 NMAC 4.1.500 and .900), revised October 1, 2003 [10-1-03], requirements specific to Resource Conservation and Recovery Act (RCRA)-regulated waste container storage and treatment operations at the RMWMF. 20 NMAC 4.1.500 and .900 adopt by reference, with limited exceptions, all of the Code of Federal Regulations, Title 40, Parts 264 and 270 (40 CFR 264 and 270).

Sandia Corporation (Sandia) and the U.S. Department of Energy (DOE), as co-operators of the SNL/NM site, have prepared and revised this module to provide Unit-specific details that supplement the information provided in the "Sandia National Laboratories/New Mexico General Part B Permit Renewal Request/Application," hereinafter referred to as the General Part B. Together, information provided in this module, in the General Part B, and in the appendices to the General Part B meet the applicable requirements for the RMWMF that are specified in 20 NMAC 4.1.500/40 CFR 264 [10-1-03], and 20 NMAC 4.1.900/40 CFR 270 [10-1-03].

Sandia/DOE also prepared the "Sandia National Laboratories/New Mexico General Part A Permit Renewal Request/Application, Rev. 7.0" (SNL/NM, 2004), hereinafter referred to as the General Part A, included as Part 1 of this comprehensive Part B permit request. The General Part A serves as a companion document to the General Part B and Unit-specific Part B modules, including this RMWMF Part B Permit Application.

In the General Part A, the General Part B, its appendices, and this module, a Unit to be permitted may sometimes be referred to as a "facility" (e.g., Radioactive and Mixed Waste Management Facility). The term "facility," as it appears in this context, is used only to denote a building or Unit name and does not imply the regulatory meaning of "facility" as defined in 20 NMAC 4.1.100/40 CFR 260.10 [10-1-03]. However, pursuant to 20 NMAC 4.1.100/40 CFR 260.10 [10-1-03], the SNL/NM site as a whole does meet the regulatory definition of a facility.

Sandia/DOE currently operate the RMWMF under interim status in accordance with the terms of the most recent Part A submitted to the New Mexico Environment Department (NMED) (November 29, 2004) and the most recent Part B permit request submitted to NMED (November 29, 2004).

Sandia/DOE planned to make physical modifications to the existing RMWMF during the next three years to increase capacity, and the modified facility would have been called the Consolidated Waste Management Facility. Sandia/DOE have decided not to make these modifications, and will continue to operate the existing RMWMF under interim status as described above.

The RMWMF occupies 3.11 acres in the southeast corner of Technical Area (TA)-III. It is a fenced compound with several buildings and waste management areas (WMAs). Operations include storage of RCRA-regulated wastes in containers, repackaging wastes, and treating the wastes as needed to render them more suitable for shipment to off-site treatment and/or disposal facilities. All of the RCRA-regulated wastes listed in the General Part A may be managed at the RMWMF.

1.0 GENERAL UNIT OPERATIONS

This section provides descriptions of the RMWMF waste management areas (WMAs) and specific waste management practices. The information in this section complements the information provided in Section 1.0 of the General Part B.

Specific information in this section regarding Unit operations includes: containment systems; requirements for ignitable, reactive, and incompatible wastes; preparedness and prevention; hazards prevention; and container storage of RCRA-regulated wastes. Treatment practices are discussed in Section 8.0 of this module.

The specific information provided and documents referenced in this section, together with the general information provided in Section 1.0 of the General Part B, address the applicable hazardous waste management facility requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts I, AA, BB, and CC [10-1-03], and 20 NMAC 4.1.900/40 CFR 270.14 and 270.15 [10-1-03].

1.1 Designated Waste Management Areas

The location of the RMWMF at SNL/NM is shown on Figure 1. The location of the RMWMF within TA-III is shown on Figure 2. The RMWMF has six designated WMAs (Figure 3). Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and the outdoor waste storage area (i.e., paved areas within the RMWMF fence to the north, east, and west of Building 6920) are included in the RMWMF.

In each RMWMF WMA (except where noted), containers holding RCRA-regulated liquid wastes are stored on portable spill pallets or pans. These are commercially available units consisting of a tub made of a heavy-duty inert material such as polyethylene or polypropylene with a heavy-duty inert plastic grating cover. They are designed to be resistant and impervious to corrosives, solvents, and other liquids. The containers of liquids (typically 5- to 55-gallon capacity) are stored on the grating. Any liquids released from the containers drain through the grating into the tub. The pallets come in various sizes and capacities, they are designed for use with 55-gallon drums or other standard containers, and they meet the requirements of 20 NMAC 4.1.900/40 CFR 270.15[a] and [b] [10-1-03] and 20 NMAC 4.1.500/40 CFR 264.175(b)(1-3) [10-1-03].

Each pallet has sufficient capacity to hold the contents of the largest container of liquid stored on it. Containers are not stacked on each other on the pallets. Because the spill pallets are designed to hold containers of liquids, the weight of the containers does not exceed the load-bearing capacity of the grating or the pallet.

RCRA-regulated wastes are typically stored inside one of the buildings or inside transportainers in the outdoor storage area. The containers are protected from precipitation by the buildings and transportainers, and by the slope of the asphalt pavement and concrete pads outside the buildings that direct storm water away from the doorways, meeting the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(4).

The following sections provide descriptions of the features, location and capacity of each WMA. Treatment practices are summarized in Section 1.4 and discussed in detail in Section 8.0 of this module.

1.1.1 Building 6920

The principal structure at the RMWMF is Building 6920. The floor plan for Building 6920 is presented on Figure 4. The WMAs in Building 6920 include waste staging, repackaging, and storage areas, and waste treatment areas. Building 6920 is a single-story concrete and steel structure housing approximately 5,000 square feet of RCRA-regulated waste management area. The floors are 6-inch (in.) reinforced, sealed concrete on compacted subgrade sloped to sumps with no outlets. Walls are 8-in. load-bearing concrete masonry unit (CMU) with prefinished metal building panels in some areas. Nongrouted cells of the 8-in. CMU exterior walls are filled with vermiculite insulation. The staging area at the east end of the building has 14-foot (ft) high reinforced concrete walls. The exterior walls are 2-ft thick, interior walls are 1-ft thick, and the shared wall between the north and south parts of the building is 1.5-ft thick. Inner partitions are 8-in. reinforced CMU.

The roof consists of 24-in. deep steel joists with a 1.5 in. metal deck with 3-in. rigid insulation and a single-ply roof membrane. The roof system is a single-ply fully adhered elastomeric system, installed over rigid insulation with factory-laminated fiberglass-coated skin on both sides, and attached to the deck with metal fasteners. Ceilings are exposed and painted.

Building 6920 consists of two bays (north and south) that are isolated from each other by a wall, with an interior airlock and office area near the west end of the building.

There are seven exterior personnel doors and four cargo entrances to the building, as well as separate entrances to the exterior mechanical and electrical rooms. The personnel doors provide access to the north and south bays and to all sides of the building. There is a cargo entrance (i.e., roll-up door) at each end of each bay. Rollup doors enclose the airlocks on the south bay.

Two enclosed areas within the north bay (shown in Figure 4) are equipped with a negative-pressure exhaust system. There are four small rooms in the south bay (Figure 4). One commercially available fume hood with a negative-pressure ventilation system is located in one of these rooms. Another local ventilation system is located in another of the rooms. The ventilation system air flow from the north bay passes through a high-efficiency particulate air (HEPA) filter train before being released to the environment through an exhaust stack. The air flow from the systems in the south bay is combined and passes through a separate HEPA filter train before being released to the environment through the exhaust stack. The filters effectively remove particulates entrained in the air flow of each system.

North Bay

Waste treatment, storage, and repackaging are performed in the north bay of Building 6920 (Figure 4). The storage capacity of the north bay is approximately 6,000 gallons of RCRA-regulated wastes. Treatment currently includes physical treatment and macroencapsulation.

The floor in the north bay currently slopes from the doorways toward one or more shallow (6-in.-deep) blind sumps covered with grating. Containers of liquid RCRA-regulated wastes are stored on portable spill pallets or pans. Floors, (including the sumps), and the walls in the WMAs of Building 6920 are sealed with a chemical-resistant epoxy, which withstands degradation by chemical substances and resists wear from forklift traffic. The sumps and pallets meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4).

The RMWMF north bay includes two enclosed areas (shown in Figure 4) that are equipped with a negative-pressure exhaust system. The exhaust passes through a high-efficiency particulate air (HEPA) filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

South Bay

Waste treatment, storage, and repackaging are performed in the south bay of Building 6920 (Figure 4). Wastes are stored in the main bay and in the airlocks at either end. Treatment in the south bay currently includes chemical and thermal deactivation, stabilization, amalgamation, macroencapsulation, and physical treatment. The current storage capacity of the south bay and airlocks is 7,420 gallons.

The floor in the south bay slopes from the doorways toward one or more shallow (6-in.-deep) blind sumps covered with grating which provide secondary containment. Containers of liquid RCRA-regulated wastes are typically stored over or near the sumps in the south bay or on portable spill pallets or pans. Floors, (including the sumps), and the walls in the WMAs of Building 6920 are sealed with a chemical-resistant epoxy, which withstands degradation by chemical substances and resists wear from forklift traffic. The sumps and pallets meet the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4).

There are four small rooms in the south bay (Figure 4) where personnel typically conduct treatment and storage. One commercially available fume hood with a negative-pressure ventilation system is located in one of these rooms. Another local ventilation system is located in another of the rooms. The exhaust from both of these systems is combined and passes through a HEPA filter train before being released to the environment through the exhaust stack. The filters effectively remove particulates entrained in the air flow of each system.

1.1.2 Building 6921

The Waste Assay Facility (Building 6921) is located east of Building 6920 (Figure 3) in the RMWMF. Unit personnel treat, repackage, and store wastes in the WMAs. The Building 6921 floor plan is presented on Figure 5. Building 6921 is a single-story structure constructed with interior walls of 8-in. CMU and metal studs. The roof is comprised of steel bar joists with metal

decking, rigid insulation, and single-ply membrane roofing. The floors are 6-in.-thick concrete slab-on-grade. The floors in the assay area on the south side of the building are sealed with a chemical-resistant epoxy that extends up the walls for 6 in. The floors in the other two WMAs are also coated. The total WMA is approximately 1,450 ft^2 with a maximum capacity of approximately 7,810 gallons.

Building 6921 (waste treatment area, shown on Figure 5) is equipped with a commercially available fume hood with a negative-pressure ventilation system. The exhaust from the hood passes through a HEPA filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

Treatment in Building 6921 includes chemical and thermal deactivation, stabilization, amalgamation, macroencapsulation, and physical treatment.

1.1.3 Buildings 6925 and 6926

Buildings 6925 and 6926 are used for storage and some treatment of RCRA-regulated waste at the RMWMF. Treatment consists of macroencapsulation (Building 6925).

The floor plans for RMWMF Buildings 6925 and 6926 are presented on Figure 6. Building 6925 has a total storage area of approximately 4,000 ft^2 with a maximum capacity of approximately 83,160 gallons. Building 6926 also has a total storage area of approximately 4,000 ft^2 with a maximum capacity of approximately 83,160 gallons. Each is a prefabricated steel building erected on a reinforced concrete slab floor and foundation. The concrete floors in both buildings are covered with chemical-resistant epoxy coating. Steel rollup doors are located on the south wall of each building, on the east wall of Building 6925, and on the west wall of Building 6926. Personnel doors are located on the east, south, and west sides of each building.

1.1.4 Modular Storage Buildings (TP150 and TP153)

There are two modular storage buildings located west of Building 6920 that are used for storage of RCRA-regulated reactive and ignitable/flammable wastes (Figure 3).

The exterior dimensions of each modular storage building are 23-ft long, 9-ft wide, and 8.6-ft high. The structures are constructed for a snow loading of 40 pounds per square foot (lb/ft^2), Uniform Building Code seismic Zone 3, and a wind loading with exposure C open area at 110 miles per hour. The walls and roof of each structure are rated for a 2-hour fire. Each building has two 5-ft wide doors, and each door has a single-point locking mechanism with inside safety release. Each building is vented. The inside walls and ceiling of each building are covered with an epoxy coating which is resistant to reactive wastes.

Each modular storage building has a 5.5-inch-deep integral spill containment reservoir under the entire building; the capacity is 650 gallons. The secondary containment capacity is 10% of the stored volume of the contents of the largest container; thus, the storage capacity based on secondary containment is 6500 gallons. The secondary containment meets the requirements of 20 NMAC 4.1.500/40 CFR 264.175(b)(1-4). The reservoirs are constructed of 10-gauge American Society for Testing and Materials A36 steel and are coated with a chemical-resistant

epoxy. The building floors are epoxy-coated steel grating. Each building rests on structural supports that elevate it and allow visual checks of the underside of the spill containment reservoir if there is evidence of deterioration on the interior surfaces. The maximum storage capacity at each building is not based on secondary containment. It is approximately 1,100 gallons.

1.1.5 Outdoor Waste Storage Area

The outdoor waste storage area consists of the asphalt paved areas to the north, east, and west of Building 6920 and within the RMWMF fence (Figure 3). The outdoor waste storage area may be used for containerized storage of RCRA-regulated wastes. It has an area of approximately 48,500 ft^2 with a total storage capacity of approximately 19,800 gallons. The area is curbed and paved with berms on the east end of the site, and slopes toward the water retention pond. In the event of any releases of liquids in the outdoor storage area, the curbing and berms and the retention pond would capture released liquids, including precipitation so that any contaminants would not exit the site.

Containers of RCRA-regulated wastes are typically stored inside enclosed steel transportainers, which are 10- to 40-cubic-yard transportable containers. A transportainer typically has doors at one end and can be lifted onto a large flatbed truck for transportation.

1.2 Unit Operations

The RMWMF WMAs are and will be used to store any of the RCRA-regulated wastes bearing U.S. Environmental Protection Agency Hazardous Waste Numbers listed in the General Part A. Many of the wastes may also be treated in the RMWMF WMAs; specific treatment operations are discussed in Sections 1.4 and 8.0 of this Module.

Information regarding operations requiring a permit at all RCRA-regulated Units at SNL/NM is included in Section 1.1 of the General Part B. Additional Unit-specific information is provided in the following sections.

1.2.1 Operation of Containment Systems (20 NMAC 4.1.900/40 CFR 270.14 [b][8][ii] and 270.15[a] and [b]; 20 NMAC 4.1.500/40 CFR 264.175[b][5])

Liquid wastes released from individual containers will accumulate in the spill pallets. Unit personnel begin taking action to evaluate and remove accumulated liquids in the spill pallets and sumps (in Building 6920) upon discovery. Accumulated liquids are cleaned up as described in Section 1.1.1 of the General Part B.

1.2.2 Requirements for Ignitable, Reactive, and Incompatible Wastes (20 NMAC 4.1.900/40 CFR 270.14[b][9] and 270.15[d]; and 20 NMAC 4.1.500/40 CFR 264.17, 264.176, and 264.177)

Any of the ignitable or reactive wastes listed in the General Part A may be managed at the RMWMF. Sources of ignition that may be present at the RMWMF are those noted in Section 1.1.2.1 of the General Part B: welding activities, open flames, hot surfaces, frictional heat, radiant heat, sparks, and engines. Unit personnel employ the general precautions and practices described in Section 1.1.2 of the General Part B. Additional RMWMF-specific features, potential ignition and reaction sources, precautions, and practices include:

- The modular storage buildings are grounded by a 10-ft-long grounding rod and cable. They are equipped with a dry chemical fire suppression system to assure that water-reactive wastes will not be exposed to water during fire emergencies.

- Ignitable and reactive wastes are segregated from other wastes and typically stored in the modular storage buildings. The modular storage buildings have exterior signs indicating the presence of ignitable/flammable and reactive wastes.

- Ignitable and reactive wastes may also be stored in Building 6925, and may be kept temporarily in Buildings 6920, 6921, and 6926 for treatment, packaging, and staging for shipment. Individual containers are labeled as described in Section 1.2.1 of the General Part B, and they are kept apart from other wastes.

- Water-reactive wastes are not routinely stored in areas equipped with water sprinklers for fire suppression. They may be managed temporarily in Buildings 6920, 6921, 6925, and 6926 for treatment, packaging, and staging for shipment. If water-reactive wastes are present, they will be isolated from water contact as described in Section 1.1.2.1 of the General Part B, and their location will be identified through the use of signs, labels, or some other method.

- Containers of wastes are labeled and segregated according to compatibility criteria in 20 NMAC 4.1.500/40 CFR 264 Appendix V. The liquids in containers that are stored together on a spill pallet must be compatible with each other. The spill pallet provides an independent containment system. Likewise, only compatible solids are stored together on a pallet. The pallets of wastes are segregated into different rows and areas; each row or area containing only compatible wastes. Ignitable and reactive wastes are segregated from other wastes in this manner.

- Forklifts are not used for waste movement near treatment operations involving ignitable or reactive wastes in Building 6920 to minimize potential sources of ignition while containers are or may be open.

- Wastes are mixed together on a very limited basis during the treatment and repackaging operations at the Unit. Ignitable and reactive wastes are treated or mixed on a case-by-case basis. Unit personnel plan each such operation carefully to identify the hazards and potential consequences. Personnel use waste characterization data and/or published chemical information (e.g., "NIOSH Pocket Guide to Chemical Hazards"

[DHHS, 1994] or other chemical or engineering handbook) for each waste in the planning process. Personnel then conduct the operations according to the plan in order to control the hazards and prevent uncontrolled reactions. Treatment operations are described in Section 8.0 of this module.

1.2.3 Preparedness and Prevention (20 NMAC 4.1.5.500/40 CFR 264, Subpart C and 20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address required equipment, testing and maintenance of equipment, and access to communications or alarm systems at the RMWMF.

1.2.3.1 Required Equipment (20 NMAC 4.1.500/40 CFR 264.32)

General information about fire hydrants is provided in Section 1.1.3.1 of the General Part B. The fire hydrants at the RMWMF are shown in Figure 12.

The modular storage buildings are grounded by a 10-ft-long grounding rod and cable.

All buildings at the RMWMF are equipped with automatic fire suppression systems, summarized in Table 1.

Table 1
Fire Suppression Systems at the
Radioactive and Mixed Waste Management Facility

Building	Applicable NFPA Standard[a]	Sprinkler Design Occupancy Classification	System Type	Sprinkler Actuation[b]
6920 (general area)	13	Ordinary/Group 2	Automatic sprinkler, wet pipe	GB/FS
6920 (small rooms)	13	Extra/Group 1	Automatic sprinkler, wet pipe	GB/FS
HEPA filters	15	N/A	Deluge, dry/open	Detection
6921	13	Ordinary/Group 2	Automatic sprinkler, wet pipe	GB/FS
6925	13	Ordinary/Group 2	Automatic sprinkler, dry pipe	GB/FS
6926	13	Ordinary/Group 2	Automatic sprinkler, dry pipe	GB/FS
TP150	17	N/A	Dry chemical	
TP153	17	N/A	Dry chemical	

[a] National Fire Protection Association (NFPA), 2000, 2002
[b] Sprinklers are either glass bulb (GB) or fusible solder (FS) type, typically designed to open at temperatures of 155ºF or higher.

Information on other required equipment located at the RMWMF is provided in Section 6.0 and Table 3 of this module.

1.2.3.2 Testing and Maintenance of Equipment (20 NMAC 4.1.500/40 CFR 264.33)

Information on equipment testing and maintenance at the RMWMF is provided in Appendix C of the General Part B and in Section 4.0 of this module.

1.2.3.3 Access to Communications or Alarm Systems (20 NMAC 4.1.500/40 CFR 264.34)

Information about the types and locations of communications or alarm systems at the RMWMF is provided in Section 1.1.3.2 of the General Part B and in Section 6.0 of this module.

1.2.4 Hazards Prevention (20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address the procedures, equipment, and structures used at the RMWMF to prevent hazards. Additional information applicable to the RMWMF and all other Units at SNL/NM is included in Section 1.1.4 of the General Part B.

1.2.4.1 Preventing Hazards in Unloading (20 NMAC 4.1.900/40 CFR 270.14[b][8][i])

RMWMF personnel employ the practices described in Section 1.1.4.1 of the General Part B to prevent hazards in unloading. Loading and unloading activities take place on the paved areas, typically immediately outside the buildings. The surface is sloped gently toward shallow drainage ditches, the pavement is in good condition in the area, and there is sufficient room for operating vehicles.

Drums and other containers of RCRA-regulated waste are typically strapped together on a pallet before being loaded onto vehicles, or are loaded individually. Containers are typically transported within the Unit with forklifts, drum dollies, or pallet jacks.

Unit personnel typically use the loading dock for loading and unloading wastes from trucks. The ramp on the west side of Building 6926 slopes gently up to the dock, allowing forklift operators to drive onto trailers of trucks parked at the dock. The dock and ramp are in good condition and are covered with a corrugated metal roof to provide protection from weather.

1.2.4.2 Preventing Runoff or Flooding (20 NMAC 4.1.900/40 CFR 270.14[b][8][ii])

The area around the Unit slopes gently toward the west. Sheet-flow run-on of surface water from surrounding areas outside the Unit is prevented from entering the WMAs by several features. The elevated gravel road located outside the east fence of the Unit serves to divert water flowing from areas farther to the east. An 8-in. curb at the east edge of the asphalt pavement and an asphalt-lined drainage swale along the eastern edge of the Unit (inside the fence) divert run-on from the gravel road toward the south away from the Unit. On the south and west sides, the Unit is higher than the surrounding land. On the north side, the Unit and a narrow ledge of land outside the fence are higher than the surrounding land. Thus, run-on from all directions is prevented from entering the Unit.

The asphalt-paved areas within the Unit are surrounded by an 8-inch curb, further preventing run-on and run-off. The outside storage area slopes toward the south and west. The concrete pads outside the doors and the asphalt pavement surrounding Buildings 6920, 6921, 6925, and 6926 all slope away from the doors and toward shallow drainage channels that run between buildings 6920, 6925, and 6926. The channels lead to the synthetic-lined water retention pond at the southwest corner of the Unit, providing controlled drainage of storm water from roof downspouts and the paved areas in the RMWMF into the water retention pond. During normal operations, the water retention pond collects only storm water. The water retention pond does not provide secondary containment for RCRA-regulated waste.

1.2.4.3 Preventing Contamination of Water Supplies (20 NMAC 4.1.900/40 CFR 270.14[b][8][iii])

Sandia/DOE do not anticipate that management of RCRA-regulated wastes at the RMWMF will affect water supplies, as described in Section 1.1.4.3 of the General Part B.

1.2.4.4 Mitigating Effects of Equipment Failure or Power Outages (20 NMAC 4.1.900/40 CFR 270.14[b][8][iv])

General measures that are available to Unit personnel are described in Section 1.1.4.4 of the General Part B. RCRA-regulated waste handling activities in the RMWMF WMAs that are affected by equipment failures or power outages will be suspended in response to such outages.

The RMWMF is equipped with an auxiliary diesel generator that can provide backup power to Building 6920. The generator maintains containment ventilation, alarm systems, heating equipment, and controls necessary to keep water in pipes from freezing should the main power supply fail.

Equipment and/or power failures at Buildings 6920, 6921, 6925, 6926; the outdoor waste storage area; or the two modular storage buildings will not result in a loss of containment of RCRA-regulated wastes.

1.2.4.5 Preventing Undue Exposure (20 NMAC 4.1.900/40 CFR 270.14[b][8][v])

RMWMF personnel employ the practices described in Section 1.1.4.5 of the General Part B to prevent undue exposure. In addition, the enclosed work areas and negative-pressure ventilation systems in the fume hoods in Buildings 6920 and 6921 provide additional protection for Unit personnel performing treatment and repackaging operations. Anticipated emissions from treatment operations are discussed in Section 8.2.

1.2.4.6 Preventing Releases to the Atmosphere (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC)

RMWMF personnel employ the practices described in Section 1.1.4.6 of the General Part B to prevent releases to the atmosphere during storage.

Subpart AA

RMWMF storage operations do not employ any of the processes subject to the requirements of 20 NMAC 4.1.500/40 CFR 264 Subpart AA.

Subpart BB

During storage activities, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations ≥10 percent by weight in process equipment identified in 20 NMAC 4.1.500/40 CFR 264, Subpart BB [10-1-03]. Equipment used in such service at the RMWMF will be used for less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052 through 1060 [10-1-03] as noted in 20 NMAC 4.1.500/40 CFR 264.1050(f) [10-1-03]. The equipment list will be maintained in the RMWMF records. Equipment use will also be noted in the records.

Subpart CC

Unit personnel follow the practices described in Section 1.1.4.6 of the General Part B and maintain compliance with Container Level 1 standards (20 NMAC 4.1.500/40 CFR 264.1086[c]) for containers that are subject to the standards. Such containers may be stored in any of the WMAs at the Unit.

Section B.5.3 in Appendix B of the General Part B also describes procedures to maintain compliance with the air emissions requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts BB and CC [10-1-03].

1.3 Container Storage (20 NMAC 4.1.900/40 CFR 270.15 and 20 NMAC 4.1.500/40 CFR 264, Subpart I)

Container storage practices applicable to the RMWMF are presented in the following sections.

1.3.1 Container Types and Labeling

RMWMF personnel use the containers types and labeling practices described in Section 1.2.1 of the General Part B.

1.3.2 Container Handling (20 NMAC 4.1.500/40 CFR 264.173)

RMWMF personnel employ the container handling practices described in Section 1.2.2 of the General Part B.

1.3.2.1 Condition of Containers (20 NMAC 4.1.500/40 CFR 264.171)

The condition of containers at the RMWMF is maintained as indicated in Section 1.2.2.1 of the General Part B.

1.3.2.2 Aisle Space and Storage Configuration (20 NMAC 4.1.500/40 CFR 264.35)

RMWMF personnel employ the aisle space and storage configuration as described in Section 1.2.2.2 of the General Part B. Aisle width is typically 2.5 feet; this is adequate for unobstructed movement of Unit and emergency response personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of Unit operation in an emergency.

Containers of liquids are not stacked when stored in the modular buildings.

1.3.2.3 Compatibility of Waste with Containers (20 NMAC 4.1.500/40 CFR 264.172)

RMWMF personnel ensure waste compatibility with containers as indicated in Section 1.2.2.3 of the General Part B.

1.3.2.4 Presence of Liquids in Containers (20 NMAC 4.1.900/40 CFR 270.15[b][1] and 20 NMAC 4.1.500/40 CFR 264.175[c])

RMWMF personnel verify the absence of free liquids in containers as indicated in Section 1.2.2.4 of the General Part B before storing containers in areas that are not equipped with secondary containment.

1.4 Treatment Operations

RCRA-regulated wastes are treated at the RMWMF by the following methods:

- Chemical deactivation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Thermal deactivation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Stabilization (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Amalgamation (performed in the south bay of Building 6920 or in the treatment area in Building 6921).
- Macroencapsulation (performed in Buildings 6920, 6921, or 6925)
- Physical treatment (performed in either bay in Building 6920 and in Building 6921).

The treatment practices are discussed in detail in Section 8.0 of this module.

2.0 UNIT DESCRIPTION AND INFORMATION

The information provided in this section is submitted to address the applicable requirements of 20 NMAC 4.1.500 and .900/40 CFR 264 and 270 [10-1-03]. The following subject areas are addressed in this section:

- Unit-specific security procedures and equipment (20 NMAC 4.1.900/40 CFR 270.14[b][4] and 270.14[b][19][viii] [10-1-03]; 20 NMAC 4.1.500/40 CFR 264.14 [10-1-03]);
- Unit-specific traffic patterns, volume, and controls (20 NMAC 4.1.900/40 CFR 270.14[b][10] [10-1-03]);
- Unit-specific location information for compliance with the seismic standard and floodplain requirements (20 NMAC 4.1.900/40 CFR 270.14[b][11] [10-1-03], and 20 NMAC 4.1.500/40 CFR 264.18[a] and [b] [10-1-03]);
- Unit-specific topographic map requirements (20 NMAC 4.1.900/40 CFR 270.14[b][19] [10-1-03]); and
- Unit-specific groundwater monitoring and protection information (20 NMAC 4.1.900/ 40 CFR 270.14[c] [10-1-03], and 20 NMAC 4.1.500/40 CFR 264.90[a] [10-1-03]).

An SNL/NM site-wide facility description addressing additional regulatory requirements is provided in Appendix A of General Part B.

2.1 Security Procedures And Equipment (20 NMAC 4.1.900/40 CFR 270.14[b][4]; 20 NMAC 4.1.500/40 CFR 264.14)

The following sections describe the security provisions provided at SNL/NM to prevent unknowing or unauthorized entry onto the active portions of the RMWMF.

2.1.1 Barriers and Means to Control Entry (20 NMAC 4.1.500/40 CFR 264.14[b][2][i] and [ii])

The RMWMF is completely surrounded by an 8-ft-high chain-link and barbed-wire fence. A single personnel entrance door adjacent to the main vehicle entrance gate is located on the south side of the RMWMF. Another personnel entrance door and vehicle gate are located on the north side of the RMWMF. The gates and doors in the RMWMF fence are maintained in closed and locked positions. As noted in Appendix A of the General Part B, Sandia security personnel periodically monitor the RMWMF gates during non-operational hours.

During work hours, RMWMF employees may enter the area through the locked personnel doors by entering the appropriate code into a keypad on the RMWMF fence near each personnel door. Emergency and service vehicles may enter the RMWMF through the electronically-controlled main vehicle gate if RMWMF personnel enter the appropriate code into a keypad

inside the office trailer or on the keypads located near the personnel doors on the RMWMF fence. Signs instruct personnel and visitors to report to the office trailer for site entry privileges and instructions. Resident personnel have Sandia-issued badges. Individuals who do not have a Sandia-issued badge are escorted. These procedures limit access to the RMWMF WMAs in accordance with 20 NMAC 4.1.500/40 CFR 264.14(b)(2) [10-1-03].

The RMWMF is located inside TA-III (Figures 1 and 2). TA-III is surrounded by a barbed wire fence with designated access gates. TA-III access control procedures assure that only properly identified and authorized persons, vehicles, and property are allowed entrance to and exit from TA-III.

2.1.2 Warning Signs (20 NMAC 4.1.500/40 CFR 264.14[c])

The permanent perimeter fence surrounding the RMWMF and the entrance to the RMWMF are posted with "Danger: Unauthorized Personnel Keep Out" (or functionally equivalent) signs. The signs contain the warning in English and Spanish, are legible from a distance of 25 ft, and can be seen from any approach to the RMWMF.

2.2 Traffic Pattern, Volume, and Controls (20 NMAC 4.1.900/40 CFR 270.14[b][10])

General traffic pattern information, traffic volumes, and traffic control signals for the SNL/NM facility are provided in Appendix A of the General Part B.

2.2.1 Traffic Patterns

The primary traffic routes used to transport RCRA-regulated waste to the RMWMF include Wyoming Boulevard, Hardin Boulevard (formerly "O" Street), and Pennsylvania Avenue. Pennsylvania Avenue crosses Tijeras Arroyo over the Manzano Bridge. A two-lane paved road to TA-III turns southwestward off of Pennsylvania Avenue at a point just over 5 miles south of the Wyoming Boulevard entrance gate as shown on Figure A-4 in Appendix A of the General Part B.

Within TA-III, traffic access to and from the RMWMF is along 2-lane asphalt-paved roads shown on Figure A-6 in Appendix A of the General Part B. Vehicles entering the RMWMF travel on an asphalt-paved 2-lane drive from the road through the south vehicle gate, as shown on Figure 9. Within the RMWMF, waste is transported on asphalt-paved surfaces.

2.2.2 Traffic Volumes

Traffic volumes on Wyoming Boulevard and Hardin Boulevard are generally light to moderate. Traffic volumes on Pennsylvania Avenue are generally light. Traffic volumes within TA-III are light. Vehicle types are generally cars, light- and medium-duty trucks, and vans. Flatbed trucks or trailers also use primary traffic routes to transport waste containers.

Approximately 10 to 30 vehicles per week travel into and out of the RMWMF. These include flatbed trucks and trailers carrying supplies, RCRA-regulated wastes from initial generators, and wastes to off-site TSDFs.

2.2.3 Traffic Control Signals

Vehicles must stop at a gate prior to entering or leaving TA-III. Only authorized personnel are permitted into TA-III. Speed limit signs (i.e., "30 mph Unless Otherwise Posted") are located at several locations in TA-III.

There are no traffic control signals or signs within the RMWMF fenced area. A speed limit sign (i.e., "Max. Speed 5 mph On Site") is posted on the fence adjacent to the RMWMF entrance gate (Figure 9). Vehicle presence within the RMWMF fenced area is limited to official and waste transport vehicles. Therefore, signals or signs are not necessary to control traffic within the RMWMF fenced area.

2.3 Unit Location Information (20 NMAC 4.1.900/40 CFR 270.14[b][11])

2.3.1 Seismic Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][i] and [ii]; 20 NMAC 4.1.500/40 CFR 264.18[a])

The WMAs at the RMWMF are not located within 3,000 ft of any faults with Holocene displacements (see Section A.4.2 in Appendix A of the General Part B).

2.3.2 Floodplain Standard (20 NMAC 4.1.900/40 CFR 270.14[b][11][iii]; 20 NMAC 4.1.500/40 CFR 264.18[b])

The WMAs at the RMWMF are not located within the 100-year floodplain boundary (see Section A.4.3 in Appendix A of the General Part B).

2.4 Topographic Maps (20 NMAC 4.1.900/40 CFR 270.14[b][19])

Topographic maps and figures are provided herein or referenced to meet the requirements of 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03]. Due to the large amount of information, it is not provided on a single map. The maps clearly show the map scale, the date of preparation, and a north arrow (20 NMAC 4.1.900/40 CFR 270.14[b][19][i] and [vi] [10-1-03]). The maps and figures used to fulfill these regulatory requirements include the following:

- An SNL/NM-wide 100-year floodplain map is provided as Figure A-2 in Appendix A of the General Part B (20 NMAC 4.1.900/40 CFR 270.14[b][19][ii] [10-1-03]).
- Surface waters, including intermittent streams, near the RMWMF are shown on Figure A-2 in Appendix A of the General Part B and Figure 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][iii] [10-1-03]).

- Surrounding land uses are shown on Figures A-2 and A-8 in Appendix A of the General Part B and Figure 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][iv] [10-1-03]). The area surrounding the RMWMF is occupied by test areas and Sandia-controlled operations (industrial land use).

- Wind roses for SNL/NM are shown on Figure A-2 in Appendix A of the General Part B and Figure 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][v] [10-1-03]).

- Legal boundaries of SNL/NM (including the RMWMF) are shown on Figure A-2 in Appendix A of the General Part B (20 NMAC 4.1.900/40 CFR 270.14[b][19][vii] [10-1-03]).

- Access control features at the RMWMF (e.g., fences, gates) are shown on Figure 9 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][viii] [10-1-03]).

- Supply wells, monitoring wells, test wells, springs, and surface-water sampling stations near the RMWMF are shown on Figure A-2 in Appendix A of the General Part B and Figure 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][ix] [10-1-03]).

- The location of the WMA structures, loading and unloading areas, roads, and sanitary sewers associated with the RMWMF are shown on Figures 8 and 9 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][x] [10-1-03]).

- Drainage control features (e.g., run-on/runoff, drainage barriers) are shown on Figure 10 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][x] and [xi] [10-1-03]).

- Locations of the RMWMF and RMWMF WMAs are shown on Figures 3 and 8 of this module (20 NMAC 4.1.900/40 CFR 270.14[b][19][xii] [10-1-03]).

Contour lines on all topographic maps are in intervals sufficient to detail natural drainage at SNL/NM and in the vicinity of the RMWMF. As provided for in 20 NMAC 4.1.900/40 CFR 270.14(b)(19) [10-1-03], SNL/NM has submitted the maps to the NMED at these scales and contour intervals due to the size of the RMWMF, the extent of the SNL/NM facility, and the topographic relief in the area.

2.5 Groundwater Monitoring (20 NMAC 4.1.900/40 CFR 270.14[c]; 20 NMAC 4.1.500/40 CFR 264.90[a])

Groundwater monitoring information is provided in Part 3 of this comprehensive Part B permit request. The RMWMF is not a regulated unit. There have been no releases of RCRA-regulated waste in the past, nor is the RMWMF likely to affect groundwater quality during normal operations or during unusual events.

3.0 WASTE ANALYSIS PLAN

Waste analysis requirements applicable to all Units, including the RMWMF , are addressed in Appendix B of the General Part B as required by 20 NMAC 4.1.900/40 CFR 270.14[b][2], 20 NMAC 4.1.500/40 CFR 264.13, "General Waste Analysis."

4.0 INSPECTION PLAN

20 NMAC 4.1.500/40 CFR 264.15 and 264.33 [10-1-03] and 20 NMAC 4.1.900/40 CFR 270.14(b)(5) [10-1-03] require that WMAs and associated systems be inspected on a regular basis and in accordance with procedures to assure their integrity, maintenance, and safe operation.

Unit personnel perform periodic inspections to identify malfunctions, signs of deterioration, operator errors, and discharges or spills that may be causing or may lead to a release of hazardous waste constituents to the environment or may pose a threat to human health. The inspections are performed on a regular schedule based on the likelihood of equipment or system failure and associated consequences. The inspections include safety and emergency equipment, security devices, and operating and structural equipment related to management of RCRA-regulated waste to ensure that human health and the environment will be protected.

The general Sandia/DOE inspection plan and schedule that meets these requirements are described in the "Site-Wide Inspection Plan", provided as Appendix C of the General Part B. RMWMF personnel conduct inspections in accordance with the site-wide plan.

Specific items and areas that are inspected are listed in Table 4, with the inspection criteria and frequency. The items listed in the table are inspected in each RMWMF WMA where applicable.

Automatic fire suppression systems are included in Table 2. Unit personnel check to see that the systems are present. Sandia/DOE personnel also test the systems based on the requirements of NFPA 25 "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems" (NFPA,2002), as described in Section 1.1.3.2 of the General Part B.

The results of inspections by Unit personnel (including any corrective actions required and taken) are recorded on forms identical or similar to the ones presented in Appendix C of the General Part B. The inspection plan (Appendix C and this section) and inspection records for the current calendar year are maintained at the RMWMF. Inspection records for previous calendar years are maintained at the RMWMF or the SNL/NM Records Center.

Table 2
Radioactive and Mixed Waste Management Facility Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
SAFETY AND EMERGENCY EQUIPMENT **See Table 6 "Emergency Equipment and Locations" in this module for additional information**		
Eye wash/safety shower	Operational, accessible, in good condition	Monthly
Spill control and cleanup items	Present, accessible, quantities per inventory, in good condition	Monthly
Personal protective equipment	Present, quantities per inventory, and in good condition	Monthly
Fire alarm pull station(s)	Present, accessible, and in good condition	Monthly
Fire alarm(s)	Present	Monthly
Telephone(s)	Present and operational	Monthly
Fire extinguisher(s)	Present, charged, accessible, and in good condition	Monthly
Fire sprinklers and system	Present, appears to be in good condition, sprinklers not obstructed	Monthly
OPERATING AND STRUCTURAL EQUIPMENT		
Building/storage area floor	Clean, no spills, cracks, or excessive wear	Weekly when wastes are managed. Monthly otherwise.
Building walls	Not leaking or spalling, in good condition	Weekly when wastes are managed. Monthly otherwise.
Building ceiling	Not leaking or spalling, and in good condition	Weekly when wastes are managed. Monthly otherwise.
Building lights	Operational and in good condition	Weekly when wastes are managed. Monthly otherwise.
Overhead crane	Present, appears to be in good condition	Weekly when wastes are managed. Monthly otherwise.
Secondary containment (Buildings 6920, TP150, TP153)	Free of liquids, good condition (i.e., no cracks, excessive wear)	Daily when and where wastes are handled. Weekly otherwise.
Loading and unloading areas	Good condition, safe working surface, free of cracks, no spills	Daily when and where wastes are handled. Monthly otherwise.
Waste handling equipment	Good condition, in good repair, operational	Daily when and where wastes are handled. Monthly otherwise.

Table 2 (Concluded)
Radioactive and Mixed Waste Management Facility Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
OPERATING AND STRUCTURAL EQUIPMENT (cont)		
Treatment areas	Good condition, clean, uncluttered, no spills	Daily when and where wastes are handled. Monthly otherwise.
Fume hoods	Good condition, clean, no deterioration	Daily when used for waste treatment. Monthly otherwise.
Treatment equipment (e.g., hand tools, containers)	Good condition (i.e., no releases or deterioration)	Prior to treatment (consumable items) or daily when and where wastes are treated (tools). Monthly otherwise.
Thermal deactivation equipment	Good condition (i.e., no releases or deterioration)	Daily when used to treat wastes. Monthly otherwise.
Monitoring equipment	Instruments in good condition, operational, calibrated	Daily when and where wastes are handled. Monthly otherwise.
Stormwater retention pond	Sampled for presence of released/spilled hazardous waste constituents if there is evidence of or chance that such constituents entered the pond	Within five days of a release requiring reporting to the NMED Secretary.
SECURITY DEVICES		
Fence	Present and in good condition	Monthly
Warning signs	Present and in good condition	Monthly
Gates and doors	Present, operational, in good condition	Monthly
Locks	Present, operational, in good condition	Monthly
CONTAINERS		
Integrity	Good condition (i.e., no bulging, leaks, corrosion, or deterioration)	Check individual containers as they are handled. Weekly otherwise.
Closed	Correct lid/cover placement (i.e., properly closed and sealed)	Check individual containers as they are handled. Weekly otherwise.
Labeling	Correct information, correct location, legible	Check individual containers as they are handled. Weekly otherwise.
Secondary Containment (e.g., spill pallets for liquid waste)	Adequate volume, free of liquids, good condition (i.e., no cracks, excessive wear)	Check individual containers as they are handled. Weekly otherwise.
Storage Conditions	Waste compatible with container, container located with compatible wastes	Check individual containers as they are handled. Weekly otherwise.
Location	Correct aisle space, correct stacking (2 or 3 maximum)	Check individual containers as they are handled. Weekly otherwise.

5.0 PERSONNEL TRAINING

Training Requirements for Unit personnel are specified in 20 NMAC 4.1.900/40 CFR 270.14[b][12] and 20 NMAC 4.1.500/40 CFR 264.16 [10-1-03], "Personnel Training."

The Sandia/DOE training program is designed and implemented to prepare personnel to safely operate and maintain those areas used for managing RCRA-regulated wastes. The training program applies to all employees of the DOE, Sandia, and any subcontractors who have responsibility for the day-to-day management of RCRA-regulated waste at the RMWMF.

RMWMF personnel receive training in accordance with the "Site-Wide Personnel Training Plan," provided as Appendix D of the General Part B. All job descriptions identified in Appendix D, Table D-2 of the General Part B are applicable at the RMWMF.

Training records for RMWMF personnel are maintained at the RMWMF.

6.0 CONTINGENCY PLAN AND EMERGENCY RESPONSE

Emergency response requirements for permitted units are specified in 20 NMAC 4.1.500/40 CFR 264, Subpart D [10-1-03], "Contingency Plan and Emergency Procedures," and in 20 NMAC 4.1.900/40 CFR 270.14(b)(7) [10-1-03]. The "Site-Wide Contingency Plan" is included in as Appendix E of the General Part B. Supplemental RMWMF-specific information is included in this section, in Figures 11 and 12, and in Tables 3 and 4 of this module. Current copies of the site-wide contingency plan (Appendix E of the General Part B) and this supplemental information are maintained at the RMWMF and at the SNL/NM Emergency Operations Center.

The RMWMF is located in the southeastern corner of TA-III at SNL/NM. It is used for treatment and storage of RCRA–regulated wastes. The WMAs at the RMWMF include Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and the outdoor waste storage area (i.e., paved areas within the RMWMF fence and north, east, and west of Building 6920). All are surrounded by a fence.

The RMWMF WMAs include the following:

- Building 6920 at the RMWMF is a single-story concrete masonry unit (CMU) and steel building with approximately 5,000 square feet of space used for waste storage and treatment activities. Inside the building are two bays (north and south), separated by an interior airlock. The south bay includes four small rooms used for treatment and storage. The building also includes a control room, restrooms, and electrical and mechanical rooms. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored over a sump in the south bay or on portable spill containment pallets. Containers of incompatible wastes are not stored together. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may be treated by chemical deactivation, macroencapsulation, stabilization, thermal deactivation, or physical treatment. Up to 13,420 gallons of waste may be stored in this building.

- Building 6921 at the RMWMF is a single-story CMU building with approximately 1450 square feet of space used for waste storage and treatment activities. The building also includes office space and restrooms. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored on portable spill containment pallets. Containers of incompatible wastes are not stored together. The containers and contents may be repackaged into other containers for shipment to off-site facilities. RCRA-regulated wastes may be treated by chemical deactivation, macroencapsulation, stabilization, or physical treatment. Up to 7,810 gallons of waste may be stored in this building.

- Buildings 6925 and 6926 at the RMWMF are each 4000-square-foot prefabricated steel buildings on concrete foundations. Containers of wastes (typically less than 55 gallons) are stored in this building. Containers with liquids are stored on portable spill containment pallets. Containers of incompatible wastes are segregated into different areas. The containers and contents may be repackaged into other containers for

shipment to off-site facilities. RCRA-regulated wastes may also be treated by macroencapsulation. Up to 83,160 gallons of waste may be stored in each building.

- Two modular, prefabricated safety storage structures located west of Building 6920 at the RMWMF are used for the storage of reactive and ignitable wastes. Each structure is constructed of 10- and 12-gauge welded steel with supporting structural steel sections, and includes a welded steel containment pan covered by grating. Each structure may contain up to 1,100 gallons of waste.

  The outdoor waste storage area at the RMWMF consists of 48,500 square feet of asphalt-paved areas to the north, east, and west of Building 6920 within the RMWMF fence that may be used for storage of containers of RCRA-regulated wastes. Containers of RCRA-regulated wastes are typically stored inside enclosed transportainers. Containers with liquids are stored on portable spill containment pallets inside the transportainers. Up to 19,800 gallons of wastes may be stored in these areas.

RCRA-regulated wastes bearing the U.S. EPA Hazardous Waste Numbers listed in the General Part A may be stored and/or treated at the RMWMF WMAs.

Figure 11 presents evacuation routes for the RMWMF. Figure 12 presents emergency response and access information for the RMWMF. Table 3 lists the emergency equipment typically available at the RMWMF. Table 4 lists the emergency coordinators for the RMWMF.

Table 3
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6920

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Stations/ Showers	• On north wall in south bay • Near office in north bay
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	In hallway between north and south bays
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	In hallway between north and south bays
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • In southwest corner of southwest airlock • By personnel door in west mechanical room • By personnel door on north wall of north bay • By personnel door in entryway west of office
	Audible fire alarms	Located throughout the building

Table 3 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6920 (continued)

Category	Description/Capabilities	Location
External Communication System	Telephones	Control room, south and north bays
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • In southwest corner of southwest airlock • By personnel door in west mechanical room • By personnel door on north wall of north bay • By personnel door in entryway west of office
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door in southeast corner of south bay • By personnel door in southwest corner of south bay • In hallway between north and south bays • By personnel door in west mechanical room
	Portable (D)	In northwest corner of north bay
	Portable (A-B-C)(D)	By personnel door on north wall of north bay
Fire Suppression	Automatic wet-pipe sprinkler system with heat-actuated sprinklers	Coverage throughout the building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 12

Table 3 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6921

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Station/Shower	On north wall of assay area
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By north wall of assay area
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	By north wall of assay area
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in electrical/mechanical room • In central hallway outside restrooms • In northwest corner of assay area • By east personnel door in southeast counting room • By east personnel door in middle east office area
	Audible fire alarms	Located throughout the building

Table 3 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6921 (continued)

Category	Description/Capabilities	Location
External Communication System	Telephones	Office and lab areas
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in electrical/mechanical room • In central hallway outside restrooms • In northwest corner of assay area • By east personnel door in southeast counting room • By east personnel door in middle east office area
Fire Extinguishers	Portable (A-B-C)	• By north personnel door in electrical/mechanical room • In hallway between assay area and north office area • By northwest personnel door of assay area • By east personnel door in southeast counting room
Fire Suppression	Automatic wet-pipe sprinkler system with heat-actuated sprinklers	Coverage throughout the building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 12

Table 3 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6925

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Portable Eyewash	By personnel door near center of south wall
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By personnel door near center of south wall
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	By personnel door near center of south wall
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building • By personnel door near center of south wall
	Audible fire alarms	Located on east and west wall
External Communication System	Telephone	By personnel door in southwest corner of building
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building • By personnel door near center of south wall
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door in southwest corner of building
	Portable (A-B-C)(D)	By personnel door near center of south wall
Fire Suppression	Automatic dry-pipe sprinkler system with heat-actuated sprinklers	Sprinklers located throughout building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 12

Table 3 (Continued)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Building 6926

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Eyewash Station/Shower	In southeast area of building
	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	In southeast area of building
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	In southeast area of building
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door on west wall of building • By personnel door on south wall of building
	Audible fire alarms	Located on east wall and west wall
External Communication System	Telephone	In southeast area of building
	Fire alarm pull station (pulling handle sends signal to KAFB fire department, does not actuate sprinklers)	• By personnel door in northeast corner of building • By personnel door on west wall of building • By personnel door on south wall of building
Fire Extinguishers	Portable (A-B-C)	• By personnel door in northeast corner of building • By personnel door on west wall of building
	Portable (A-B-C)(D)	By personnel door on south wall of building
Fire Suppression	Automatic dry-pipe sprinkler system with heat-actuated sprinklers	Sprinklers located throughout building
	Water supplied by fire hydrants	Three hydrants, locations shown in Figure 12

Table 3 (Concluded)
Radioactive and Mixed Waste Management Facility, Emergency Equipment and Locations

Modular Storage Buildings

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Absorbent (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	Buildings 6920 and 6926
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
	Miscellaneous PPE (protective suits, goggles and/or safety glasses, chemical-resistant gloves)	Buildings 6920 and 6926
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios
	Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)	Buildings 6920, 6921, 6925, and 6926
	Audible fire alarms	Buildings 6920, 6921, 6925, and 6926
External Communication System	Telephones	Buildings 6920 and 6926
	Fire alarm pull boxes (pulling handle sends signal to KAFB fire department, does not actuate system)	Buildings 6920, 6921, 6925, and 6926
Fire Suppression	Automatic dry chemical system	Coverage throughout the building

PPE personal protective equipment
KAFB Kirtland Air Force Base

Table 4
Radioactive and Mixed Waste Management Facility, Emergency Coordinator List

March 15, 2005

Facility Emergency Coordinator		Office Phone	Home Phone
Primary	Leroy Duran Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 284-1488 (office) (505) 530-4105 (pager)	(505) 281-4183
First Alternate	Mike Spoerner Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2813 (office) (505) 540-5296 (pager)	(505) 828-3441
Second Alternate	Phil Zelle Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2486 (office) (505) 540-7437 (pager)	(505) 292-5097
Third Alternate	Mary Ann Krauss Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 845-9997 (office) (505) 540-5228 (pager)	(505) 299-0793

One or more of these personnel are routinely available during operating hours (7:00 am to 5:30 pm, Monday through Thursday).

7.0 CLOSURE PLAN

Applicable closure requirements are specified in 20 NMAC 4.1.900/40 CFR 270.14[b][13] and 20 NMAC 4.1.500/40 CFR 264, Subparts G and I [10-1-03]. General closure information applicable to all Units at SNL/NM and general sampling and analytical procedures to be used during closure activities are presented in the "Site-Wide Closure Plan" in Appendix F of the General Part B. The site-wide plan includes a description of the SNL/NM facility, waste descriptions, closure performance standards, general closure methods, a sampling and analysis plan (SAP), a general closure schedule, procedures for amendment of the plan, closure certification and letter, survey plat, and post-closure requirements. Unit-specific information for closure of the RMWMF is included in this section.

7.1 Unit Description

Sandia/DOE use the RMWMF for treatment, repackaging, and storage of RCRA-regulated waste. The RMWMF is located in the southeastern corner of TA-III at SNL/NM. The waste management areas (WMAs) at the RMWMF include Buildings 6920, 6921, 6925, and 6926; two modular storage buildings; and an outdoor waste storage area (i.e., paved areas within the RMWMF fence and north, east, and west of Building 6920).

- Building 6920 (Figure 13) at the RMWMF is a single-story concrete masonry unit (CMU) and steel building with approximately 5,000 ft^2 of space used for treatment and container storage activities. Inside the building are two bays (north and south), separated by an interior airlock. The south bay includes four small rooms used for treatment and storage; one of these rooms is equipped with a fume hood with a local negative-pressure ventilation system. Another room is equipped with a portable local ventilation system. Two areas of the north bay are also equipped with local negative-pressure ventilation systems. The air flow from the ventilation systems passes through a HEPA filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow. The floors of the north and south bays are coated with an epoxy-based chemical resistant coating that forms a continuous protective barrier over the concrete floor. The south bay includes an epoxy coated sump that provides secondary containment for liquids stored in the area.

- Building 6921 (Figure 14) is a single-story CMU building with approximately 1,450 ft^2 of space used for treatment and container storage activities in three areas. The concrete floors are covered with a chemical-resistant epoxy coating. One room contains a fume hood with a local negative-pressure ventilation system. The exhaust from the system passes through a HEPA filter train before being released to the environment through an exhaust stack.

- Buildings 6925 and 6926 (Figure 15) are each 4,000-ft^2 prefabricated steel buildings on concrete foundations. The buildings are used for container storage of RCRA-regulated wastes, and Building 6925 is also used for treatment. The concrete floors are covered with a chemical-resistant epoxy coating. The buildings are used for storage of wastes in containers.

- Two modular, prefabricated storage structures located west of Building 6920 are used for container storage of RCRA-regulated reactive and ignitable wastes. Each structure (Figure 16) is constructed of 10- and 12-gauge welded steel with supporting structural steel sections, and includes a welded steel containment pan covered by grating. The inside surfaces are covered with a chemical-resistant epoxy coating.

- The outdoor waste storage area consists of 48,500 ft^2 of asphalt-paved areas to the north, east, and west of Building 6920 within the RMWMF fence. This area may be used for container storage of RCRA-regulated wastes. Containers of RCRA-regulated wastes are typically stored inside enclosed transportainers at this WMA. Containers with liquids are stored on portable spill containment pallets inside the transportainers.

7.2 Estimate of Maximum Waste in Storage (20 NMAC 4.1.500/40 CFR 264.112[b][3])

The maximum total volume of RCRA-regulated waste in treatment and/or storage at any time at the RMWMF is estimated at approximately 209,550 gallons of liquids and/or solids. This is the maximum volume of RCRA-regulated waste that could be removed from the WMAs as part of closure activities. The maximum total waste volume is broken down as follows:

- Building 6920: 13,420 gallons
- Building 6921: 7,810 gallons
- Building 6925: 83,160 gallons
- Building 6926: 83,160 gallons
- Modular storage building TP150: 1,100 gallons
- Modular storage building TP153: 1,100 gallons
- Outdoor waste storage area: 19,800 gallons

7.3 Closure Conditions

In addition to the general assumptions listed in Section F.5 of the site-wide closure plan , partial closure activities specified in this plan assume the following conditions were met during the operational life of the RMWMF:

- Waste handling and treatment activities that involved opening containers of RCRA-regulated waste were confined to the RMWMF WMAs. If contamination occurred, it would have been confined to those areas.

- Treatment activities were conducted in a controlled manner, minimizing the potential for releases of RCRA-regulated wastes or hazardous waste constituents.

- If RCRA-regulated wastes or hazardous waste constituents were inadvertently released into the local exhaust systems during treatment activities, they would only be present in the systems up to the first filter.

- The WMAs are physically separate; therefore, each WMA is considered independently of the other WMAs when evaluating the potential presence of RCRA-regulated wastes or hazardous waste constituents.

- Containers of wastes were not routinely stored on the asphalt in the outdoor storage area. Containers were occasionally staged there temporarily if needed to accommodate operations involving large numbers of containers (e.g., staging for shipments). Containers of liquids were stored on spill pallets and were not stored directly on the asphalt. Containers of waste were not opened in the area, therefore, RCRA-regulated wastes or hazardous waste constituents are not present on the asphalt unless there is knowledge or evidence of a release.

- Containers of waste were stored in steel transportainers in the outdoor storage area. Containers of liquids were not routinely stored within the transportainers; those that were present were stored on spill pallets. Containers of waste were not opened within the transportainers; therefore, RCRA-regulated wastes or hazardous waste constituents are not present in any transportainer unless there has been a release in that transportainer.

- RCRA-regulated wastes or hazardous waste constituents could not be present except in areas in the WMAs where wastes were managed.

- The interior floors of the WMAs in each building were maintained to retain their integrity by following established maintenance and inspection procedures, breaches of protective coatings did not occur, and a small amount of soil will be present on the floors due to normal traffic and operations.

7.4 Closure Activities and Schedule

This closure will be conducted to support attainment of the closure performance standards outlined in Section F.4 of the site-wide closure plan. Section 7.5.3 of this plan discusses the criteria that will be used to verify that clean closure has been achieved.

7.4.1 Closure Activities

The closure approach and general activities described in Section F.5 of the site-wide closure plan will be applied to closure of the WMAs at the RMWMF. With respect to the individual WMAs, Sandia/DOE will use the following approach:

- Items of equipment within the treatment areas will be evaluated individually to determine whether it is more effective to remove them or decontaminate them. Items that are most likely to be removed include local exhaust systems (up to the first filter), filters, and portable equipment. Items that are most likely to be decontaminated include the interiors of fume hoods.

- Transportainers used for storage in the outdoor waste storage area will be visually examined for evidence of releases. Additional closure activity will be limited to those areas where RCRA-regulated wastes or hazardous waste constituents could be present

due to visual evidence of releases or knowledge of prior releases. The transportainers will be evaluated individually to determine whether it is more effective to remove them or decontaminate them.

- The modular storage buildings (TP150 and TP153) will be evaluated individually to determine whether it is more effective to remove them or decontaminate them.

- The floors of each treatment and/or storage WMA will be decontaminated by sweeping and washing as described in Section F.5, except as noted in this section.

- The asphalt in the outdoor waste storage area will be visually examined for evidence of deterioration and releases. Decontamination or removal of the asphalt will be limited to areas where there is visual evidence or documentation indicating a release of RCRA-regulated wastes or hazardous waste constituents has occurred.

7.4.2 Closure Schedule

Section F.7 of the site-wide closure plan provides a timeline for closure activities applicable to all permitted Units at the SNL/NM facility. Currently, there is not an estimated date of closure for the RMWMF. A Unit-specific closure schedule will be prepared and submitted to NMED prior to initiation of closure activities at the RMWMF.

7.5 Sampling and Analysis Plan

Section F.6 of the site-wide closure plan presents general sample collection equipment and techniques applicable to all Units at the SNL/NM facility. This Unit-specific SAP describes the sampling, analysis, and quality assurance (QA) methodologies Sandia/DOE will use to demonstrate clean closure of the RMWMF in accordance with the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart G [10-1-03], as applicable. It addresses specific details (e.g., the type, number, and location of samples; required analytical constituents; closure criteria, QA and quality control [QC] procedures) regarding RCRA closure of the RMWMF.

7.5.1 Sampling and Analysis Scope

This SAP presents procedures for acquisition, analyses, and evaluation of samples of floor sweepings (soil), pre-wash (unused) wash water, used wash water, and used rinse water from the floor and, where appropriate, secondary containment surfaces and fume hood interiors of six of the WMAs at the RMWMF (Buildings 6920, 6921, 6925, and 6926; and the two modular storage buildings); and similar samples from the transportainers at the outdoor waste storage area. All of the samples will be analyzed to determine concentrations of a set of indicator parameters selected from the range of hazardous waste constituents in the RCRA-regulated wastes managed in the Unit. These indicator parameters and the applicable criteria for clean closure are identified in Tables 5 and 6, and the rationale for their selection is presented in Section 7.5.3.

7.5.2 Sampling Methodology

7.5.2.1 Sample Locations

The floor of each WMA within a building, except for fume hoods, and of each transportainer at the outdoor storage area will be swept and a sample of the composited floor sweepings from each WMA will be collected for analysis.

Two samples of used wash water and two samples of used decontamination rinse water will be collected from each area indicated in Table 6. Used wash water will be contained in the bays, in temporary berms, or other containment devices; sampled; and removed prior to the decontamination rinse step. Used rinse water will be contained similarly, as necessary.

7.5.2.2 Sample Collection

One single representative sample will be collected from the composited floor sweepings (e.g., soil) at each WMA, as discussed above, prior to the decontamination procedure. Each sample will be analyzed for the indicator parameters identified in Table 5.

Table 5
Summary of Pre-Wash Sampling Program

Media to be Sampled	Sample Number & Type	Indicator Parameters[a]	Standards for Comparison[b]
Floor sweepings	Single grab from collected material at each WMA, except for fume hoods (representative of material removed from entire floor surface)	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	5.6 ppm 130 ppm <1 ppm 17.3 ppm 21.4 ppm <0.25 ppm <1 ppm <1 ppm
Pre-wash (unused) water	Single grab (one from each batch of detergent/water solution prior to use in decontamination)	Same as above	N/A

[a] These metals have been selected as indicator parameters to demonstrate clean closure at the RMWMF due to their typical presence in the wastes stored at each Unit.

[b] Analytical results for indicator parameters in floor sweepings will be compared to background concentrations in site soils developed by NMED (NMED, 1997). Analytical results for indicator parameters in sweepings and/or pre-wash water will be used in evaluating the decontamination wash water and rinse water.

Table 6
Radioactive and Mixed Waste Management Facility, Summary of Post-Wash Sampling Program

Area to be Decontaminated	Grid(s)	Samples per Grid[a]	Indicator Parameters[b]	Closure Criteria[c]
Building 6920 (Figure 13)	$S_1 - S_7$	4	Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
	S_8	4[d]	Same as above	Same as above
	S_9 (Fume Hood)	4[e]	Same as above	Evaluate with respect to concentrations in pre-wash water
	$N_1 - N_7$	4	Same as above	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
Building 6921 (Figure 14)	WA	4	Same as above	Same as above
	WT_1, WT_2	4	Same as above	Same as above
	Fume Hood	4[e]	Same as above	Evaluate with respect to concentrations in pre-wash water
Building 6925 (Figure 15)	A - B	4	Same as above	Evaluate with respect to concentrations in sweepings and/or in pre-wash water
Building 6926 (Figure 15)	A - B	4	Same as above	Same as above
Modular Storage Buildings (Figure16)	A	4[d]	Same as above	Same as above
Outdoor Storage Area	Each Transportainer	4	Same as above	Same as above

[a] One sample from each pair of wash water and rinse water samples will be filtered when collected to remove particulates.

[b] These metals have been selected as indicator parameters to demonstrate clean closure at the RMWMF due to their typical presence in the wastes stored at the Unit.

[c] Sandia/DOE will continue the long-standing practice of providing radionuclide data to NMED on a voluntary basis, in accordance with: (1) the joint guidance developed by the National Association of Attorneys General (NAAG) and the NAAG/DOE Working Group, *Sharing of Radionuclide Information with States*, dated September 1998, and (2) the data-sharing provisions of the current Agreement-in-Principle between DOE and the State of New Mexico for Environmental Oversight and Monitoring, dated November 29, 2000.

[d] Secondary containment surfaces (bottoms and sides) will be washed up to the secondary containment level.

[e] The interior surfaces of fume hoods will be washed.

One representative sample will be collected from each batch of unused detergent and water solution to be utilized in the decontamination procedure. Two representative grab samples of used wash water and two samples of used decontamination rinse water will be collected from the temporary berms or other containment structures after each wash and rinse cycle. One sample from each pair will be filtered upon collection to remove particulates present in the water. Each sample will be analyzed for the indicator parameters identified in Table 6, as appropriate.

7.5.2.3 Sampling Equipment

Samples of floor sweepings (e.g., soil) will be collected with a disposable scoop, trowel, or equivalent sampling device. Wash and rinse water samples will be collected with a disposable liquid sampling device. Samples will be placed in pre-cleaned 500-milliliter or 1-liter wide-mouth glass jars with screw-top lids, or other approved containers that are appropriate for the analysis.

One sample from each pair of used wash water and used decontamination rinse water samples will be filtered using a 0.45-micron filter to remove particulates.

7.5.2.4 Sample Equipment Decontamination

Pre-cleaned and prepared sample containers and disposable filtration equipment will be obtained from a commercial supplier or the analytical laboratory selected by Sandia/DOE. Decontamination of other disposable sampling equipment (e.g., scoops, trowels, liquid samplers) will not be required for the sampling procedures used in this closure.

If it is determined, during sampling activities, that reusable sampling equipment will be utilized, the equipment will be decontaminated using the following steps:

- Wash the equipment with a detergent and water solution, scrubbing as needed to remove any deposits;
- Rinse the equipment with tap water until the soapy residue is removed;
- Rinse with deionized or distilled water; and
- Allow to air dry or dry with a lint-free cloth.

7.5.2.5 Sample Identification

Each sample will be assigned an identification number that will uniquely identify the sampling area (e.g., floor, fume hood), the grid identifier, the sample type (e.g., soil, rinse water), and any additional information that may be necessary. As an example, the sample numbered F-6925-B-FL-RINSE-01 would indicate the filtered rinse water sample taken from the water used to rinse the floor of Grid B in Building 6925.

7.5.2.6 Sample Preservation and Holding Time

After samples are collected at the site, they will be placed in a cooler with frozen gel packs to maintain a temperature of approximately 4 degrees Celsius. Liquid samples will be preserved with nitric acid to maintain a pH of 2 or less. Analytical holding times will be observed by the laboratory for samples collected under this SAP (e.g., the recommended maximum holding time for metals analysis is 180 days from sample collection until extraction).

7.5.3 Demonstration of Clean Closure

Hazardous waste toxicity characteristic metals have been selected for use as indicator parameters to demonstrate clean closure at the RMWMF, as these constituents are present in many of the wastes commonly treated or stored in the Unit. Other wastes treated or stored in the RMWMF typically are regulated as hazardous waste due to ignitability (D001), corrosivity (D002), reactivity (D003), or the presence of trace amounts of volatile organic solvent constituents (F001-F005). Sampling floor sweepings (soil) or decontamination wash and rinse waters is of limited value for determining the presence of D001, D002, or D003 waste residuals. In addition, given their volatility, F001-F005 constituents would not likely be present on the floor, secondary containment, or interior fume hood surfaces even if these constituents had been released in the past. If residual contamination is present on these surfaces of the RMWMF WMAs, it is more likely to consist of metal constituents than volatile organic compounds. For these reasons, samples will be analyzed for hazardous waste toxicity characteristic metals only, using EPA Method SW 6010B, or an equivalent method.

Analytical results from floor sweeping (soil) samples will be compared to background concentrations that were developed by the NMED for site soils (NMED, 1997) to determine whether the levels in the floor sweepings exceed background and to establish appropriate management requirements for these residuals. Analytical results from decontamination wash and rinse water samples will be compared to the results for the floor sweepings and/or pre-wash water. If the concentrations of indicator parameters in the rinse water are consistent with the concentrations in the soil and/or pre-wash water, the grid area will be considered clean. If the concentrations of indicator parameters are substantially elevated, surface contamination is indicated, and the grid area represented by the sample will be decontaminated again in accordance with the procedures in Section F.5.2.1 of the site-wide closure plan.

7.5.4 Quality Control

QC for sampling and analysis at the RMWMF will be implemented as described in Section F.6 of the site-wide closure plan.

7.5.5 Data Management and Reporting

Data management and reporting will be performed as described in Section F.6 of the site-wide closure plan.

7.6 Decontamination and Verification Procedures

Section F.5.2 of the site-wide closure plan presents general decontamination and verification procedures applicable to all Units at the SNL/NM facility. Prior to closure, this Unit-specific plan will be updated as necessary to incorporate new or improved decontamination practices or technology. Any revisions to this Unit-specific plan will be submitted to NMED for approval prior to initiation of closure activities at the RMWMF.

8.0 TREATMENT PLAN

Treatment operations for RCRA-regulated wastes treated at the RMWMF are described in this section.

The following treatment technologies may be used to treat RCRA-regulated wastes at the RMWMF:

- Chemical deactivation,
- Thermal deactivation,
- Amalgamation,
- Stabilization,
- Macroencapsulation, and
- Physical treatment.

Sandia/DOE may use each technology to treat any of the wastes in the General Part A that include the particular technology in the process description. Treatment at the RMWMF may occur in Buildings 6920, 6921, and 6925. Treatment (except some physical treatment) is and will be conducted in containers; therefore, it is not subject to the miscellaneous unit and environmental performance standards in 20 NMAC 4.1.500/40 CFR 264, Subpart X [10-1-03]. Treatment effectiveness for each waste stream is discussed in Section 8.3.

8.1 Treatment Operations

Waste treatment is performed at the RMWMF for one or more of the following reasons:

- To meet land disposal restrictions (LDRs);
- To allow for the safe storage of the waste; and/or
- To meet treatment, storage, or disposal facility (TSDF) requirements.

All of the treatment at the RMWMF is batch treatment performed on single packages of waste (each package is one 55-gallon drum or less, or a single item that may be larger than a drum. Each type of treatment is performed on batches of 500 pounds of waste or less, with the exception of physical treatment, which may occasionally involve very large, heavy items. Liquid wastes are treated in batches of 60 gallons or less. .

Waste treatment may generate secondary waste streams (treatment residues). RCRA-regulated treatment residues may undergo additional on-site treatment to meet LDRs and/or be sent to an appropriate off-site TSDF.

The waste treatment processes described in this section are effective in addressing hazardous characteristics in RCRA-regulated wastes, including the following:

- Solid items exhibiting the hazardous waste characteristics of ignitability or reactivity may be chemically deactivated to eliminate the characteristic(s).

- Liquid waste exhibiting the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity may be chemically deactivated to remove the characteristic(s).
- Reactive (explosive) wastes may be treated using thermal deactivation techniques.
- Elemental mercury may undergo amalgamation to reduce or eliminate the leaching potential.
- Liquid wastes and particulates containing hazardous waste toxicity characteristic metals (excluding elemental mercury and high mercury subcategories) may be stabilized to reduce or eliminate the leaching potential of the hazardous waste constituents.
- Debris and wastes containing hazardous waste toxicity characteristic metals (excluding elemental and high mercury subcategories defined in 20 NMAC 4.1.800/40 CFR 268) may be macroencapsulated to reduce or eliminate the leaching potential of the hazardous waste constituent(s).
- Solid items with hazardous constituents may be physically separated from larger items, and the size of individual pieces may be reduced.
- Pressurized containers may be punctured or opened to release the contents.

Treated wastes and waste residues resulting from treatment of RCRA-regulated wastes may or may not require further management as hazardous wastes, as discussed in Appendix B, Section B.2.5.

Each waste treatment technology or process listed above is described in the following sections.

8.1.1 Chemical Deactivation

Sandia/DOE perform chemical deactivation in containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The treatment may take place within the fume hood(s) that are present in each building. The containers vary in size depending on the quantity of waste to be treated, and include laboratory glassware, 5-gallon buckets, and 55-gallon drums.

Chemical deactivation refers to a number of chemical processes that can eliminate the hazardous waste characteristics of ignitability, corrosivity, and/or reactivity. Deactivation can be accomplished by several technologies (e.g., neutralization or chemical oxidation). However, the intent of this section is to identify and describe specific methods or treatment trains which may be used at the RMWMF to deactivate ignitable wastes defined in 20 NMAC 4.1.200/40 CFR 261.21(a)(2) and (4) [10-1-03], corrosive and reactive wastes defined in 20 NMAC 4.1.200/40 CFR 261.23 [10-1-03]. Deactivation may or may not result in a final waste form, depending on the process, and may be used as the first in a series of treatment steps.

Deactivation processes are conducted under carefully controlled conditions so that RCRA-regulated waste with the characteristic of reactivity is allowed to react in a slow, nonviolent manner. Allowing the reactive potential of the waste to be dissipated in this manner reduces or

eliminates the reactive characteristic of the waste. Deactivation of reactive wastes is typically conducted in small batches under laboratory conditions such that process control can be easily maintained.

- Hydrides, deuterides, and tritides are deactivated by slow addition to an ice water bath.
- Deactivation of water reactive metals such as elemental sodium and lithium involves the slow and controlled addition of an appropriate alcohol/water solution. Alcohol/water addition is maintained until the water reactive potential of the waste has been eliminated.
- Deactivation of pyrophoric metal powders and particulates may be achieved by mixing waste in a portland cement matrix.
- Water-soluble oxidizers in particulate form are slowly dissolved in water to deactivate them as the first step in the treatment process. The resulting solution may undergo further treatment (e.g., neutralization and stabilization).
- Water-soluble concentrated liquid oxidizers such as hydrogen peroxide may be diluted with water in a controlled manner to make them safer to handle before deactivation with an appropriate chemical agent such as iron filings.

Chemical deactivation to remove the characteristic of corrosivity is the process of removing excess acidity or alkalinity from an aqueous liquid waste. Other uses may include pH adjustment to facilitate subsequent treatment; such pretreatment through deactivation may be necessary to prevent corrosive damage to equipment, deter undesirable reactions, and preclude the formation of unwanted byproducts.

Reagents added to achieve a desired pH are combined with liquid waste inside a mixing vessel or directly in the waste container. Common deactivating reagents include, but are not limited to, sodium hydroxide for acid wastes; and phosphoric acid for alkaline wastes. The selection of reagents is dependent on the quantity of reagent required, cost, availability, and the potential byproduct(s). These deactivation processes are conducted under carefully controlled conditions in which the reagent is added to the waste slowly and mixed thoroughly. This allows the reaction to proceed in a nonviolent manner and allows the energy to be dissipated effectively. Ice may be used if needed to cool the mixture during the reaction. In the case of reactions that are expected to be strongly exothermic, wastes may be treated in small batches under laboratory conditions (similar to the deactivation of reactive wastes) such that process control can be easily maintained.

8.1.2 Thermal Deactivation

Sandia/DOE perform thermal deactivation of reactive RCRA-regulated wastes, including batteries, explosives, and explosive components, in a Sandia-designed and tested portable deactivation device that meets the definition of a container in 20 NMAC 4.1.100/40 CFR 260.10. The device is a thick-walled stainless steel vacuum apparatus equipped with an internal heated plate and sensors to measure temperature and pressure. The explosive deactivation device was designed to contain a detonation of 25 grams TNT-equivalents of explosive waste. The

inside diameter of the cylinder is 8 inches, and it is 18 inches long. Because the device is portable, it may be used in any of the treatment areas in Building 6920 or 6921. It is shown in Figure 17.

Reactive waste is placed on the plate, inserted into the cold unit, the unit is sealed and filled with an inert atmosphere (e.g., nitrogen), and the temperature of the plate is slowly raised until reaching a temperature at which the explosive being treated decomposes. Personnel use waste characterization data and/or published chemical information (e.g., "DOE Explosives Safety Manual" [DOE, 2002] or other chemical or engineering handbook) to determine the required temperature. The temperature is maintained for two hours to complete the decomposition. The unit is cooled and decomposition gases are vented to a fume hood with a high-efficiency particulate air filtration system.

8.1.3 Amalgamation

Sandia/DOE perform amalgamation of small quantities of elemental mercury in small (e.g., laboratory) containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The amalgamation process for liquid elemental mercury involves mixing liquid mercury waste with a powdered base metal. The amalgamation process immobilizes elemental mercury into a solid leach-resistant form that has minimal potential for emission of mercury vapor.

The two important operating parameters for effective treatment are: (1) the ratio of base metal to mercury, and (2) the efficiency of mixing. Copper or zinc is typically used as base metals, but tin, nickel, gold, and sulfur may also be used. The base metal may be pretreated with acid to improve the effectiveness of the amalgamation reaction. For the small quantities of mercury that will be treated at the RMWMF, hand mixing the mercury and base metal using a mortar and pestle is sufficient to create an amalgam with uniform properties.

8.1.4 Stabilization

Sandia/DOE perform stabilization in containers in the treatment areas in Buildings 6920 and 6921 at the RMWMF. The treatment may take place within the fume hood(s) that are present in each building. Stabilization is a process of binding hazardous waste metals so that the metals become chemically part of the matrix or are physically bound within the matrix. The primary use of stabilization is to immobilize toxicity characteristic metals but many stabilization agents also eliminate free liquids. Typical waste forms suitable for stabilization include liquids, soils, and particulate-type wastes.

Process equipment for mixing waste and binder materials depends on the type of reagents used and the volume of waste to be treated. In-drum mixing is typically used for large volume waste quantities. Once waste and binder have been thoroughly mixed and placed in a container, the mass is allowed to cure and/or set. Smaller batches may be mixed by hand and allowed to cure in smaller containers (e.g., 5-gallon pails, and tubs and trays of various sizes).

Development of appropriate formulas is waste specific. Stabilization agents for toxic metals may include portland cement, pozzolans, thermoplastics, organic polymers, and clays. However, other waste forms may require proprietary reagents that are available for specific

applications. Additional reagents may be added to reduce contaminant leachability, reduce cure and/or set time, and increase strength.

Waste characteristics that are important to the success of the stabilization process for liquids may include volume percent of water, oil, solvents, or other organics; pH; and hazardous waste constituents. Waste characterization data are used to determine whether the waste is amenable to stabilization, any necessary pretreatment requirements, and the appropriate binding agent.

Once stabilization is selected, the binding agent is identified based on chemical compatibility with the waste form and contaminants present. Pretreatment may be required to assure compatibility between the waste and the binding agent (e.g., neutralization of liquid wastes to an acceptable pH range of 5.0 to 11.0). Once the proper binding agent(s) have been identified, bench-scale testing is performed to determine optimum amounts of each agent. In the case of low volume waste streams (e.g., less than approximately 0.26 gallons), bench-scale testing may not be practical and treatment is performed without bench-scale testing using the manufacturer's suggested quantities or by estimating binding agent quantities from previous experience. The stabilization process is performed by combining the predetermined quantities of binding agent(s) with the waste and thoroughly mixing, if appropriate. The resulting mixture is staged to allow an appropriate cure time.

8.1.5 Macroencapsulation

Sandia/DOE perform macroencapsulation in containers in Buildings 6920, 6921, and 6925 at the RMWMF. Macroencapsulation is generally applicable to debris or specific wastes, whereas stabilization (see Section 8.1.4) is generally applicable to liquids, sludges, and particulate-type wastes. Macroencapsulation is the process of completely encasing waste within a polymer coating or concrete, or within a jacket of inert inorganic materials. The primary use of macroencapsulation is to immobilize wastes such as debris-type solids containing hazardous waste constituents by completely surrounding the waste material with a leach-resistant coating.

Sandia/DOE perform macroencapsulation using one of three processes:

- Encasing the waste in concrete, typically within a larger container that serves as a mold.

- Coating the waste with polymer agents within a mold. Polymers typically used for macroencapsulation include, but are not limited to, polyethylene, thermosetting plastics, and resins that can be polymerized under ambient temperatures in the presence of a catalyst. Equipment used for macroencapsulation may include molds, polymer extrusion equipment, and resin mixing equipment. In-drum macroencapsulation may also be performed with the drum acting as the mold. Temperature control of polymer macroencapsulation processes is critical and carefully maintained to assure that adequate coating occurs.

  For example, Sandia/DOE perform macroencapsulation with a chemically inert resin (typically polyethylene), using 30-gallon containers (metal baskets). Each basket containing the solid RCRA-regulated waste items is placed in a 50-gallon mold (similar in size and shape to a 55-gallon drum). The basket is designed to fit into the mold with

one to two inches of clearance on all sites, the top, and the bottom. The mold containing the basket and waste items is then filled with melted resin that is heated using a commercially available extrusion unit. Each basket is used only once because it becomes encapsulated within the inert resin and is part of the final waste form. After the resin cools and solidifies, the mold is removed, the waste form is turned over and more polyethylene is added to form a final cap on the end. The completed waste form is a cylinder slightly smaller than a 55-gallon drum.

- Placing the waste inside a commercially available container made of an inert resin such as polyethylene. After the wastes and inert void-filler materials are placed in the container, the resin is heated to seal the container and lid (e.g. using a resistance-heated wire system embedded in the container lid). The container may also include an outer metal shell to provide additional structural strength. Sandia/DOE use containers of various sizes, depending on the volume of waste items to be macroencapsulated.

8.1.6 Physical Treatment

Sandia/DOE perform physical treatment (volume reduction) in Buildings 6920 and 6921 at the RMWMF.

The treatment includes:

- Reducing waste volume by using commercially available tools (e.g., hammers, screwdrivers, wrenches, pliers, saws, drills, cutters, etc.) to separate items with hazardous waste constituents from larger items or from each other, including removal of coating and filler materials. In some cases, the RCRA-regulated waste item may undergo further physical treatment or treatment in containers.

- Removing coating and filler materials (e.g. resins) by dissolution in containers (e.g., trays or pails) in order to facilitate separation of items with hazardous waste constituents from each other or from other items. Dissolution may take place within the fume hood(s) that are present in each building. The dissolved material may undergo further treatment in containers.

- Reducing the size of waste items by using tools (e.g. mallets, cutters, etc.) to crush or cut items into smaller pieces. The pieces may undergo further treatment in containers.

- Puncturing aerosol cans within a container to allow recovery of the contents. The liquid contents of the aerosol cans are collected in the container, and any gaseous propellants are filtered through a carbon filter attached to the container. Liquids collected may undergo further treatment in containers.

- Releasing pressurized contents of containers other than aerosol cans (e.g., gas cylinders). Organic gaseous contents are filtered through a carbon filter. All gaseous contents are vented to a chemical fume hood with a high-efficiency particulate air filtration system.

8.2 Preventing Releases to the Atmosphere

Most of the RCRA-regulated wastes treated at the RMWMF are inorganic and are not expected to generate emissions during treatment. Unit personnel perform chemical reactions that could generate emissions (deactivation and stabilization) in a controlled manner as described above to further minimize potential air emissions. Treatment operations that may generate air emissions of gases, vapors, or particulates are conducted in a controlled manner within fume hoods or with other local ventilation if possible. Each fume hood provides an enclosed work area equipped with a localized exhaust system. Air flow from each fume hood passes through a high-efficiency particulate air filter train before being released to the environment through an exhaust stack. The filters effectively remove particulates entrained in the air flow.

The filters do not remove organic constituents entrained in the air flow. Unit personnel employ the practices described in Section 8.2 of the General Part B to prevent releases of organic constituents to the atmosphere during treatment (20 NMAC 4.1.900/40 CFR 270.14[b][8][vi] and 270.27(a)(2); 20 NMAC 4.1.500/40 CFR 264.179 and Subparts AA, BB, and CC).

8.2.1 Subpart AA

The RMWMF treatment operations do not employ processes subject to the requirements of 20 NMAC 4.1.500/40 CFR 264, Subpart AA.

8.2.2 Subpart BB

During treatment, Sandia/DOE do not routinely manage RCRA-regulated wastes with organic concentrations ≥10 percent by weight in process equipment identified in 20 NMAC 4.1.500/ 40 CFR 264, Subpart BB [10-1-03]. Equipment used in such service at the RMWMF will be used for less than 300 hours per calendar year and is therefore exempt from the requirements of 20 NMAC 4.1.500/40 CFR 264.1052 through 1060 [10-1-03] as noted in 20 NMAC 4.1.500/40 CFR 264.1050(f) [10-1-03]. The equipment location will be noted in the RMWMF records. Equipment use will also be noted in the records.

8.2.3 Subpart CC

Unit personnel follow the practices described in Section 8.2 of the General Part B. Unit personnel do not perform any treatment subject to Container Level 3 standards (20 NMAC 4.1.500/40 CFR 264.1086[c]).

Section B.5.3 in Appendix B to the General Part B also describes procedures to maintain compliance with the air emissions requirements of 20 NMAC 4.1.500/40 CFR 264, Subparts BB and CC [10-1-03].

8.3 Treatment Effectiveness (20 NMAC 4.1.900/40 CFR 270.23[d])

As required in 20 NMAC 4.1.900/40 CFR 270.23(d) [10-1-03], Sandia/DOE evaluate treatment effectiveness by appropriate methods for each batch of waste treated at the RMWMF. In many cases (e.g. stabilization), Unit personnel treat small samples of a batch of waste using a single agent in various proportions or using various agents to determine which is most effective. That process is then used in treating the rest of the waste. Characterization of the treated waste is described in Appendix B (Section B.2.5.2) of the General Part B.

8.3.1 Chemical Deactivation

Unit personnel check treatment effectiveness using one or more of the following methods (depending on the goal of the treatment performed):

- Visual check for completeness of chemical reaction for solid items that were treated to remove the characteristic of reactivity.
- Visual check or ignitability test for liquids that were treated to remove the characteristic of ignitability.
- Knowledge of process to determine whether chemical reaction(s) were completed.
- Check whether treated waste is an oxidizer as defined in 40 CFR Part 173.
- Visual check for liquids that were treated to remove the characteristic of reactivity.
- Fingerprint chemical check for the presence of sulfides and cyanides if their presence caused the waste to be reactive.
- Fingerprint check for pH of liquids that were treated to remove the characteristic of corrosivity.

8.3.2 Thermal Deactivation

Unit personnel check treatment effectiveness through proper operation of the unit (maintaining specified decomposition temperature for specified length of time). In some cases, personnel may visually check for evidence of chemical reaction (e.g., color change or structural change) in the solid item.

8.3.3 Amalgamation

Unit personnel visually check each batch of treated waste to verify that the chemical reaction occurred.

8.3.4 Stabilization

Unit personnel check treatment effectiveness using one or more of the following methods (depending on the goal of the treatment performed):

- Visual check for the presence of free liquids.
- Paint filter test to determine whether free liquids are present if the treated waste is amorphous and may contain some liquids.
- Analysis of one or more samples of the treated waste using the TCLP for hazardous waste toxicity characteristic metals. If the stabilization is intended to meet the treatment standards in 20 NMAC 4.1.800/40 CFR 268.40, the analysis will include underlying hazardous constituents as described in Appendix B.

8.3.5 Macroencapsulation

Unit personnel visually check each macroencapsulated item to verify that it is completely encased in the inert resin or concrete.

8.3.6 Physical Treatment

Unit personnel check treatment effectiveness using one of more of the following methods (depending on the goal of the treatment performed):

- Visual check that item(s) with hazardous waste constituents has(ve) been completely separated from other item(s).
- Visual check that pieces are the desired size.
- Visual check that punctured aerosol cans are empty and the contents are in the container.
- Leaving the container for a time to allow it to continue venting after visual and/or audible evidence indicates it is empty. The length of time would be determined by the size of the container, the contents, and the strength of the evidence.

9.0 REFERENCES

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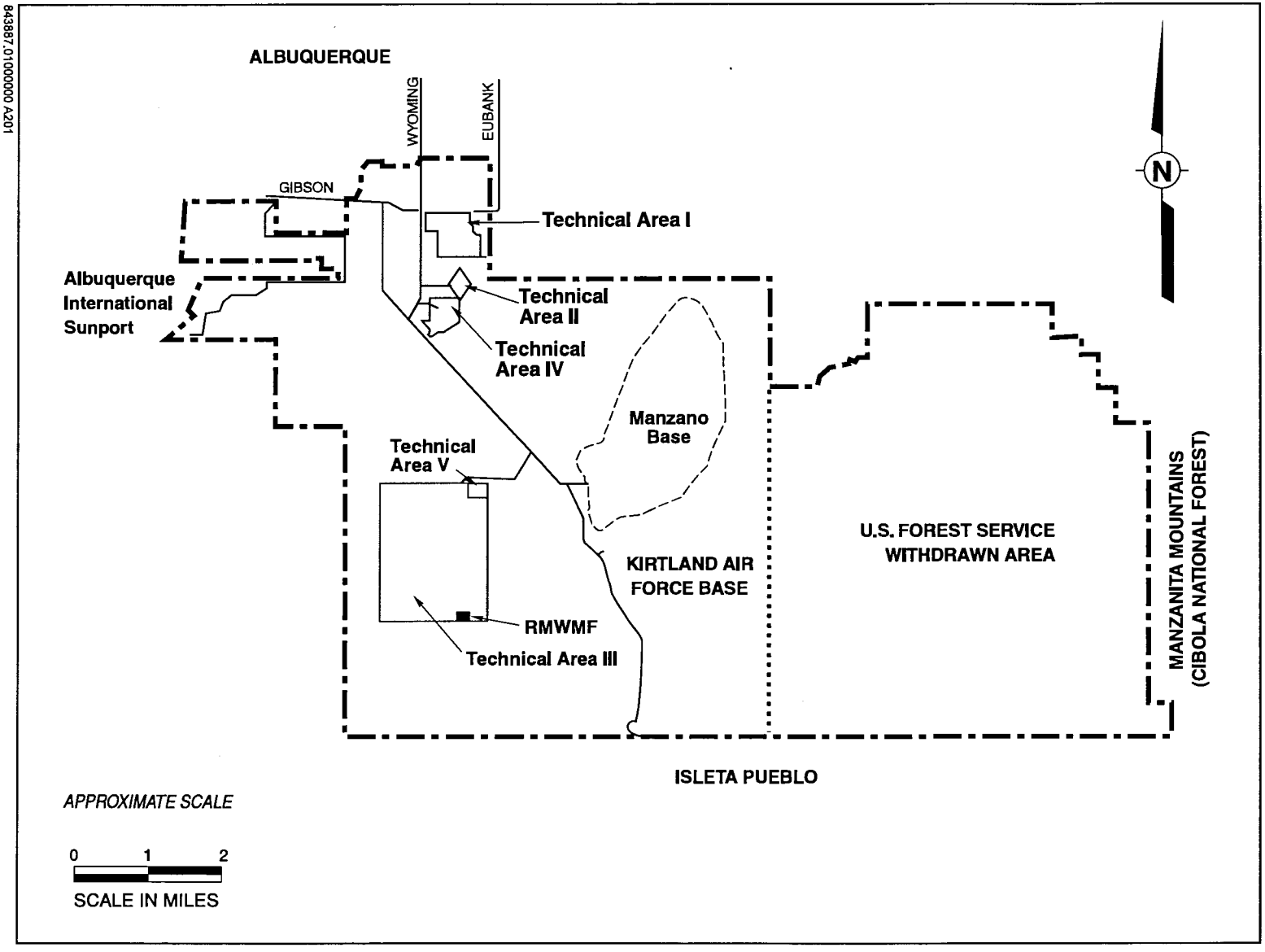

Figure 1
Location Map of the Radioactive and Mixed Waste Management Facility at Sandia National Laboratories/New Mexico

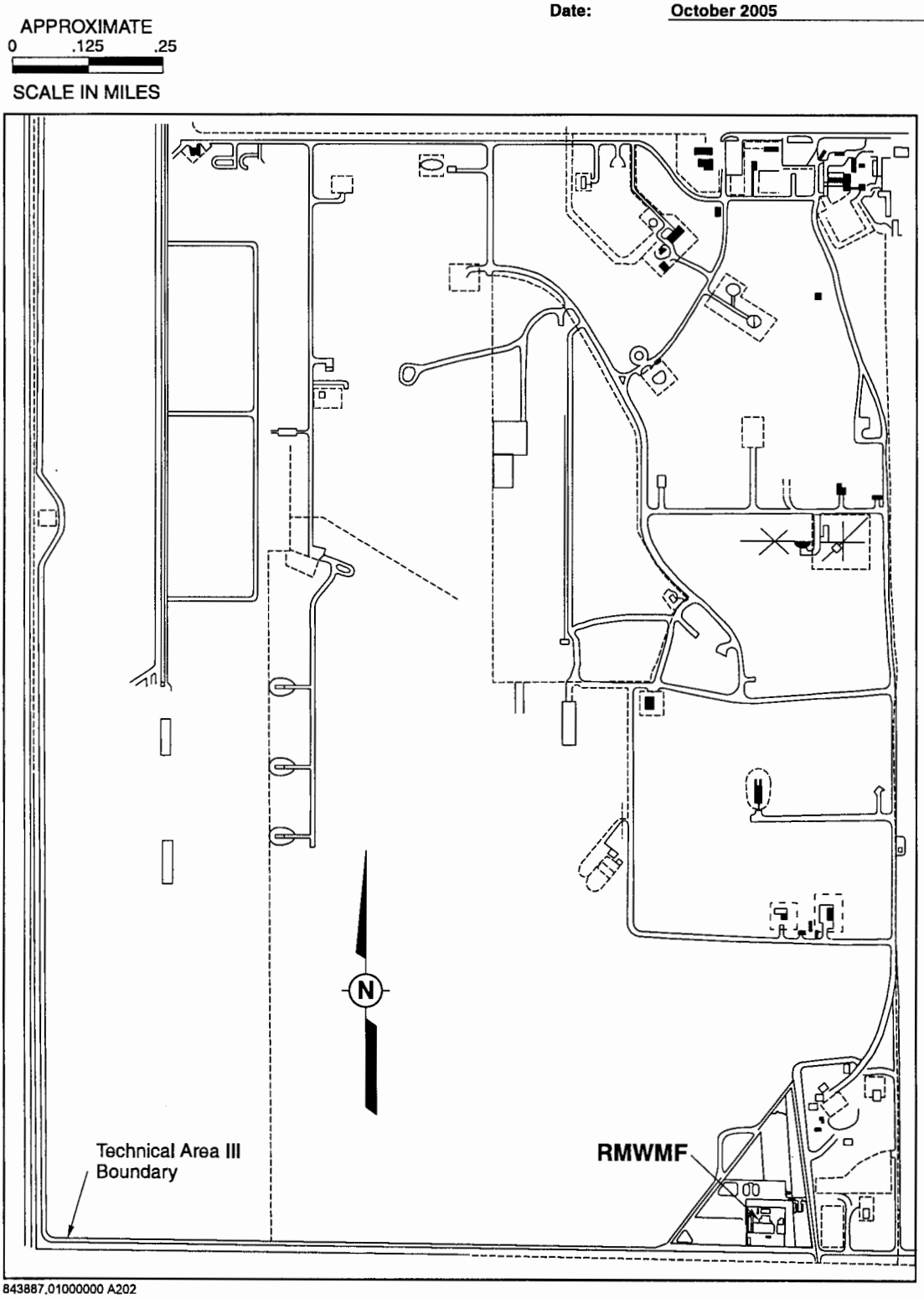

Figure 2
Location of the Radioactive and
Mixed Waste Management Facility in Technical Area III

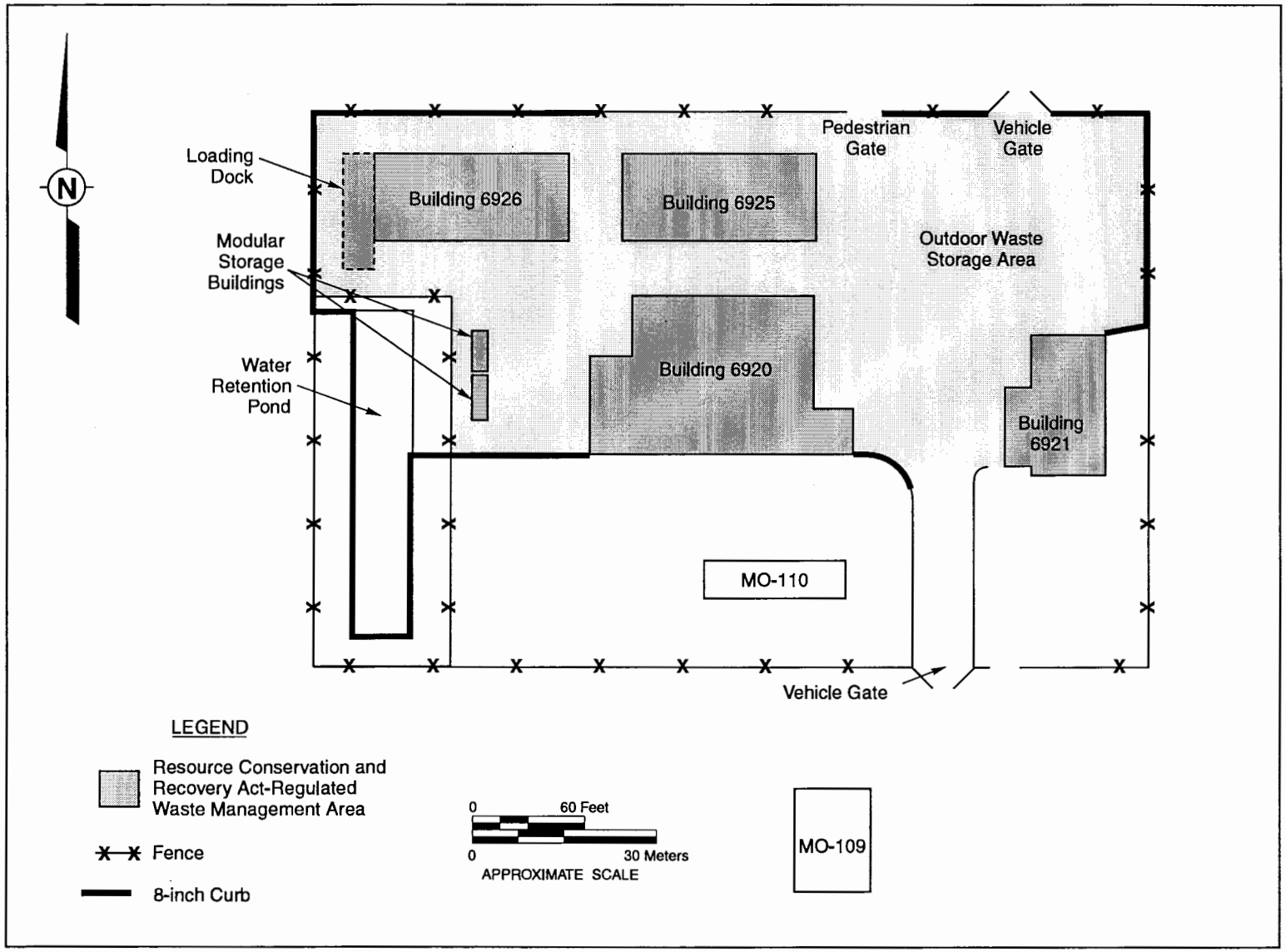

Figure 3
Radioactive and Mixed Waste Management Facility, Unit Layout

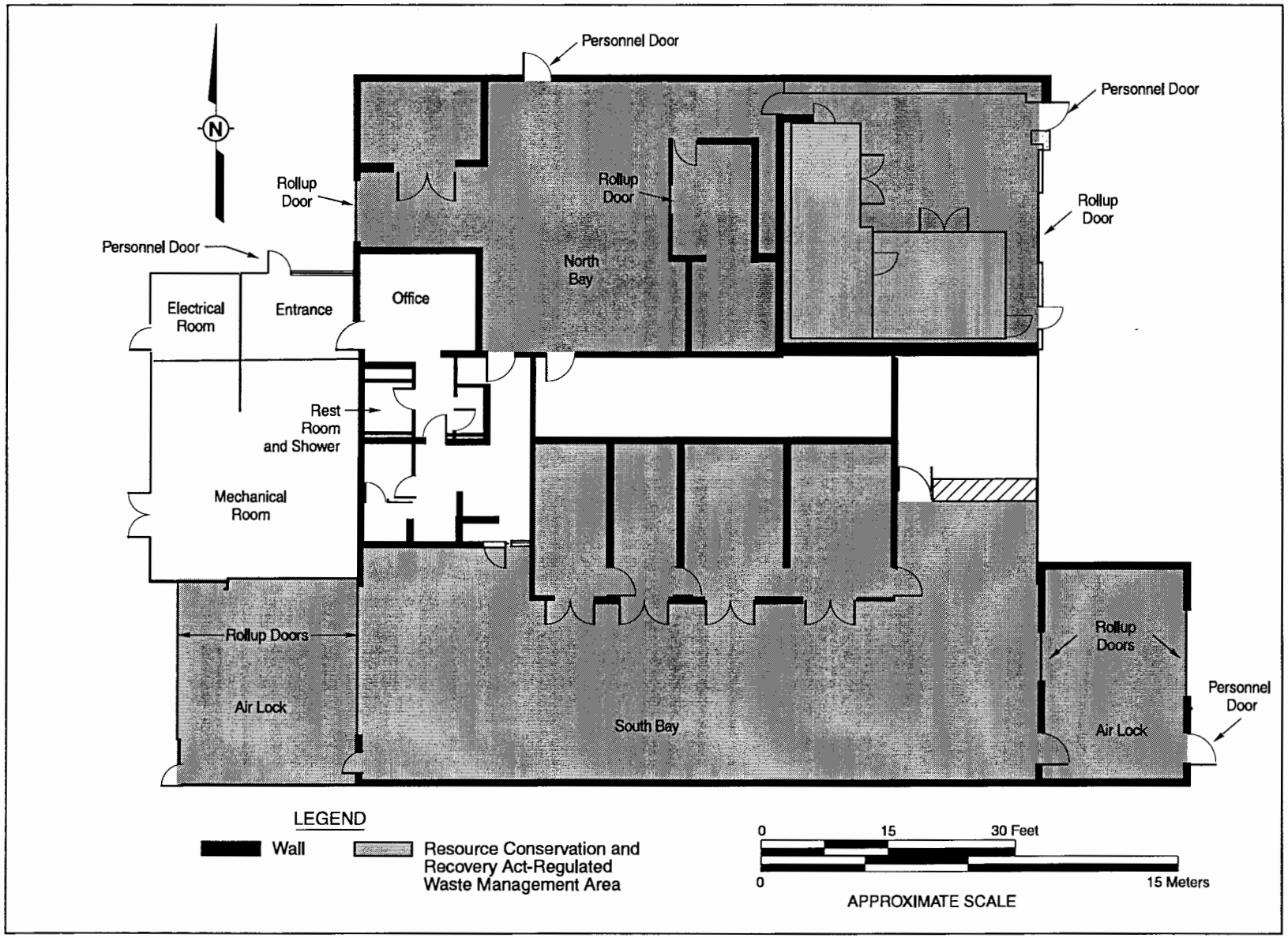

Figure 4
Radioactive and Mixed Waste Management Facility, Building 6920, Resource Conservation and Recovery Act-Regulated Waste Management Areas

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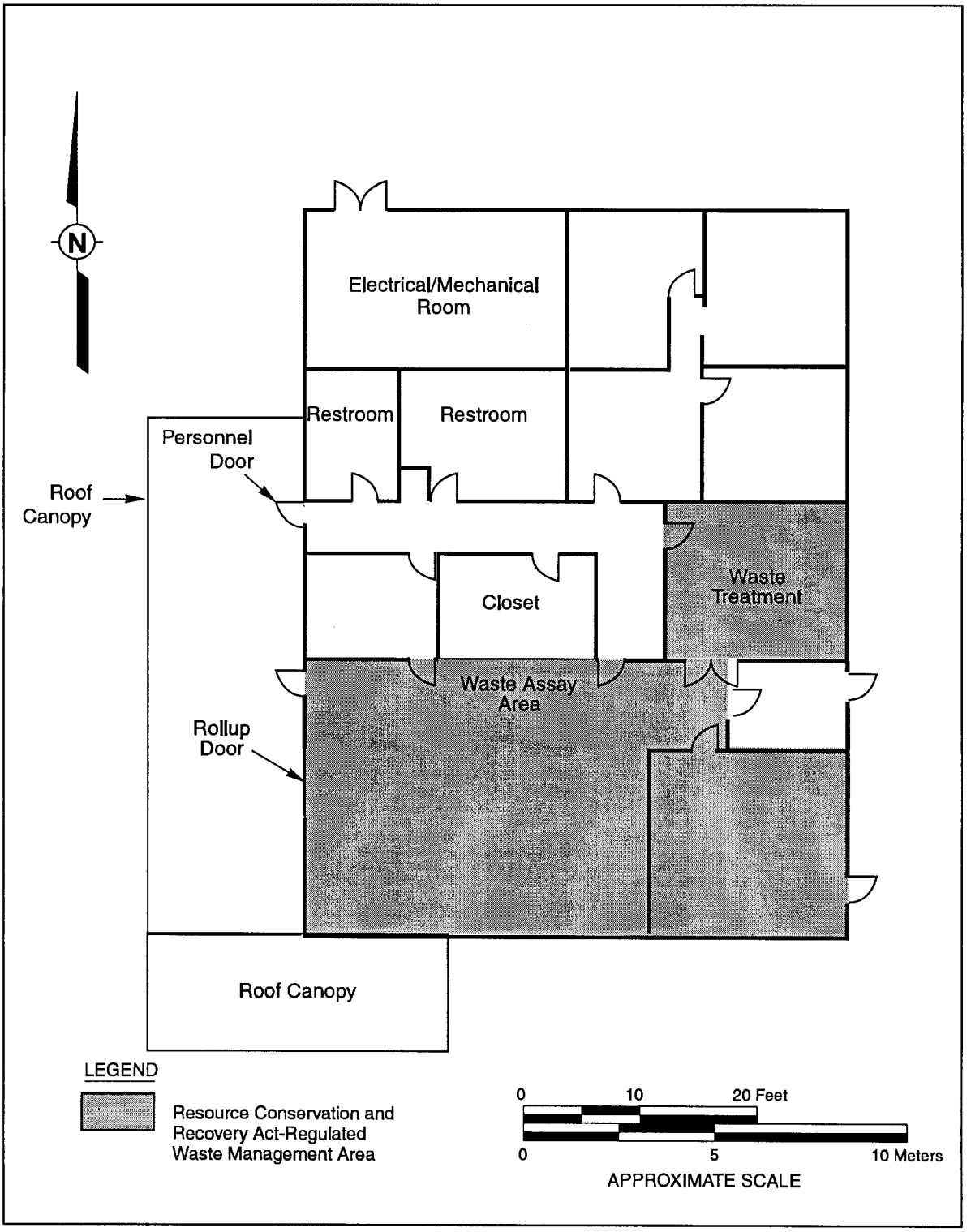

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Figure 5
Radioactive and Mixed Waste Managment Facility, Building 6921, Resource Conservation and Recovery Act-Regulated Waste Management Areas

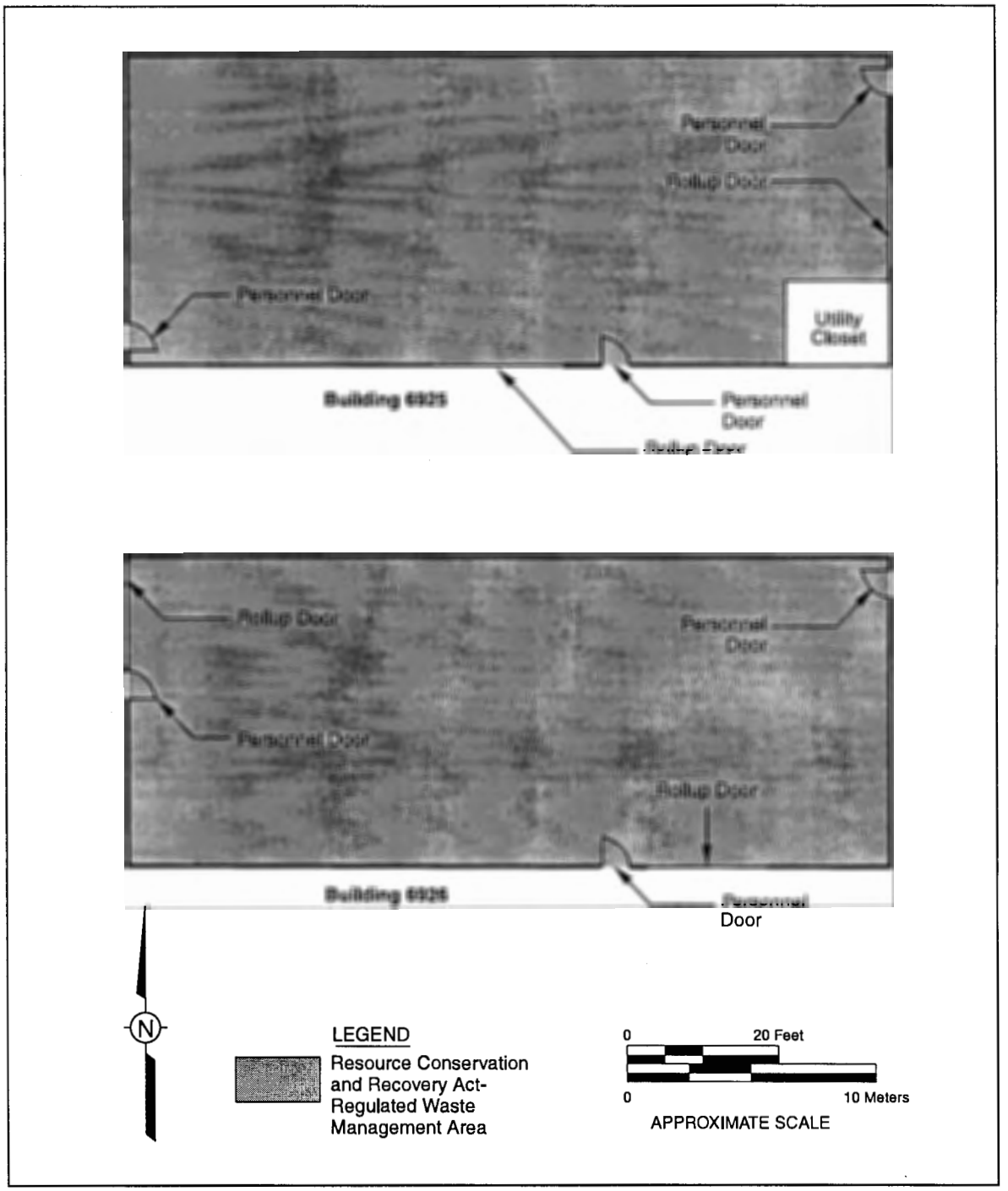

Figure 6

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Resource Conservation and Recovery Act-Regulated Waste Management Areas

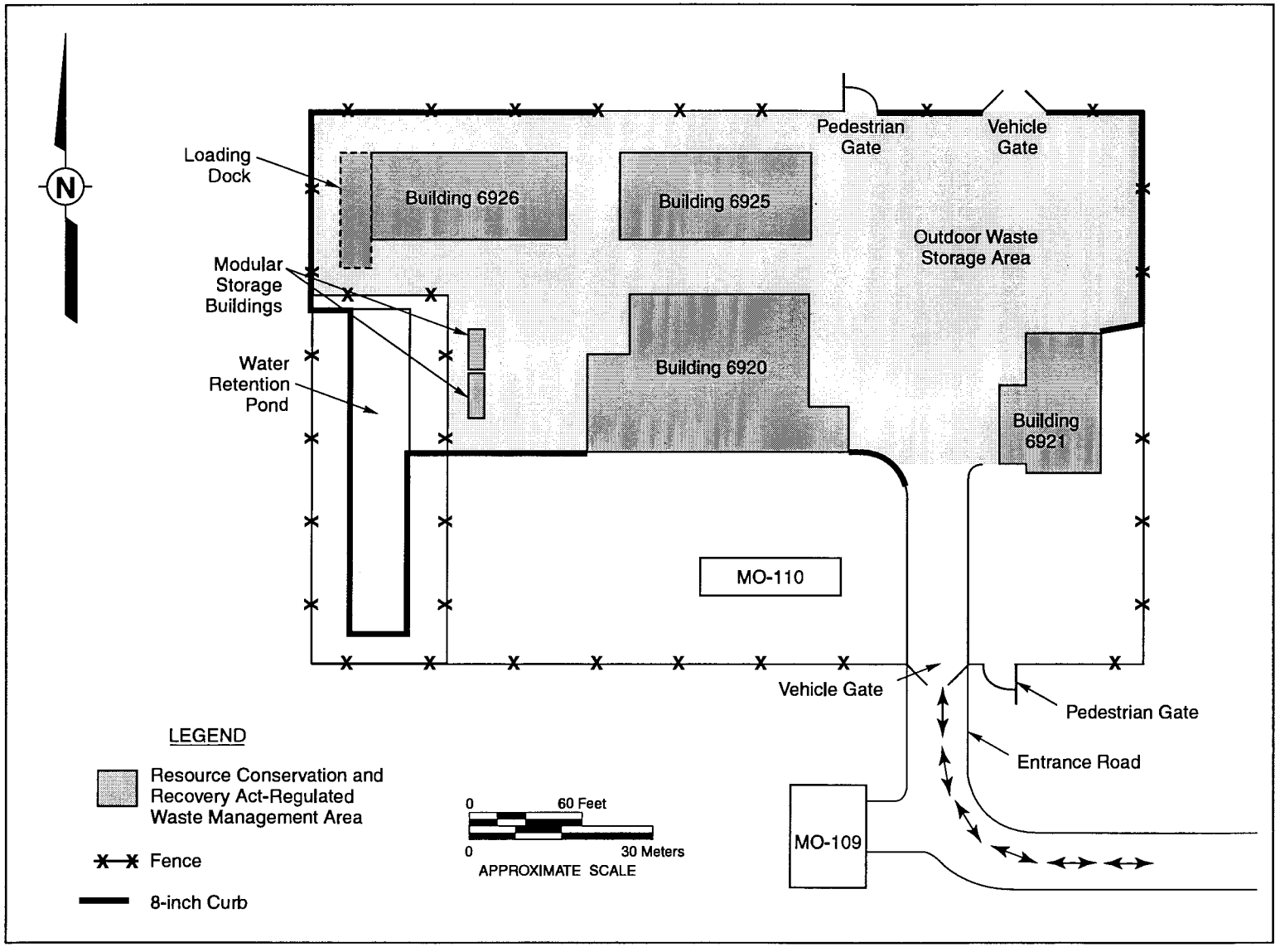

Figure 7
Radioactive and Mixed Waste Management Facility, Traffic Route and Controls

TO VIEW THE MAP/MAPS ASSOCIATED WITH THIS DOCUMENT PLEASE CALL THE HAZARDOUS WASTE BUREAU AT 505-476-6000 TO MAKE AN APPOINTMENT

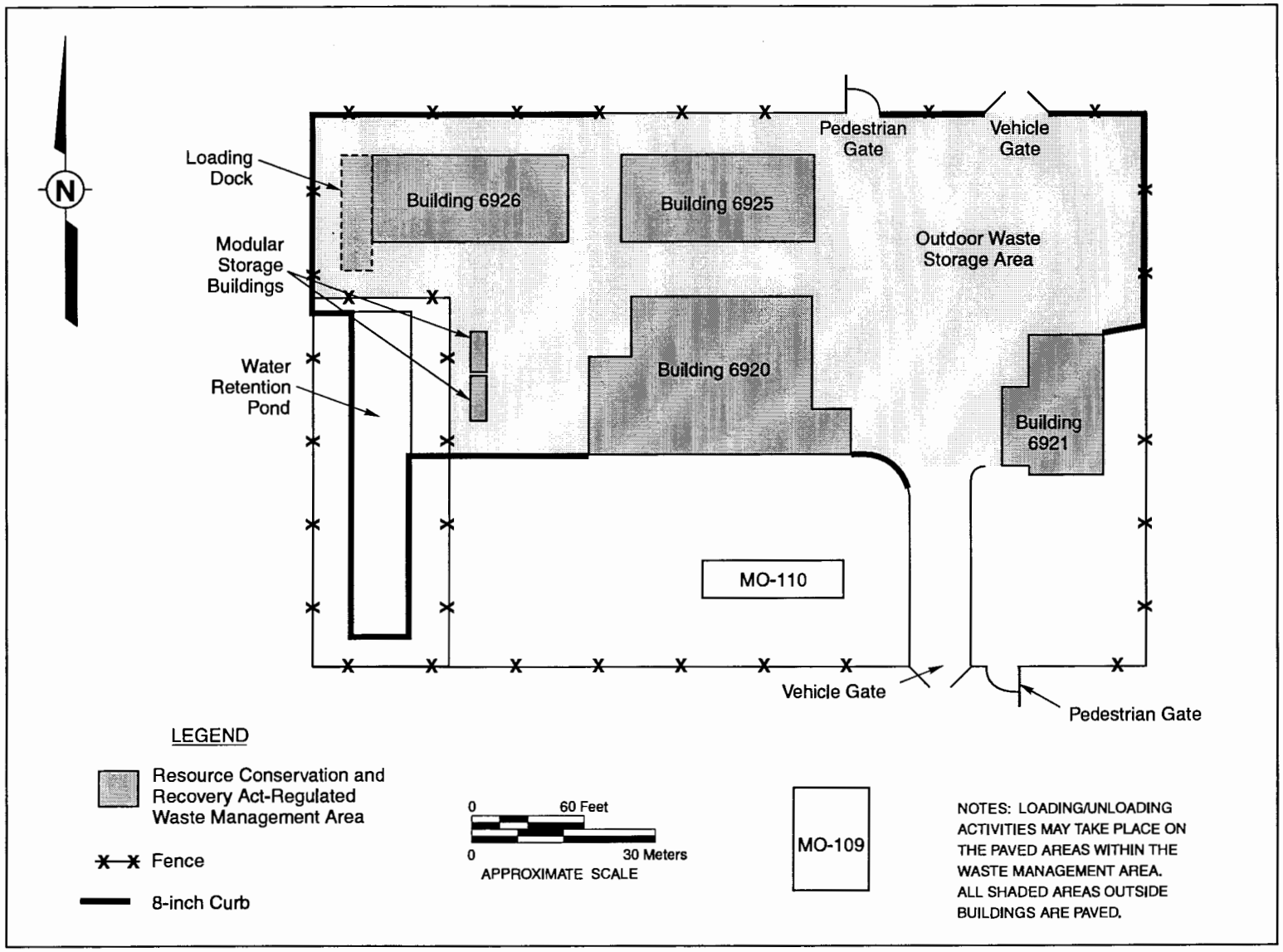

Figure 9
Radioactive and Mixed Waste Management Facility, Access Control Features

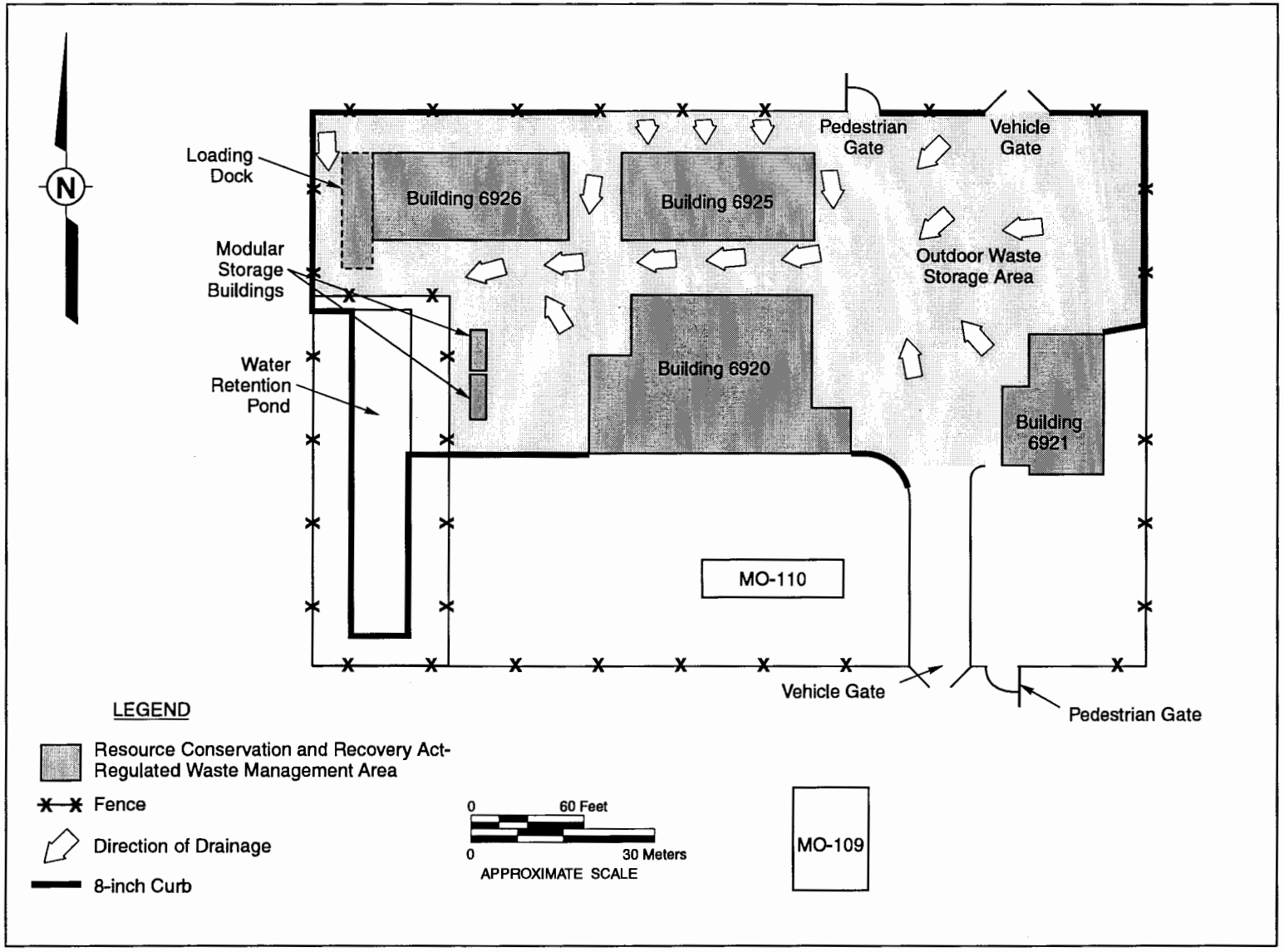

Figure 10
Radioactive and Mixed Waste Management Facility, Drainage Control Features

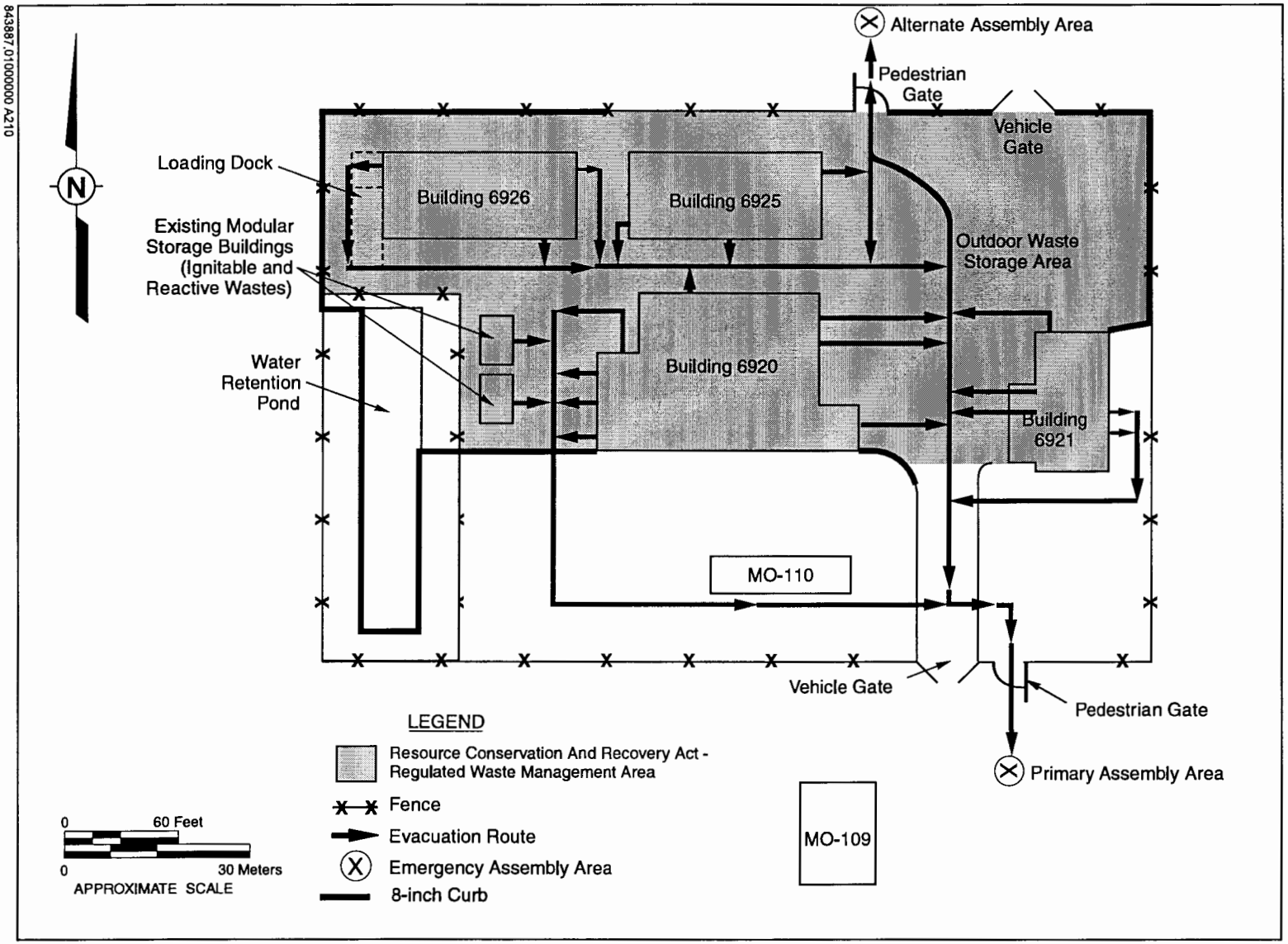

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Figure 11

Radioactive and Mixed Waste Management Facility, Evacuation Routes

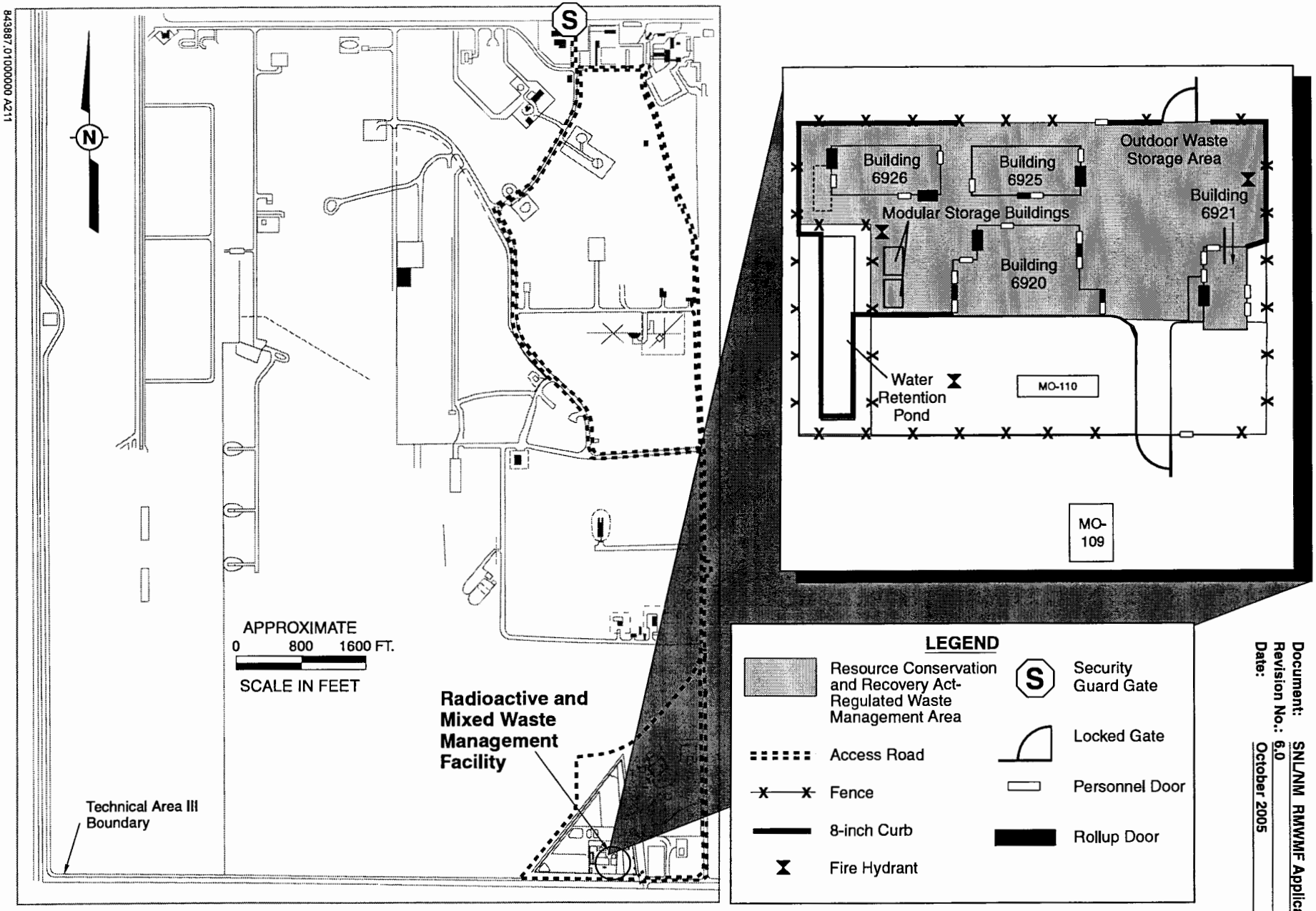

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Figure 12

Radioactive and Mixed Waste Management Facility, Emergency Response and Access Information

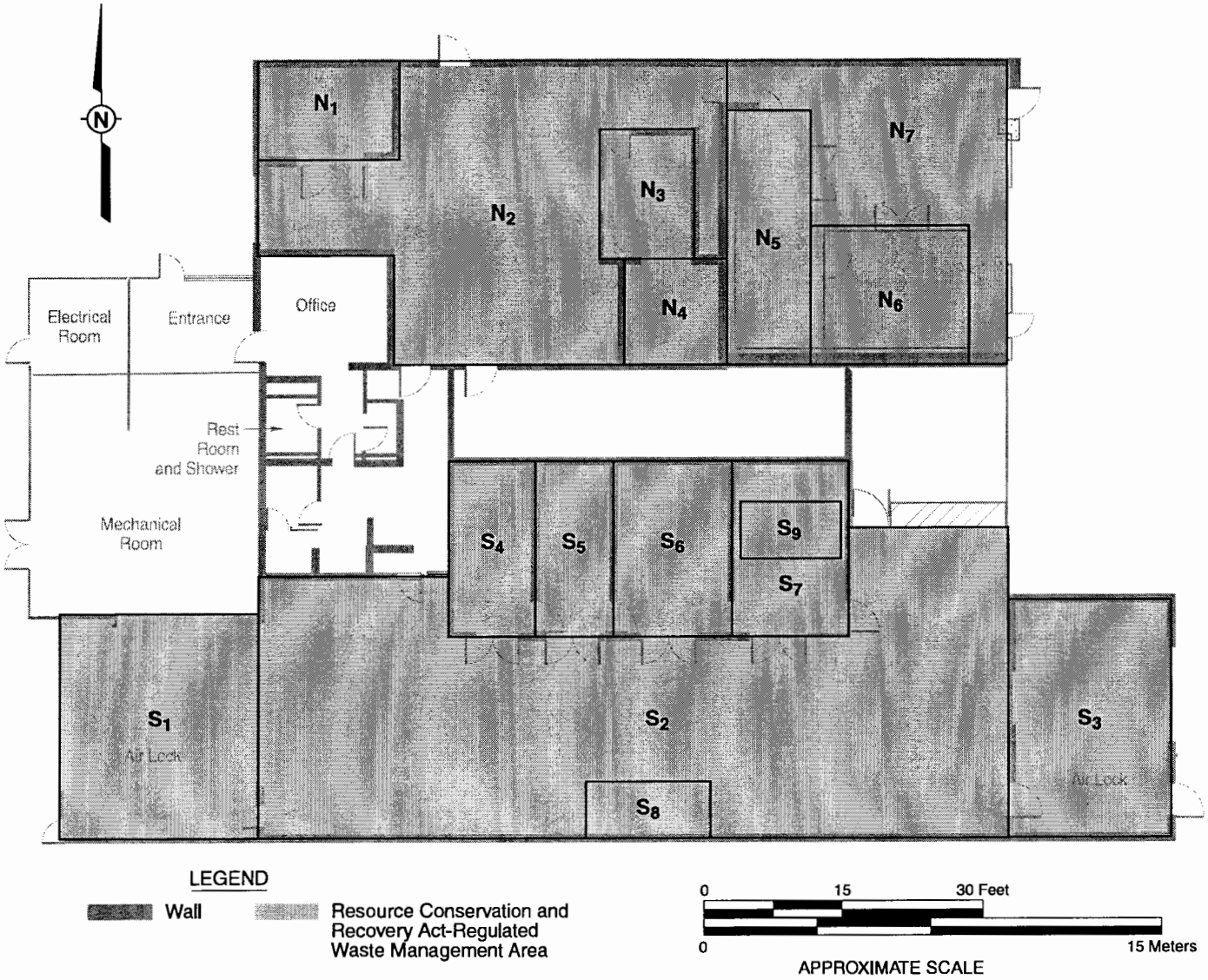

Figure 13
Radioactive and Mixed Waste Management Facility, Building 6920, Closure Grid

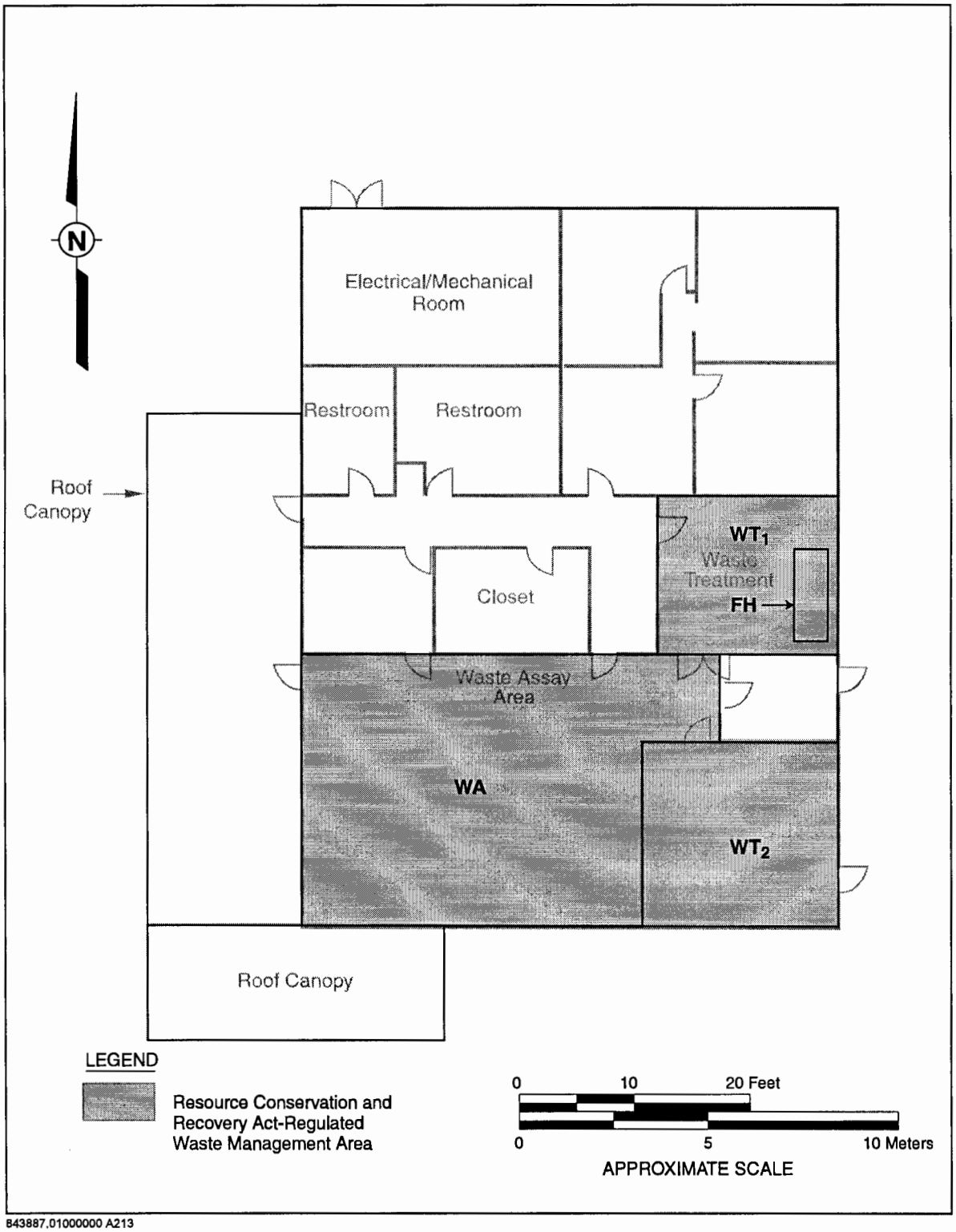

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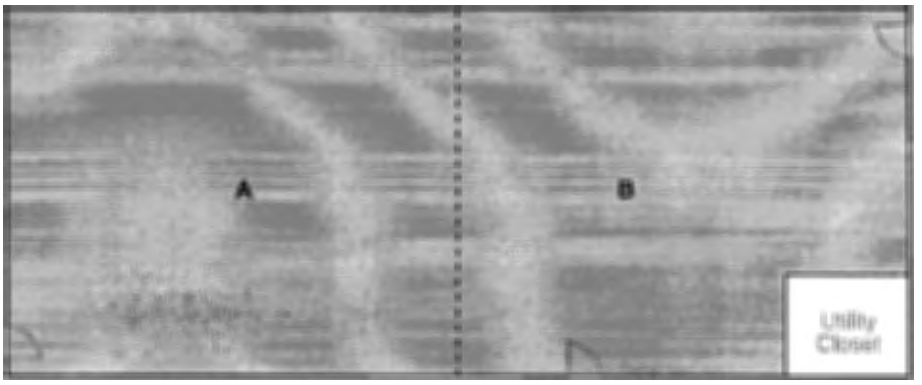
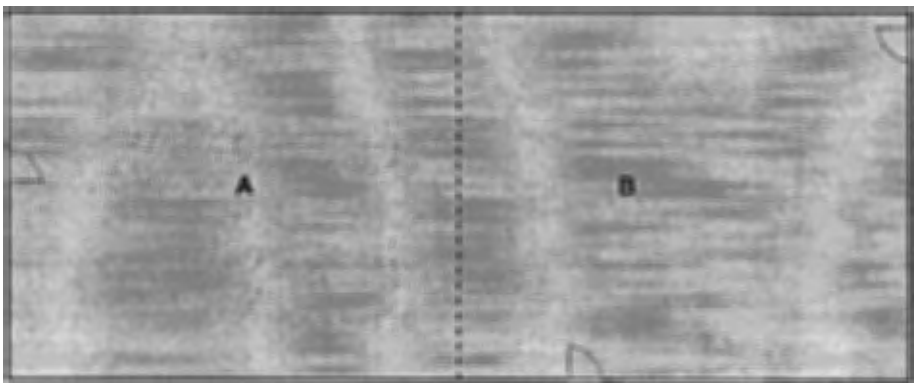
Figure 14

Radioactive and Mixed Waste Management Facility, Building 6921, Closure Grid



Building 6925



Building 6926

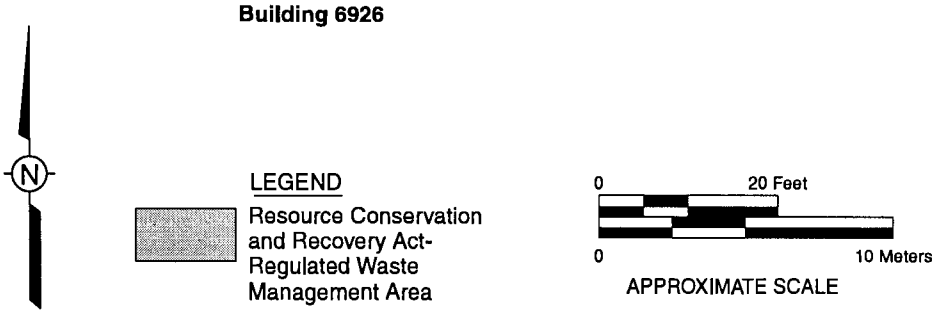


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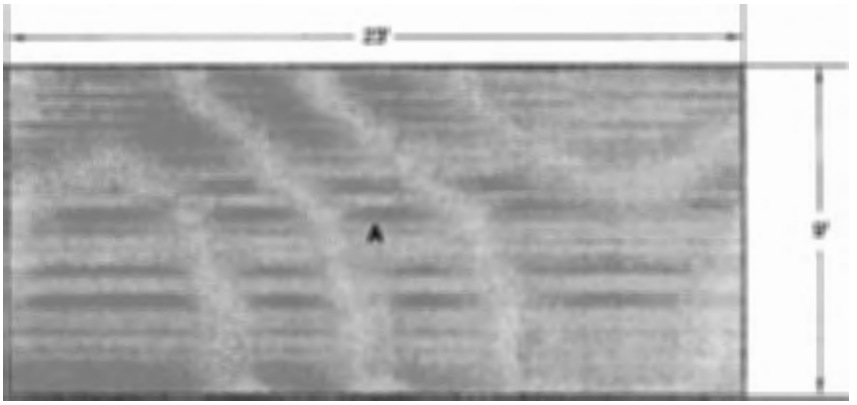
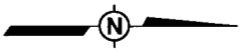
Figure 15

Radioactive and Mixed Waste Management Facility, Buildings 6925 and 6926, Closure Grid



TP150 (typical)



LEGEND

Wall

Resource Conservation and Recovery Act-Regulated Waste Management Area

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Figure 16

Radioactive and Mixed Waste Management Facility, Modular Buildings Closure Grid

Sandia National Laboratories/New Mexico
Manzano Storage Bunkers
Part B Permit Application

Module VI

Revision 6.0

October 2005

Prepared by
Sandia National Laboratories/New Mexico
Albuquerque, New Mexico 87185

Prepared for
The U.S. Department of Energy

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each row or area containing only compatible wastes. Ignitable and reactive wastes are segregated from other wastes in this manner.

- Containers are not routinely opened during storage at the bunkers, and RCRA-regulated wastes are not repackaged.

1.2.3 Preparedness and Prevention (20 NMAC 4.1.500/40 CFR 264, Subpart C and 20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address required equipment, testing and maintenance of equipment, and access to communications or alarm systems at the MSB.

1.2.3.1 Required Equipment (20 NMAC 4.1.500/40 CFR 264.32)

The MSB are not equipped with automatic fire suppression systems. As noted in Table 2, fire-fighting services are provided by the KAFB fire department tanker trucks. Information on other required equipment located at the MSB is provided in Section 6.0 and Table 2 of this module.

1.2.3.2 Testing and Maintenance of Equipment (20 NMAC 4.1.500/40 CFR 264.33)

Information on equipment testing and maintenance at the MSB is provided in Appendix C of the General Part B and in Section 4.0 of this module.

1.2.3.3 Access to Communications or Alarm Systems (20 NMAC 4.1.500/40 CFR 264.34)

Information about the types and locations of communications or alarm systems at the MSB is provided in Section 1.1.3.3 of the General Part B and in Section 6.0 of this module. Personnel at the Unit typically maintain contact with the emergency coordinator and other personnel at the Radioactive and Mixed Waste Management Facility through 2-way radios or cellular phones.

1.2.4 Hazards Prevention (20 NMAC 4.1.900/40 CFR 270.14[b][8])

The following sections address the procedures, equipment, and structures used at the MSB to prevent hazards. Additional information applicable to the MSB and all other Units at SNL/NM is included in Section 1.1.4 of the General Part B.

1.2.4.1 Preventing Hazards in Unloading (20 NMAC 4.1.900/40 CFR 270.14[b][8][i])

MSB personnel employ the practices described in Section 1.1.4.1 of the General Part B to prevent hazards in unloading. Loading and unloading activities take place on the paved areas immediately outside the bunkers. The surface is sloped gently away from the

door, the pavement is in good condition in the area, and there is sufficient room for operating vehicles.

Transport vehicles carry absorbent spill pillows/pigs and/or additional absorbent. The spill pillows will contain any spill or release of liquid wastes to the concrete surface immediately adjacent to and in front of the bunker doors and prevent run-off to surrounding areas. Personnel will add the additional absorbent or pillows to the contained liquid and place the absorbed waste into appropriate containers as described in Section E.5 of the Site Wide Contingency Plan (Appendix E).

Containers are typically strapped together or tied down on a pallet before being moved. Containers are moved with a forklift from the storage areas through the access tunnels to the loading areas at each bunker. Containers may be moved with a drum dolly or hand truck within each bunker.

Waste handling personnel work in pairs at the Unit, and maintain contact with one another. Because the Unit is not routinely occupied, personnel are trained to be particularly aware of current and forecast weather conditions and other operations that could affect waste movement, and to exercise caution in operating equipment such as forklifts.

1.2.4.2 Preventing Runoff or Flooding (20 NMAC 4.1.900/40 CFR 270.14[b][8][ii])

Sheet-flow run-on of surface water from surrounding areas and runoff from the MSB are prevented from entering/leaving the WMAs by the design and construction of the bunkers. The MSB are constructed of concrete and covered by earthen materials. The slope of the earthen materials covering the bunkers prevents run-on of storm water or snow melt. The interior roof and side walls of each bunker are protected by a waterproof membrane. In Type B and Type C bunkers, a 6-ft drain tile is located on the exterior perimeter, so any water that percolates through the earthen fill is drained away from the bunkers. The drive at the front of each bunker is level or sloped slightly away from the bunker doors.

1.2.4.3 Preventing Contamination of Water Supplies (20 NMAC 4.1.900/40 CFR 270.14[b][8][iii])

Sandia/DOE do not anticipate that management of RCRA-regulated wastes at the MSB will affect water supplies, as described in this section and in Section 1.1.4.3 of the General Part B.

1.2.4.4 Mitigating Effects of Equipment Failure or Power Outages (20 NMAC 4.1.900/ 40 CFR 270.14[b][8][iv])

General measures that are available to Unit personnel are described in Section 1.1.4.4 of the General Part B. RCRA-regulated waste handling activities at the MSB that are affected by equipment failures or power outages will be suspended in response to such outages.

4.0 INSPECTION PLAN

20 NMAC 4.1.500/40 CFR 264.15 and 264.33 [10-1-03] and 20 NMAC 4.1.900/40 CFR 270.14(b)(5) [10-1-03] required that WMAs and associated systems be inspected on a regular basis and in accordance with procedures to assure their integrity, maintenance, and safe operation.

Unit personnel perform periodic inspections to identify malfunctions, signs of deterioration, operator errors, and discharges or spills that may be causing or may lead to a release of hazardous waste constituents to the environment or may pose a threat to human health. The inspections are performed on a regular schedule based on the likelihood of equipment or system failure and associated consequences. The inspections include safety and emergency equipment, security devices, and operating and structural equipment related to management of RCRA-regulated wastes to ensure that human health and the environment will be protected.

The general Sandia/DOE inspection plan and schedule that meets these requirements are described in the "Site-Wide Inspection Plan", provided as Appendix C of the General Part B. Unit personnel conduct inspections in accordance with the site-wide plan.

Specific items and areas that are inspected are listed in Table 1, with the inspection criteria and frequency.

The results of inspections by Unit personnel (including any corrective actions required and taken) are recorded on forms identical or similar to the ones presented in Appendix C of the General Part B. The inspection plan (Appendix C and this section) is maintained at the RMWMF. Inspection records for the current calendar year are maintained at each bunker. Inspection records for previous calendar years are maintained at the RMWMF or the SNL/NM Records Center.

Table 1
Manzano Storage Bunker Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
SAFETY AND EMERGENCY EQUIPMENT **See Table 2 "Emergency Equipment and Locations" in this module for additional information**		
Portable eye wash	Operational, accessible, in good condition	Monthly
Spill control and cleanup items	Present, quantities per inventory, accessible, in good condition	Monthly
Personal protective equipment	Present, quantities per inventory, and in good condition	Monthly
Smoke alarm	Present	Monthly
Fire extinguisher	Present, charged, accessible, and in good condition	Monthly
OPERATING AND STRUCTURAL EQUIPMENT		
Bunker floor	Clean, no spills or excessive wear	Weekly when wastes are managed. Monthly otherwise.
Bunker walls	Not leaking or spalling, in good condition	Weekly when wastes are managed. Monthly otherwise.
Bunker ceiling	Not leaking or spalling, and in good condition	Weekly when wastes are managed. Monthly otherwise.
Bunker lights	Operational and in good condition	Weekly when wastes are managed. Monthly otherwise.
Loading and unloading areas	Good condition, safe working surface, no spills	Daily when and where wastes are handled. Monthly otherwise.
Waste handling equipment	Good condition, in good repair, operational	Daily when and where wastes are handled. Monthly otherwise.
SECURITY DEVICES		
Warning signs	Present and in good condition	Monthly
Doors	Present, operational, in good condition	Monthly
Locks	Present, operational, in good condition	Monthly
CONTAINERS		
Integrity	Good condition (i.e., no bulging, leaks, corrosion, or deterioration)	Check individual containers as they are handled. Weekly otherwise.
Closed	Correct lid/cover placement (i.e., properly closed and sealed)	Check individual containers as they are handled. Weekly otherwise.
Labeling	Correct information, correct location, legible	Check individual containers as they are handled. Weekly otherwise.

Table 1 (Concluded)
Manzano Storage Bunker Inspection Criteria and Frequency

Inspected Item	Inspection Criteria	Inspection Frequency
CONTAINERS (cont)		
Secondary Containment (e.g., spill pallets for liquid waste)	Adequate volume, free of liquids, good condition (i.e., no cracks, excessive wear)	Check individual containers as they are handled. Weekly otherwise.
Storage Conditions	Waste compatible with container, container located with compatible wastes	Check individual containers as they are handled. Weekly otherwise.
Location	Correct aisle space, correct stacking (2 maximum)	Check individual containers as they are handled. Weekly otherwise.

5.0 PERSONNEL TRAINING

Training requirements for Unit personnel are specified in 20 NMAC 4.1.900, 40 CFR 270.14[b][12], and 20 NMAC 4.1.500/40 CFR 264.16 [10-1-03], "Personnel Training." The Sandia/DOE training program is designed and implemented to prepare personnel to operate and safely maintain those areas used for managing RCRA-regulated waste at the MSB.

All job descriptions identified in Appendix D, Table D-2 of the General Part B are applicable at the MSB. MSB personnel receive training in accordance with the "Site-Wide Personnel Training Plan" provided in Appendix D of the General Part B.

Training records for MSB personnel are maintained at the Radioactive and Mixed Waste Management Facility at SNL/NM.

6.0 CONTINGENCY PLAN

Emergency response requirements for permitted units are specified in 20 NMAC 4.1.500/40 CFR 264, Subpart D [10-1-03], "Contingency Plan and Emergency Procedures," and in 20 NMAC 4.1.900/40 CFR 270.14(b)(7) [10-1-03]. The Sandia/DOE "Site-Wide Contingency Plan" is included as Appendix E of the General Part B. Supplemental MSB-specific information is included in this section, Figures 10-12, and in Tables 2 and 3 of this module. Current copies of the site-wide contingency plan and this supplemental information are maintained at each bunker, at the RMWMF, and at the SNL/NM Emergency Operations Center.

The U.S. Department of Energy and Sandia Corporation use the five bunkers of the MSB to store containers of RCRA-regulated waste. The MSB are located approximately 1 mile east of the road leading to the entrance of TA-III and -V at the end of Pennsylvania Avenue. The WMAs at the MSB include: a Type B bunker (37034); a Type C bunker (37118); and three Type D bunkers (37045, 37055, and 37057). Bunkers are constructed of concrete (walls, roof, and floor) and are covered by earthen materials.

RCRA-regulated wastes bearing the U.S. EPA listed in the General Part A Permit may be stored at the MSB WMAs. Waste is segregated based on compatibility groups within each bunker.

Figure 10 presents evacuation routes for the MSB. Figures 11 and 12 present emergency response and access information for the MSB. Table 2 lists the emergency equipment typically available at the MSB and additional spill cleanup equipment available at other SNL/NM Units. Table 3 lists the emergency coordinators for the MSB.

The emergency coordinators are informed of planned work activities at the beginning of each work day; this includes activities at Units that are not routinely staffed (such as the MSB).

Table 2
Manzano Storage Bunkers, Emergency Equipment and Locations

Category	Description/Capabilities	Location
Spill Control and Decontamination Equipment	Portable Eyewash	By inner door inside each bunker
	Personal protective equipment (chemical-resistant gloves and safety glasses)	By inner door inside each bunker
	Absorbents (sufficient absorbent for 55 gallons of liquid when liquid wastes are present)	By inner door inside each bunker
	Spill cleanup items (mops, brooms, and/or shovels)	In equipment storage at the RMWMF
	Recovery drums and containers	In equipment storage at the RMWMF
Internal Communication and Alarm System	Voice command Portable 2-way radio	Operating personnel typically carry radios.
	Smoke Alarms	• Smoke detectors and alarms inside each bunker • Strobe light on front outside each bunker
External Communication System	Mobile Telephone or Portable Radio	Taken to bunkers by personnel
Fire Extinguishers	Portable (A-B-C)	By entrance door outside each bunker
Fire Suppression	Water to Extinguish Fires	KAFB tanker truck at the KAFB fire station in the Manzano administrative area

KAFB Kirtland Air Force Base

Table 3
Manzano Storage Bunkers,
Facility Emergency Coordinator List

March 15, 2005

Facility Emergency Coordinator		Office Phone	Home Phone
Primary	Leroy Duran Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 284-1488 (office) (505) 530-4105 (pager)	(505) 281-4183
First Alternate	Mike Spoerner Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2813 (office) (505) 540-5296 (pager)	(505) 828-3441
Second Alternate	Phil Zelle Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 844-2486 (office) (505) 540-7437 (pager)	(505) 292-5097
Third Alternate	Mary Ann Krauss Sandia National Laboratories P.O. Box 5800 Albuquerque, NM 87185	(505) 845-9997 (office) (505) 540-5228 (pager)	(505) 299-0793

One or more of the listed personnel are routinely available at the Radioactive and Mixed Waste Management Facility during normal work hours (7:00 am to 5:30 pm, Monday through Thursday) and can be contacted by radio or telephone during those hours.

7.0 CLOSURE PLAN

Applicable closure requirements are specified in 20 NMAC 4.1.900/40 CFR 270.14(b)(13), and 20 NMAC 4.1.500/40 CFR 264, Subparts G and I [10-1-03]. General closure information applicable to all Units at SNL/NM and general sampling and analytical procedures to be used during closure activities are presented in the "Site-Wide Closure Plan" in Appendix F of the General Part B. The site-wide closure plan includes a description of the SNL/NM facility, waste descriptions, closure performance standards, general closure methods, a sampling and analysis plan (SAP), a general closure schedule, procedures for amendment of the plan, closure certification and letter, survey plat, and post-closure requirements. Unit-specific information for closure of the MSB is included in this section.

7.1 Unit Description

Sandia/DOE use the five bunkers of the MSB to store containers of RCRA-regulated waste. The MSB are located approximately one mile east of the road leading to the entrance of TA-III and -V at the end of Pennsylvania Avenue. The WMAs at the MSB include: a Type B bunker (37034); a Type C bunker (37118); and three Type D bunkers (37045, 37055, and 37057). Bunkers are constructed of concrete (walls, roof, and floor) and are covered by earthen materials.

The Type B bunker is approximately 81 feet (ft) long by 26 ft wide, and the Type C bunker is approximately 80 ft long by 27 ft wide (Figure 13). Each of the Type D bunkers is approximately 61 ft long by 26 ft wide (Figure 14).

7.2 Estimate of Maximum Waste in Storage

The maximum volume of RCRA-regulated waste in storage at any time in the MSB is approximately 105,600 gallons of liquids and/or solids. This is the maximum volume of RCRA-regulated waste that could be removed from the WMAs as part of closure activities. The WMAs are located at the bunkers shown in Figure 2. The maximum total waste volume is broken down as follows:

- Type B Bunker (37034): 25,080 gallons
- Type C Bunker (37118): 25,080 gallons
- Type D Bunkers (37045, 37055, and 37057): 55,440 gallons (18,480 each)

7.3 Closure Conditions

In addition to the general assumptions listed in Section F.5 of the site-wide closure plan, partial closure activities specified in this plan assume the following conditions were met during the operational life of the MSB: