A Report by a Panel of the

NATIONAL ACADEMY OF PUBLIC ADMINISTRATION

for the United States Congress and the Department of Energy

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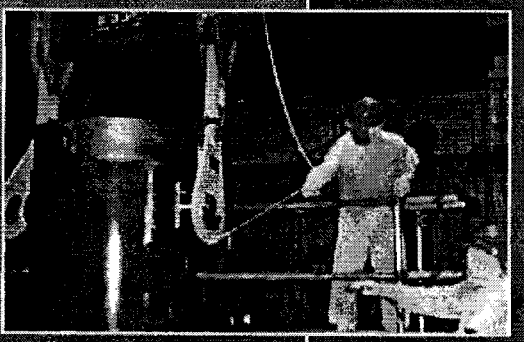
OFFICE OF ENVIRONMENTAL MANAGEMENT:

MANAGING AMERICA'S DEFENSE NUCLEAR WASTE



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December 2007

OFFICE OF ENVIRONMENTAL MANAGEMENT:

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PANEL

Howard M. Messner*
Jonathan D. Breul*
Lloyd A. Duscha
Dwight A. Ink*
Steven J. Kelman*
Janice Lachance*
Peter W. Marshall*

* *Academy Fellow*

Officers of the Academy

J. Christopher Mihm, *Chair of the Board*
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Jennifer L. Dorn, *President and Chief Executive Officer*
Kristine M. Marcy, *Secretary*
Franklin S. Reeder, *Treasurer*

Project Staff

J. William Gadsby,* *Vice President for Academy Studies*
Alethea Long-Green, *Program Area Director*
Albert J. Kliman, *Project Director*
Rebecca J. Wallace, *Deputy Project Director*
Allan Burman,* *Senior Consultant*
Craig Durkin, *Senior Consultant*
Karen O'Brien, *Senior Consultant*
Pamela Creek, *Senior Consultant*
Kenneth Hunter, *Senior Consultant*
Ronald A. Milner, *Senior Consultant*
Kathryn Littlefield, *Consultant*
Jennifer Palazzolo, *Consultant*
Carrie Spudich, *Consultant*
Alison C. Brown, *Senior Analyst*
Morgan Clark, *Research Associate*
Daniel A. Munz, *Research Associat*e
Nathan Winstead, *Research Associate*
Martha S. Ditmeyer, *Senior Administrative Specialist*

The views expressed in this report are those of the Panel. They do not necessarily reflect the views of the Academy as an institution.

National Academy of Public Administration
900 7th Street, N.W.
Suite 600
Washington, DC 20001-3888
www.napawash.org

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* *Academy Fellow*

FOREWORD

Fifty years of nuclear weapons production and government-sponsored nuclear energy research have left our nation with millions of gallons of radioactive waste, thousands of tons of spent nuclear fuel and special nuclear material, and enormous quantities of contaminated soil and water located at numerous sites across the country. In 1989, the Office of Environmental Management (EM) was established within the U.S. Department of Energy to lead a multi-billion dollar, decades-long effort to clean up these dangerous materials and take other actions to protect the environment and the health of communities near these sites. Expressing concern about shortcomings in federal oversight, control and accountability, repeated cost and schedule overruns, and numerous challenges to contract awards, the Senate and House Appropriations Committees asked the National Academy of Public Administration to undertake a management review of the EM Program.

The Academy Panel conducted this project on a highly interactive basis with EM, providing proposals on how to improve the management of the program as the project progressed. This report summarizes 19 months of intense effort, collaboration, and cooperation among the Panel members, project team and EM. As a result, EM will already have implemented, or be in the process of implementing, almost every Panel recommendation by the time this report is published. However, EM alone cannot correct a fundamental problem that the Panel identified: a mismatch between the work that the Office of Environmental Management has been asked to perform and the staff resources required to perform it. The Department of Energy, the U.S. Office of Management and Budget, and Congress must work together to address this issue.

The Academy extends its appreciation to the members of the project Panel for their outstanding work and keen insights, and to the project team for its excellent staff work. It also wishes to thank the leadership of the Office of Environmental Management and the hundreds of people interviewed during this project for the time they made available and the help they provided in support of this effort to improve the performance of this critical program.

Jennifer L. Dorn
President and Chief Executive Officer

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ACRONYMS

Academy	National Academy of Public Administration
BNI	Bechtel National Inc.
CBFO	Carlsbad Field Office
CD	Critical Decision
CFR	Code of Federal Regulations
CLF	Civilian Labor Force
COE	Army Corps of Engineers
CONOPS	Concept of Operations
COO	Chief Operations Officer
CPAF	Cost Plus Award Fee
CPIF	Cost Plus Incentive Fee
CPR	Contract Performance Report
CTA	Central Technical Authority
DAS	Deputy Assistant Secretary
DNFSB	Defense Nuclear Facilities Safety Board
DoD	Department of Defense
DOE	Department of Energy
EERE	Office of Energy Efficiency and Renewable Energy
EM	Office of Environmental Management
EMAB	Environmental Management Advisory Board
EMCBC	Environmental Management Consolidated Business Center
EMCIP	Environmental Management Career Intern Program
EMIS	Environmental Management Integrated Schedule
EM-MI	Environmental Management-Management Initiative
EV	Earned Value
EVMS	Earned Value Management System
EWD	(House and Senate Appropriations Subcommittees on) Energy and Water Development
FAR	Federal Acquisition Regulations
FHCS	Federal Human Capital Survey
FMC	Facility Management Contractor
FPD	Federal Project Director
FTE	Full-Time Equivalent
FY	Fiscal Year
GAO	Government Accountability Office
GFSI	Government-Furnished Services or Items
HC	Human Capital
HCA	Head of Contracting Activity
HCMP	Human Capital Management Plan
HCSC	Human Capital Steering Committee
HR	Human Resources

HSS	Office of Health, Safety and Security
ICP	Idaho Cleanup Project
IPABS	Integrated Planning, Accountability and Budgeting System
IPT	Integrated Project Team
ISMS	Integrated Safety Management System
IT	Information Technology
LCC	Life-Cycle Cost
M&I	Management and Integrating Contract
M&O	Management and Operating Contract
NAVFAC	Naval Facilities Engineering Command
NNSA	National Nuclear Security Administration
NRC	Nuclear Regulatory Commission
OECM	Office of Engineering and Construction Management
OH	Ohio Field Office
OPAM	Office of Procurement and Assistance Management
OPM	Office of Personnel Management
ORP	Office of River Protection
PARS	Project Assessment and Reporting System
PBA	Performance-Based Acquisition
PBS	Project Baseline Summary
PCO	Project Control Officer
PDAS	Principal Deputy Assistant Secretary
PMCDP	Project Management Career Development Program
PPPO	Portsmouth/Paducah Project Office
QA	Quality Assurance
QPR	Quarterly Project Review
QSA	Quality and Standards Assurance
R2A2	Roles, Responsibilities, Authorities, and Accountabilities
REA	Request for Equitable Adjustment
RF	Rocky Flats
RL	Richland Operations Office
SBA	Small Business Administration
SEB	Source Evaluation Board
SES	Senior Executive Service
SR	Savannah River
TPC	Total Project Cost
TRA	Technology Readiness Assessment
TRL	Technology Readiness Level
WTP	Waste Treatment and Immobilization Plant

EXECUTIVE SUMMARY

Of the Department of Energy's (DOE) $24 billion budget for fiscal year 2008, the $5.6 billion for the Environmental Management Program (EM) is a little known, but vital investment in the cleanup of vast quantities of radioactive and chemical waste and contaminated soil, water, and buildings that resulted, primarily, from the legacy of 50 years of nuclear weapons production and government-sponsored nuclear energy research. The complexities associated with these activities have been enormous, and oftentimes the work has required the development of groundbreaking technologies. Since EM's inception in 1989, it has closed nearly 80 percent of the 108 contaminated sites for which it is responsible. But the nuclear and chemical waste at the remaining sites pose risks to the surrounding communities and the environment, and EM's progress has been carefully monitored by leaders in Congress. When many of EM's major projects experienced repeated cost and schedule overruns, congressional concerns about federal oversight, control, and accountability heightened.

In September 2005, the House and Senate Energy and Water Development Appropriations Subcommittees asked the National Academy of Public Administration (Academy) to undertake a management review of EM, emphasizing their concerns about how EM was organized and managed and its acquisition and project management operations. EM Assistant Secretary Rispoli asked the Academy to add another element to the study, an assessment of EM's human capital operations.

When this study began in April 2006, the Academy Panel found an organization facing several serious challenges as it struggled to redefine and reorganize itself. James Rispoli had assumed the EM Assistant Secretary position eight months earlier and was in the midst of reversing the direction set by EM's prior leadership—a path based on a policy that the organization was "going out of business" and that, with the appropriate contracts and contractors, the level of federal employment could be significantly reduced. While there were successes at several sites with this approach, the overwhelming criticisms from the Government Accountability Office, the DOE Inspector General, and observers interested in how EM's cleanup work was progressing at other sites throughout the country were that it was taking too long to award contracts, the work was going substantially slower than predicted, and the cost was substantially more than projected.

In May 2006, Assistant Secretary Rispoli implemented a reorganization of EM headquarters. In the field, site offices also had begun an effort to re-baseline EM's entire project portfolio, and the results were producing new project schedules and funding profiles that showed a much longer term mission for EM than projected by past leadership. In addition, EM was being given a new responsibility for nuclear and chemical waste being generated by ongoing federal activities, which solidified a long-term future for EM. Although bolstered by its new mission and the sense of security it provided to staff, the program was hampered by the lack of a systematic approach to re-charting the organization's new direction; organization and management issues that included a lack of clarity in roles and responsibilities in headquarters and between headquarters and the field; insufficient acquisition and personnel delegations of authority; and human capital challenges, not the least of which was that EM's staff level had decreased about 40 percent since

2001. This significant decrease in staff was the outgrowth of the organizational downsizing that resulted from prior policies and the attrition of an aging workforce.

To fully identify and address the problems, the Academy Panel and staff embarked on a highly interactive process with EM's senior management and staff that fostered significant collaboration. Rather than waiting until the end of the study to provide recommendations, the Panel provided EM three working documents, "Observations Papers," then met with EM's senior leadership to discuss the ideas presented, the rationale behind them, and implementation options. The Panel found that Assistant Secretary Rispoli was a leader who was eager to build a solid foundation for the organization's future and who welcomed the Panel's counsel about how to overcome the challenges facing EM. This resulted in EM taking actions to implement most of the Panel's proposals prior to the publication of this report.

PROJECT MANAGEMENT

If there is any one feature that is the hallmark of Assistant Secretary Rispoli's tenure at EM, it is the increased emphasis on project management. Before this study began, Assistant Secretary Rispoli already was initiating improvements in this critical area. EM is the only DOE program to rigorously and consistently apply core project management principles to all of its projects. To further improve the quality and rigor of project management, EM also began a Best-in-Class Project and Contract Management initiative to identify and fill skill gaps in its project management and contract management capacity at all of its sites.

During the course of the study, the Panel made several proposals to further advance EM's project management capabilities that included developing better tools for managing and overseeing project performance; developing project-specific success metrics; performing a general assessment of EM's quality assurance program; developing and deploying Technology Maturity Levels; anticipating and budgeting for project risks; and providing management and technical training to federal project staff. EM has accepted virtually all of the Panel's proposals and is in the process of implementing them.

The Panel also has consistently highlighted issues in other areas that affect project management, such as human capital and organization and management. One of the Panel's final recommendations to EM in the area of project management is that EM leadership begin a concerted effort to determine how it plans to meet the human capital and other logistical challenges inherent in the Best-in-Class initiative and to communicate its plans to the staff. The Panel applauds the improvements EM has made in project management, but advises that EM's ability to fully implement them will be at risk if EM does not have sufficient staff.

ORGANIZATION AND MANAGEMENT

One major goal of this study has been to identify ways to improve EM's organization and management in ways that support Assistant Secretary Rispoli's project management initiatives. The purpose of the Assistant Secretary's reorganization of EM headquarters was to improve EM

program performance by establishing clear lines of authority and accountability; enhancing the acquisition process; improving project performance; and focusing on human capital development to create a highly skilled and competent workforce. Although the new headquarters structure has achieved many of the Assistant Secretary's reorganization goals, the Panel found several flaws with it. However, rather than propose another major reorganization so soon after the one in May 2006, which still has not been fully implemented, the Panel proposed a few, less basic changes to the new structure, and instead focused on management improvements that would make the organization more responsive to the Assistant Secretary's vision. The Panel proposed that EM:

- expand and strengthen the Office of the Chief Operations Officer (COO) to give the COO the previously lacking capacity to better provide leadership and technical assistance to the field. In particular, the Panel believed that the COO needed greater staff capacity to oversee projects that were in difficulty.
- establish a management analysis office to give the Assistant Secretary the capacity for greater analytic rigor with which to inform management's decisionmaking
- define organizational roles and responsibilities to eliminate duplication and conflict, reduce EM headquarters micromanagement of the field, and establish clear lines of authority and accountability
- place a priority on administering the business and management side of the organization, such as the human capital, budget, and acquisition functions

EM has embraced these proposals and is in the process of implementing them. In this report, the Panel offers additional recommendations that address the Assistant Secretary's role in EM senior leadership's efforts to define their roles and responsibilities; an examination of the organizational options for EM's information technology and cyber-security functions; the organizational realignment of functions and future consolidation of the two Hanford site offices; and the development of a corporate communications and outreach program with the Tribes/Pueblos and community stakeholders.

ACQUISITION

Another major focus of this study has been to improve EM's acquisition processes. The Academy Panel and staff worked closely with EM in its efforts to build its capacity to execute and administer the complex, multi-million dollar contracts that comprise EM's contract portfolio. The Assistant Secretary provided the foundation for this effort in the May 2006 reorganization by creating the position of Deputy Assistant Secretary (DAS) for Acquisition and Project Management. The DAS has been spearheading EM's acquisition improvement efforts, which have at their centerpiece an Acquisition Center designed to streamline and strengthen the award process for major EM contracts.

Throughout this study, the Panel made several proposals to advance the DAS' change management initiatives, including developing guidance for determining appropriate contract types for acquisitions and the staff's role in dealing with contractors; improving EM's

acquisition oversight program; developing a staffing request to hire individuals with the necessary procurement analyst expertise; centralizing the award and administration of all EM financial assistance at the Environmental Management Consolidated Business Center (EMCBC); and reviewing all EM processes for reviewing and approving acquisition transactions at EM headquarters. EM agreed to virtually all the Academy Panel's proposals related to acquisition and, in many cases, implementation is well underway. Most importantly, EM's leadership has demonstrated an acute awareness of the challenges presented by the current acquisition environment, openness to considering a variety of options for dealing with those challenges, and the willingness to introduce major changes. As a result, in the last 19 months, EM has made significant progress to reform its acquisition processes and infrastructure, which shows great promise for facilitating advanced planning and increasing the speed of the acquisition process.

Although EM has made significant progress to improve its acquisition processes, its ability to further advance some critical aspects of its acquisition operations remains outside of its direct control. DOE's Office of Procurement and Assistance Management (OPAM) oversees EM's contracting activities and delegates to EM only limited authority to execute acquisition actions. At present, EM's competitive transactions of $15 million or more, subcontracts of $25 million or more, and all other contract and grant/cooperative agreement actions of $10 million or more are subject to OPAM's business clearance review process, which has been a major source of frustration throughout EM because of the lengthy amount of time it generally requires. A report from OPAM's acquisition process reengineering team has recommended raising the competitive threshold to $50 million, but makes no recommendations to increase the other contract thresholds. The report also recommended several improvements to OPAM's business clearance review process. In the Academy Panel's view, EM's ability to successfully improve its acquisition operations is significantly impacted by prompt action needed by OPAM to:

- increase EM's Head of Contracting Activity delegation level to at least $100 million, an amount that is commensurate with the large transactions customary to EM, coupled with effective procurement management reviews to ensure that EM's acquisition offices have adequate numbers of highly competent staff who are carrying out their responsibilities according to policy and regulations
- implement the recommendations included in the acquisition process reengineering team report to help reduce the delays that have been experienced

To further streamline and expedite EM's acquisition operations, efforts also are needed to build the capacity, capability, and autonomy of EM sites to manage their own contract administration workloads with reduced involvement from DOE and EM headquarters. This will require additional staff not currently allocated to EM's acquisition offices.

HUMAN CAPITAL

Paramount to bringing EM into a new era that sees sites moving more quickly towards closure is greater attention to EM's human capital needs. Toward that end, the Panel made several

proposals and recommendations to improve various aspects of EM's human capital operations, such as:

- increasing EM's human capital competencies
- developing recruitment strategies that balance the need for senior-level positions with the need for junior- and mid-level positions that can become the core for EM's future workforce
- providing written goals and operating procedures for EM's technical cadre and improving EM's human resources practices with respect to cadre members
- continuing initiatives to improve EM's work environment; the selection methodology and quality of its leadership; and representation and diversity

The Panel also made proposals to address issues surrounding the human resources (HR) services DOE headquarters provides to EM headquarters. EM leadership has been vocal in its concerns about the servicing arrangement and has sought increased delegations to the EMCBC to provide HR services to EM headquarters. In this report, the Panel recommends that EM conduct a pilot demonstration that gives full delegated authority to the EMCBC to provide HR servicing to EM headquarters.

Of greater concern to the Panel as this study draws to a close, however, is its observation that several critical occupational areas, including project controls, cost-price analysis, safety, quality assurance, acquisition, and contract administration, appear to be understaffed at many EM site offices. Benchmarking exercises performed by Academy staff to compare EM's staffing levels with other organizations that perform similar functions, and the work underway by EM's Best-in-Class Project and Contract Management initiative to identify where sites have skill gaps strongly suggest that the EM staff allocation is too low. EM's onboard workforce has been dramatically reduced since 2001. The change in EM's end game from "going out of business" to a long-term future that includes new mission responsibilities has not been accompanied by a reassessment within DOE of the staffing levels needed for EM to execute its new mission.

Assessing the organization's workload and determining the resources required to perform it are major challenges facing EM. The Panel proposed that EM develop an organization-wide workload forecasting methodology that has sufficient rigor and objectivity to gain acceptance both within and outside of the organization. In addition, the Panel proposed that EM include an organization-wide analysis of its occupational distribution, pay plan utilization, and supervisory ratios as part of an overall workload planning initiative. EM is in the process of adopting these proposals. DOE also is embarking on a Department-wide workforce analysis effort. However, the Panel believes that EM cannot wait for these workforce analyses to be completed. The data developed by the Panel support the need for immediate action to increase EM's staffing allocation to counter the staffing decreases EM has experienced in recent years and make it commensurate with the workload that has been reinvested in the organization. The Panel strongly urges that the Department increase EM's staffing allocation by at least 200 over currently budgeted levels. The Panel is confident that the rigorous workload analysis it has recommended will validate this increment and suggest the need for additional staffing as well.

Filling these additional positions will be a major challenge for EM. The Panel is concerned that despite EM leadership lifting the hiring restrictions it had placed on site offices and urging sites to fill their vacancies, EM's staff vacancy rate did not change appreciably over the last year. As of September 2007, EM's staffing ceiling was 1,495 and its onboard strength was approximately 1,380. In this report, the Panel recommends that EM, with the active support of DOE, develop innovative recruitment strategies to attract and hire the talent needed to meet its current and future mission objectives.

A PATH TO THE FUTURE

Throughout this study, EM's leadership has shown its commitment to improving how the organization functions. It has pursued virtually all of the Academy Panel's proposals made throughout the course of this study. And the new Management Analysis and Process Management Office, established at the Academy Panel's urging, has been developing a path forward that integrates its management improvement efforts in an organized, systematic fashion. Called the EM Management Initiative, it is a model designed to help EM accomplish its mission through clearly defined roles and responsibilities in headquarters and the field; disciplined systems and processes; useful tools and job aids; and a management approach that emphasizes results.

As part of this initiative, EM will be examining how it defines its programs and the appropriate roles of headquarters and the field to carry them out. The program management planning effort will then drive a workforce planning effort. The Panel is optimistic that this systematic approach will provide an organizational logic to drive and inform the numerous management improvement actions EM currently has underway. It thinks that this effort also can be a foundation to build upon for EM to engage in continuous management improvement activities. To manage an effort as large as the EM Management Initiative and to institutionalize an ongoing management improvement process, the Panel recommends that EM establish a management action planning process to guide the organization through all management improvement activities, both current and future.

The Panel is optimistic that with the changes underway, EM is on a solid path to becoming a high-performing organization. With the Department's support, it needs to ensure that it has the resources necessary to turn this opportunity for organizational improvement into reality.

CHAPTER 1
INTRODUCTION

On September 23, 2005, the chairmen and ranking minority members of the House and Senate Energy and Water Development (EWD) Appropriations Subcommittees sent a letter to the Secretary of DOE directing that EM undertake a management review with the National Academy of Public Administration (the Academy) within available funds. Specifically, the letter asked that the Academy focus on:

- the organization and management of EM, where the subcommittees expressed concerns "in light of the repeated failings in federal oversight, control, and accountability over the years"
- EM's acquisition and project management operations, where the subcommittees believed that "the EM program consistently exceeds projected costs and timeframes for clean up projects, and has its contract awards constantly challenged"

The request was inspired, in part, by another Academy study of DOE issued in September 2004, which examined the organization, management, and acquisition operations in the Office of Energy Efficiency and Renewable Energy (EERE). During discussions to finalize the terms and conditions of this study, EM's Assistant Secretary, James Rispoli, asked that the Academy also evaluate EM's human capital operations, including competencies needed, which the Assistant Secretary believed were the root cause of the congressional concerns noted above. A contract to carry out the EM study was approved on April 24, 2006.

THE MAJOR ISSUES

When this study began in April 2006, the Academy Panel found an organization facing several serious challenges as it struggled to redefine and reorganize itself. New leadership and a new mission had reversed the organization's mindset from one that was "going out of business" to one with a long-term future. EM was struggling to implement a new headquarters organization and to chart a new direction for itself. Although Assistant Secretary Rispoli was trying to develop the acquisition capability needed to acquire and administer the complex multi-million dollar contracts that comprise EM's contract portfolio and infuse EM with a more rigorous project management regime to oversee those contracts, those efforts were being hampered by problems that were both in and out of EM's control. Organization and management issues included a lack of clarity in roles and responsibilities in headquarters and between headquarters and the field. There were numerous acquisition and human capital challenges, including insufficient delegations of authority in both areas. However, as the study progressed, it became evident that one human capital problem was permeating all of the areas being examined by the Panel—the mismatch between EM's workload and the skills and technical expertise needed to perform it and the organization's staffing levels.

INTERACTIVE NATURE OF THE STUDY

This study continues the process used during the EERE study to have an ongoing, interactive approach to the Academy's evaluation. The study's design included three unpublished Observations Papers that gave the Academy Panel opportunities throughout the study to provide its assessment of the problems and offer proposals to allow EM to more effectively achieve its mission. The Panel provided these papers to EM in September 2006, January 2007, and August 2007. A list of all the proposals made in those documents, EM actions taken, and Academy Panel remarks are included at the end of this report in Attachment 1.

As with the EERE study, this process fostered significant collaboration between the Academy Panel and staff and EM's leadership on the issues as they were being identified. Based on the Panel's ongoing advice, EM made numerous changes in its processes and procedures and modified some of the specifics of the May 2006 reorganization of EM headquarters. The extensive data collection process during the study also provided a mechanism for EM employees, contractors, stakeholders, regulators, and Native American Tribes to have input and express their opinions about the EM Program and how it operates.

EM'S MISSION AND FUNDING

The EM Program[1] was established in 1989 to complete the safe cleanup of the legacy waste and environmental contamination that resulted from 50 years of nuclear weapons production and government-sponsored nuclear energy research. This legacy waste includes millions of gallons of radioactive waste; thousands of tons of spent nuclear fuel and special nuclear material; and huge quantities of contaminated soil and water. To achieve its mission, EM undertakes a variety of interrelated activities, often referred to as "cleanup." Through the end of fiscal year (FY) 2007, EM will have completed cleanup at 85 out of a total of 108 sites, although the remaining sites are quite large and will be active for decades to come. Out of the DOE FY 2008 budget request of $24.3 billion, nearly 25 percent—about $5.6 billion—is the responsibility of EM. The bulk of this sum is in a "Defense Environmental Cleanup" account. EM also is funded by a "Non-Defense Environmental Cleanup" account and a "Uranium Enrichment Decontamination and Decommissioning Fund."

Working through a large contractor workforce, estimated at about 34,000,[2] EM staff are responsible for a vast array of construction, decontamination, decommissioning, packaging, storing, and transportation activities related to the cleanup and/or closure at the affected sites. The size and complexity of the work are immense, and estimates of the Department's liability for these cleanup operations are dependent on assumptions about future activities, such as policy decisions and annual funding levels that are, by their nature, inherently uncertain. The EM

[1] The Office of Environmental Management was originally called the Office of Environmental Restoration and Waste Management.

[2] EM's contractor workforce is about one third of an estimated 100,000 contractors working for the entire Department of Energy.

Program's FY 2006 unaudited estimates of its environmental and disposal liabilities for the remaining work (post FY 2007) were almost $155 billion.

Although large in terms of DOE's overall budget authority and future liabilities, EM's staffing level comprises a relatively low percentage of DOE's total staff. The 1,500 full-time equivalents (FTEs) requested in the 2008 budget represent only about 10 percent of DOE's total employment of about 15,500 FTE. EM's current employment levels declined sharply from an on-board strength of 2,500 in FY 2001. Prior management views on the program's future and the role of federal employees working for this program took their toll on EM both in terms of staff numbers and morale. For several years, EM was considered to be an organization that was "going out of business" in the near future. Under EM's current leadership, however, more realistic assessments of the time needed to clean up the legacy waste now show activity continuing well into the third decade of this century and in some cases beyond, with the need for monitoring the cleanup sites continuing many decades after that. More recently, EM also has been given a role in the cleanup of waste newly generated by many of the Department's ongoing activities. These changes in mission and operations have not been reflected in EM's staffing allocation. This mismatch between the work for which EM is responsible and the staff required to perform it is discussed throughout this report.

OTHER STUDIES AND ACTIVITIES UNDERWAY

At the same time as the Academy Panel was engaged in this study, other organizations also were examining EM's operations. The Government Accountability Office (GAO) has conducted reviews of DOE activities for several years. The EWD subcommittees requested that GAO review DOE project management activities as well as the management of cost and schedule for selected DOE projects. The GAO studies include, but are not limited to, EM projects. At the request of the EWD subcommittees, GAO and Academy staff periodically exchanged information on the status of their respective activities.[3] At the same time as this report is being published, GAO will be working on a study of selected EM operating projects.

During the course of this study, Academy staff also exchanged information with the Environmental Management Advisory Board (EMAB).[4] The Academy project director for this study briefed the EMAB at its meeting in Richland, WA on August 24, 2006. Academy staff and the EMAB also established a mechanism to keep the EMAB informed of the Panel's activities. Likewise, the EMAB shared with Academy staff information on the recommendations it made to Assistant Secretary Rispoli that deal with human capital and communications, among other subjects.

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[3] Among the GAO reports reviewed for this study were: *Consistent Application of Requirements Needed to Improve Project Management* GAO-07-518. May 11, 2007; *Major Construction Projects Need a Consistent Approach for Assessing Technology Readiness to Help Avoid Cost Increases and Delays* GAO-07-336. March 27, 2007; *Nuclear Cleanup of Rocky Flats: DOE Can Use Lessons Learned to Improve Oversight of Other Sites' Cleanup Activities* GAO-06-352. July 10, 2006; *DOE Contracting: Better Performance Measures and Management Needed to Address Delays in Awarding Contracts* GAO-06-722. June 30, 2006.

[4] The EMAB was established under the Federal Advisory Committee Act to provide the Assistant Secretary of EM with information, advice, and recommendations on issues affecting the EM Program.

At the end of October 2006, EM's senior leadership team participated in a two-day offsite meeting.[5] The meeting's theme was *Shaping EM's Future,* and resulted in EM establishing four working groups to address the following areas:

- roles, responsibilities, authorities, and accountabilities
- embracing diversity
- communications
- business processes

The working groups were co-chaired by a senior headquarters official and a senior field official. Teams had core members to carry out the basic work as well as other "consulting" officials whose responsibilities overlapped those of the teams. Academy staff met periodically with these groups, which were charged with addressing the Panel's proposals in their respective areas of focus.[6]

STUDY METHODOLOGY

The Academy convened an expert Panel experienced in organization, human capital management, acquisition, and project management to guide the project's research and make proposals to improve EM's operations. Staff experienced in these subject areas were recruited to support the Panel. For acquisition expertise, the Academy subcontracted with the Jefferson Consulting Group. Biographical sketches of Panel members and staff are provided in Attachment 2.

The primary means of data collection were interviews with EM and other DOE staff in headquarters and the field; community groups; members of Site-Specific Advisory Boards; impacted Native American Tribes; and state and federal regulators. Academy staff visited every major EM site, including a mixture of sites owned by EM and those owned by other DOE organizations, and several smaller sites.[7] Staff also reviewed applicable documents, including GAO reports, DOE Inspector General reports, Office of Personnel Management studies, budget materials, and other data. In addition, Academy staff conducted benchmarking interviews with other agencies to draw comparisons with EM's contracting and workforce forecasting procedures. A list of persons interviewed or contacted throughout the study is found in Attachment 3.

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[5] The Assistant Secretary has meetings quarterly with all EM senior managers. Attendees include the Principal Deputy Assistant Secretary and Chief Operations Officer; the Deputy Assistant Secretaries and office directors in headquarters; all site managers from the larger sites and federal project directors at the smaller site; and a few other individuals, such as the DOE counsel assigned to EM.

[6] As of November 2007, two teams had finished their work.

[7] Site offices visited included the Ohio Field Office, the Environmental Management Consolidated Business Center, the Idaho Operations Office, the Savannah River Operations Office, the Carlsbad Field Office, the Oak Ridge National Laboratory, the Los Alamos National Laboratory, the Richland Operations Office, the Office of River Protection, the Nevada Site Office, the Portsmouth/Paducah Project Office, the Brookhaven National Laboratory, and the Moab Site Office.

As indicated earlier, the Academy Panel and staff and EM management established an open, interactive relationship. In addition to structured interviews, Academy staff were invited to many EM management meetings to gain an understanding of the internal dynamics of the organization. These meetings also allowed Academy staff to provide to the Assistant Secretary and other senior executives informal feedback on EM's management processes.

The Panel met five times during the course of the study to review progress; review and approve interim Observations Papers; and provide direction to the staff. EM's senior leadership attended the Panel meetings to exchange views with the Panel. DOE representatives and congressional staff also attended some of the meetings.

NATURE OF THIS REPORT AND APPENDICES

This report summarizes the work of the Academy Panel and staff performed during the last 19 months. In the three Observations Papers, however, Academy staff presented extensive factual information that was the basis for the Panel's proposals made throughout this study and the final recommendations in this report. Because the papers were unpublished documents, the Academy Panel and staff determined that some of the detailed information in the Observations Papers, excluding data that clearly had been overtaken by events, should be made available as appendices to those who want to delve into more detail. When possible and appropriate, data have been updated.

ORGANIZATION OF THE REPORT

The remainder of the report is organized as follows. Chapter 2 discusses the May 2006 reorganization of EM headquarters; organizational roles and responsibilities; and recent changes that EM has made or plans to implement as a result of this study. The chapter restates as recommendations several of the proposals made in the Observations Papers and includes new recommendations as well. Chapter 3 examines EM's acquisition operations and oversight processes and its efforts to introduce significant improvements throughout the acquisition lifecycle by implementing an Acquisition Center. Four new recommendations are made in two areas examined since the August 2007 Observations Paper was issued—EM's small business contracting program and contract administration. Chapter 4 provides an in-depth look at EM's project management practices, including the improvements that have been made and the additional improvements that are being planned. Two new Panel recommendations are offered. Chapter 5 examines EM's internal human capital/human resources practices, and provides benchmarking information on workforce estimating procedures in other organizations. The chapter clarifies and reinforces proposals previously made in the Observations Papers and includes four new recommendations.

CHAPTER 2
ORGANIZATION AND MANAGEMENT

During its relatively brief existence, EM has experienced several reorganizations and faced serious questions about its future. When James Rispoli assumed the EM Assistant Secretary position on August 10, 2005,[8] the organization he inherited was troubled. It already had lost nearly half its staff from the 2001 level, and staff were told the organization was going out of business. It also was in the midst of an A-76 study that might further reduce its scientific and engineering workforce. Not surprisingly, morale was at a very low ebb. From a functional standpoint, the lines delineating responsibility and accountability were blurred throughout the headquarters operation, making it difficult to know who had ownership for any given issue.

Assistant Secretary Rispoli was able to secure a cancellation of the A-76 study and, like several of his predecessors, made plans to reorganize EM headquarters. The purpose of the reorganization was to improve EM program performance by establishing clear lines of responsibility and accountability and enhancing its human capital activities. In designing the new structure, Assistant Secretary Rispoli had in mind the following four objectives:

1. focus on the acquisition process
2. improve project performance and assess improvements
3. improve interactions with the field and resolve issues
4. focus on human capital development to create a highly-qualified, competent workforce[9]

The ensuing changes to EM headquarters affected almost every office, and during the course of this study, EM has made considerable progress to implement its new structure. As the Panel completes its study, it recognizes that the reorganization has not been fully implemented as several key management positions still have not been filled and new procedures are still being developed. The Panel also understands that the current management issues within EM cannot be examined in a vacuum, but must be viewed in terms of where the organization was just a few years ago. EM is still dealing with the organizational turmoil discussed above. With that as a backdrop, this chapter examines the May 2006 reorganization—its implementation and subsequent modifications—and management practices within EM.

[8] The Assistant Secretary is the only presidential appointee in EM. Except for three Schedule C appointees, all other positions are career civil servants.

[9] To help the Panel as it considered the issues, it asked Assistant Secretary Rispoli to provide guidance in terms of his main strategies, goals, and principles against which the Panel could perform its analysis. The Assistant Secretary provided 13 precepts, which are included in Appendix A, Section IV, "Organizational Precepts."

ORGANIZATIONAL PREMISE OF THE NEW STRUCTURE

Assistant Secretary Rispoli's organizational vision for EM is based on his Navy experience. In many parts of the military establishment, the organizational model is a straight line of responsibility and accountability from the Commanding Officer to the Executive Officer to the Chief Operations Officer. Adapting this model to EM, the May 2006 reorganization created a straight line of accountability from the Assistant Secretary to the Principal Deputy Assistant Secretary (PDAS) to the Chief Operating Officer (COO).[10] Insofar as roles and responsibilities are concerned, the Assistant Secretary envisioned that the PDAS would be an alter ego, oversee the business/management side of the organization, and be responsible for developing the long-term strategic direction of the organization and its policies. The COO would be responsible for day-to-day operational oversight of EM sites and facilities. The managers of EM's site offices report to the COO.

ORGANIZATIONAL STRUCTURE

The May 2006 reorganization of EM headquarters created a matrix organization that houses most of the subject matter experts in offices reporting to the PDAS. Headed by Deputy Assistant Secretaries (DASs) are five such program offices. Two of the offices—Regulatory Compliance and Engineering and Technology—are technical programs. The other three—Program Planning and Budget; Human Capital and Business Services; and Acquisition and Project Management—are business/administrative programs. The reorganization also established an Office of Project Recovery reporting to the Assistant Secretary/PDAS.[11] The office was created to provide assistance to EM's troubled projects. Since its creation, the office has been working with the Waste Treatment and Immobilization Plant (WTP), a project managed by the Office of River Protection (ORP) at the Hanford Site in Richland, WA.

Reporting to the COO are two offices with subject matter experts—the Office for Safety Management and Operations and the Office of Safeguards and Security. In addition, an Office of Site Support and Small Projects[12] was created to manage field operations at EM's small sites and provide support to its large sites. To execute its operational responsibilities, the COO's office works with the other headquarters offices to address issues that range from engineering and technology to regulatory compliance and project management.[13]

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[10] At the October 2007 Panel meeting, EM leadership informed the Panel that the title "Chief Operating Officer" is being changed to "Chief Operations Officer." The new title is used in this report.

[11] In September 2007, EM leadership informed the Panel that it planned to realign this office under the COO. This is discussed below in the section, "The Office of Project Recovery."

[12] Plans underway to further reorganize the COO's office will split the Office of Site Support and Small Projects into two offices—the Office of Small Site Projects and the Office of Site Support. This is discussed below in the section, "Staff Capacity in the Office of the Chief Operations Officer."

[13] A more detailed description of the May 2006 reorganization is found in Appendix A, Section I, "The 2006 Reorganization of EM Headquarters."

Additional Organizational Changes

At the Academy Panel's July 2007 meeting, Assistant Secretary Rispoli announced that additional organizational changes were being implemented, due in part to proposals made by the Academy Panel during the course of this study and recommendations from the EMAB.[14] Major changes are discussed below.[15]

Creation of a Management Analysis Office

At the Panel's urging, EM has established an Office of Management Analysis and Process Management. In its September 2006 Observations Paper, the Panel noted that the Assistant Secretary did not have the management analysis capability on his staff to provide the analytic rigor needed to inform EM's management decisionmaking. For example, there was no organization the Assistant Secretary could task with developing a comprehensive plan that identified the actions needed to fully implement the reorganization. **The Panel proposed in its September 2006 paper that EM develop such a plan that included the completion of a functional analysis of its operations; the creation of standard operating procedures and program plans; and a review of delegations of authority.** EM did develop such a plan by detailing EM's Chief Safety Officer from Carlsbad to lead the effort. The Management Analysis and Process Management Office now has assumed responsibility for EM's action plan and for coordinating the organization's efforts to implement the Academy Panel's recommendations, as well as other recommendations from EMAB and the four EM working groups discussed in Chapter 1 that EM established during this study to identify improvement possibilities.

The Panel is pleased that EM has created the Office of Management Analysis and Process Management. Once properly staffed, this office can give EM a much needed capability to examine its management and business operations and to develop a policy issuance system. The Panel emphasizes that a critical role of this office should be identifying where organizational processes can be streamlined and simplified.

Establishing a Communications Office

In response to an EMAB recommendation, EM plans to establish an Office of Communications and External Affairs reporting to the Assistant Secretary. The new office will be responsible for developing EM's corporate message and preparing external communications, such as press releases; congressional testimony; pre-hearing questions and answers and answers to post-hearing questions; and speeches for the Assistant Secretary and PDAS.

Reorganizing EM's Human Capital and Human Resources Activities

EM also has reorganized the Office of Human Capital and Business Services. In the 2006 reorganization, human capital (HC) planning was in one office and human resources (HR) and information technology (IT) were combined in another office. This organizational split of HC and HR activities created opportunities for disconnects and inefficiencies when HC issues

[14] EM is beginning to operate under the new structure even though it has not been formally approved or all the paperwork processed by DOE headquarters.

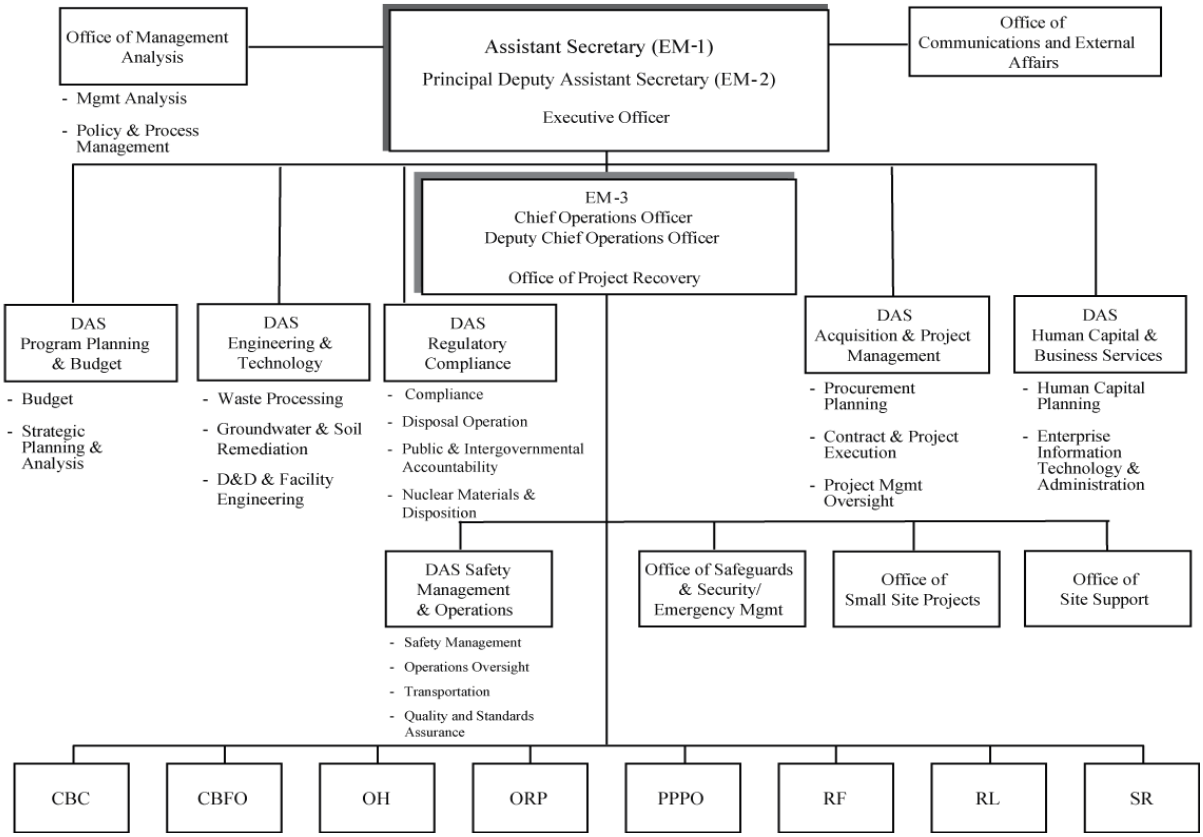
[15] EM's proposed changes are discussed in more detail in Appendix A, Section V, "Additional Organizational Changes."

involved both a near-term tactical action and a long-term strategic component. The structure also created a situation where the director of the HR and IT office had to manage two very different areas that are both dynamic and often involve short deadlines and require a dedicated focus. Under the new configuration, the HC and HR functions have been consolidated into one office and there is a separate office for IT and cyber-security activities. This brings all HC/HR activities under the leadership of an HC professional and offers opportunities to streamline the work and enhance staff expertise. It also will allow EM to be more focused on cyber-security, which is receiving increased emphasis from both the Secretary of Energy and the Assistant Secretary. However, the Panel cautions that creating an office with cyber-security as a major function that is separate from the Office of Safeguards and Security and Emergency Management, which reports to the COO, may create some unintended overlap and duplication unless roles and responsibilities are well defined.

The Panel recommends that a task of EM's new Management Analysis and Process Management Office should be an analysis of the organizational options for EM's information technology and cyber-security functions.

EM also is taking steps to reorganize the COO's office based on Panel concerns, which are discussed below, about the capacity of that office to perform its mission. Figure 1 shows EM's organizational structure, including the proposed changes.

Figure 1: EM's Proposed Organizational Structure*



*Abbreviations include: Consolidated Business Center (CBC); Carlsbad Field Office (CBFO); Ohio Field Office (OH); Office of River Protection (ORP); Portsmouth/Paducah Project Office (PPPO); Rocky Flats (RF); Richland Operations Office (RL); Savannah River (SR)

STAFF CAPACITY IN THE OFFICE OF THE CHIEF OPERATIONS OFFICER

Throughout the course of this study, the Panel questioned whether the COO had the infrastructure in headquarters to effectively oversee EM's field operations. The COO and Deputy COO have often been involved with lower-level issues as opposed to troubleshooting and facilitating at a higher level and providing leadership and policy direction to the field. Although the COO has offices that oversee and help resolve problems related to safety and security, the COO has not had staff readily available who can address problems in other areas. As a result, the COO and Deputy COO have juggled competing demands on their time to attend meetings and make decisions. Many days, the COO and Deputy COO were double and triple booked to attend meetings that occurred at the same time. Exacerbating the problem was that the Deputy COO needed to spend time in the field to work through complex problems facing EM's projects. Doing so, however, added to an already difficult situation because it left the COO alone to attend the many meetings that required executive attention and decisions.

In its January 2007 Observations Paper, the Panel examined how the headquarters organizational structure was affecting the capacity of the COO's office to perform effectively. As discussed below, much of the work of EM's headquarters offices focuses on day-to-day operational matters. In particular, the functions performed by the offices of Regulatory Compliance and Engineering and Technology directly support EM's field operations. The Panel concluded that the COO should not have to coordinate with those functions. Rather, those functions should be part of the COO's organization and the managers of those offices should help the COO oversee field operations. **In its January 2007 Observations Paper, the Panel recommended that the Assistant Secretary realign the offices of Regulatory Compliance and Engineering and Technology to report to the COO.**

Both the Assistant Secretary and the PDAS were hesitant to make further substantial organizational changes so soon after the last reorganization, which is still in the process of being implemented. Although the Panel continued to observe capacity problems within the COO's office, in its August 2007 Observations Paper, the Panel concurred that it was too late in Assistant Secretary Rispoli's tenure to initiate a major reorganization, particularly given the fact that EM has not fully implemented the May 2006 reorganization. Instead, the Panel looked to less basic management changes that would address the shortcomings of the existing structure.

The Office of Site Support and Small Projects

The Panel found that a significant factor that has contributed to the COO's staff capacity dilemma is staff utilization, specifically, the utilization of the site liaisons who report to the director of the Office of Site Support and Small Projects.[16] The site liaison position was designed to enhance the interface between EM headquarters and the field sites and, according to EM officials, the liaisons were to serve as staff to the COO. However, EM has struggled to define the site liaisons' role and how the liaisons are to operate within the organization. Their primary function has been to expedite actions the field needs from EM headquarters offices, i.e.,

[16] A description of that office's responsibilities per the May 2006 reorganization is included in Appendix A, Section III, "The Office of Site Support and Small Projects."

they serve as action officers for critical decisions, congressional inquiries, Freedom of Information inquiries, etc.; helping the sites work through issues and walk action items and decision packages through headquarters. One site liaison reported that a continuing problem with their role is that the field does not fully understand it or how the liaisons can help the field. As a result, some liaisons do not believe that they have been well utilized, and some actively have sought other work to perform. On the other hand, staff at many sites reported that the liaisons generally lack the field experience and in-depth knowledge of site operations that are needed to help work issues through headquarters.

Exacerbating the problem is that the liaisons are located in Germantown, MD and not at the Forrestal Building in Washington, DC where most of the EM headquarters management and staff and DOE officials with whom the liaisons are to interface reside. This has diminished the liaisons' usefulness as they are not readily available to attend meetings and work through issues for the COO. Although phone and e-mail contact can be used effectively in many cases, senior leadership within the COO's office believe that the ability to walk down the hall and meet face-to-face with managers in the other headquarters offices is critical to resolving issues in a timely fashion. As a result, the COO and Deputy COO often absorbed the workload that should have been performed by the staff. The practice put a significant strain on the COO and Deputy COO, and had the unintended consequence of sub-optimizing delegations of authority and underutilizing these site liaison personnel.

In its August 2007 Observations Paper, the Panel proposed that the COO, in consultation with the Assistant Secretary and PDAS, define the work the COO's office must perform; determine the staff capacity needed to perform that work; assess the capabilities of the current COO staff to perform the work; and address any skill gaps through training and developing existing staff or adding additional resources to the office. The Panel suggested that the type and duration of the COO's staff field experience should depend on each staff member's job responsibilities, and the analysis also should include a review of staff location and assignments versus efficiency. EM leadership agreed with the Panel's assessment of the COO's office and has proposed changes to build its organizational capacity. The Office of Site Support and Small Projects is being split into two offices—the Office of Small Site Projects and the Office of Site Support. The Office of Small Site Projects will focus solely on managing EM's small sites. The Office of Site Support will provide support to EM's larger sites, i.e., Savannah River, the Richland Operations Office, the Office of River Protection, the Idaho Cleanup Project, Oak Ridge, the Carlsbad Field Office, and the Portsmouth/Paducah Project Office. Housed in the Forrestal Building, this office will be staffed with five to six senior program managers; two EJ-4s and four GS-15s. These individuals will be responsible for creating integrated teams, which include all of the functional areas in headquarters, to work site issues. EM leadership believes that these high-level resources will provide the COO with the capacity needed to respond to the sites' needs and address the complex issues that require headquarters assistance, and give the COO more time to perform the leadership role the position demands.[17] The Panel supports this proposed reorganization and staffing for the COO's office.

[17] The reorganization of the COO's office also includes a new Office of Quality and Standards Assurance, which is discussed in Chapter 4, Project Management, in the section, "Implementing Safety and Quality Assurance."

The Office of Project Recovery

In its August 2007 Observations Paper, the Panel raised several questions about the Office of Project Recovery.[18] As noted above, the director and five senior-level staff have worked with the ORP staff to address the technical, financial, contractual, and project management issues that plagued the WTP project. By most accounts, the Office of Project Recovery has been instrumental in helping ORP resolve problems and finding a path forward for the troubled project. However, there are no formal procedures for how the Office of Project Recovery should interact with site managers and staff or a defined set of roles and responsibilities for each. The Panel found that the director of the Office Project Recovery assumed many of the responsibilities of a site manager for the WTP project. The acting ORP site manager often was not included in decisionmaking, yet is accountable for the project's success or failure—an unacceptable situation for any manager. There also are no criteria for when the Office of Project Recovery's assistance is no longer needed on a project. Once the office started working with the WTP, there was no exit strategy.

In its August 2007 Observations Paper, the Panel proposed that EM clearly define the Office of Project Recovery's roles and responsibilities vis-à-vis site management; develop standard operating procedures for how that office works with site management; and develop criteria for when that office is brought in to assist a project and when its assistance is no longer required. Also, believing that the resources of the Office of Project Recovery could be better utilized to build organizational capacity in the COO's office to assist troubled projects other than just WTP, **the Panel proposed that that EM realign the Office of Project Recovery under the COO.** As part of the reorganization of the COO's office, EM is realigning the Office of Project Recovery under the COO. For now, it will remain a separate office reporting into the COO in order to provide a visible focus on the WTP.

The Panel is encouraged by the organizational changes being implemented to build the capacity of the COO's office. A primary driver for the Academy's study of the EM Program was congressional concerns about the cost increases and schedule delays of EM's projects. The Panel believes that if EM is to successfully deal with these issues, the COO, who is responsible and accountable for EM's operations, must have the proper number of headquarters staff with the appropriate knowledge, skills, and credibility within the organization to help fulfill those responsibilities. The next critical step, however, is to ensure that roles and responsibilities for staff throughout the organization are clear.

ORGANIZATIONAL ROLES AND RESPONSIBILITIES

A major issue that the Panel raised throughout the course of this study is that roles and responsibilities in headquarters have not been clearly defined and executed. The Panel found that EM has not functioned according to the Assistant Secretary's organizational model. As opposed to concentrating on the long-range, strategic direction of the organization, much of the

[18] Additional information on the Office of Project Recovery is included in Appendix A, Section VI, "The Office of Project Recovery."

work of EM's headquarters offices still focuses on day-to-day operational matters. The Regulatory Compliance office regularly deals with the sites on day-to-day regulatory issues. An estimated 40 percent of the Project Management Oversight staff's time is spent working with the COO's office to support operations. According to EM's *Mission and Functions Statement,* providing technical assistance and oversight to EM are primary functions of EM's headquarters offices. So it is not surprising that they are involved in day-to-day activities.

Likewise, the COO's activities are not confined to day-to-day operations. The COO often is consulted on long-term policy and strategy issues, which the Panel believes is an appropriate role for the COO. Occasionally, DOE leadership or stakeholders ask the COO to get involved with issues that fall outside of the COO's direct area of responsibility, e.g., a Governor asks that the COO be involved in negotiating a regulatory agreement with the state. In those instances, the COO usually would comply.

The Roles of the PDAS and the COO

Confusion about roles and responsibilities starts at the top of the organization. Throughout this project, EM staff throughout the complex commented that they were confused about the role of the PDAS versus the role of the COO. With the COO reporting to the PDAS, the latter is in the direct chain of command for operations, which sometimes has led to mixed messages from top leadership down through the organization.

The Panel found that the PDAS often assumed the role of a second COO as opposed to focusing on EM's business/management functions as envisioned in Assistant Secretary Rispoli's organizational model. The Panel believes that the PDAS' supervisory responsibility for the Regulatory Compliance and Engineering and Technology offices redirected the PDAS' attention away from EM's business/management functions and into more operational types of activities. In addition, the PDAS' leadership role for a DOE-wide committee dealing with nuclear materials consolidation also pulled the PDAS away from his business/management responsibilities and into the operational arena.[19] At the same time, in part due to capacity issues within the COO's office (discussed above), the COO was operating more like a project director or site manager than a COO. The COO and Deputy COO have been heavily involved with day-to-day operational issues at a level that one would not normally expect of senior headquarters executives.

Many people interviewed throughout EM as well as external stakeholders believe that the PDAS and COO have micromanaged the field. They reported that the PDAS and COO often got involved in issues that should be the responsibility of lower-level management. The PDAS and COO both are perceived as being very technically-oriented and technically-competent individuals, which some EM staff believe has driven their involvement with lower-level issues. However, with over 40 Senior Executive Service (SES) positions in headquarters and the field, the Panel thinks that most decisions in EM should be made below the PDAS and COO level.

[19] The House is proposing in its Appropriations Bill that nuclear materials activities for the entire Department be consolidated into a new DOE office.

In the January 2007 Observations Paper and again in the August 2007 Observations Paper, the Panel proposed that the Assistant Secretary work with the PDAS and COO to define their roles and responsibilities and to take the appropriate steps to ensure that his expectations are being met. The Assistant Secretary met several times with the PDAS and the COO to try to clarify their respective roles; reiterating that the PDAS is in charge of EM's business and management activities and the COO is in charge of operations. On paper, there is a differentiation, however, it has not been as clear in practice.

Newly announced changes in EM's leadership, as well as the organizational changes in the COO's office discussed above, offer a new opportunity to clarify the roles of the PDAS and COO. The PDAS is retiring and the COO will be assuming that position. The Director of the Office of Project Recovery has been designated as the new COO. Although not yet officially in those positions, they are already working together to sort through their respective roles.

The Panel is encouraged by the attention the designees are focusing on the roles and responsibilities of their new positions. It believes that the change in leadership offers a unique opportunity to start anew to ensure that the Assistant Secretary's organizational model is implemented. To do so, the PDAS and COO designees will need to ensure that the PDAS stays focused on the business and management aspects of the organization and that the COO focuses on facilitating, troubleshooting, leading, and monitoring—not managing—the field. It is the COO's primary responsibility to strengthen the sites so they can better manage themselves. To ensure that the organizational model underlying the May 2006 reorganization is implemented, the Panel believes that the Assistant Secretary must be an active participant in the PDAS and COO designees' efforts to define their roles in order to ensure that the results are in accordance with his vision of how the organization should operate.

> **The Panel recommends that the Assistant Secretary actively work with the newly designated Principal Deputy Assistant Secretary and Chief Operations Officer to define their roles and responsibilities and devise a means other than the annual performance review to periodically assess how they are carrying them out.**

The Role of Headquarters Offices

The work to accomplish EM's mission is performed at field sites across the country. However, the Panel recognizes that for the field to succeed, EM must have an effective headquarters organization. The role of headquarters is to create a vision for the organization; develop policies and guidance to help achieve that vision; provide the necessary technical assistance to the field; "clear the underbrush" for the field by taking actions that enable and facilitate the field's ability to accomplish EM's mission; and perform oversight to ensure that the organization is fulfilling its mission.

The lack of clear roles and responsibilities within headquarters and between headquarters and the field also has been a recurring issue throughout this study. Field staff often viewed actions taken by headquarters offices to review/concur on activities or, in some cases, to overturn decisions

made in the field as line rather than staff office responsibilities, and the field interpreted these headquarters actions as micromanaging the field.

Headquarters staff indicated that they have had difficulty separating their staff functions from line operations. For example, headquarters officials in the Engineering and Technology and Regulatory Compliance offices indicated that their offices do sometimes direct work in the field because they are trying to "leverage directed programs to multiple sites." However, many operational issues involve multiple headquarters functions—regulatory, technology, safety, acquisition/project management, budget, etc. The Panel found that EM has not integrated the many program requirements that guide EM's cleanup efforts in such a way that defines how to most efficiently address those cross-cutting issues, and has not defined the respective roles of the participants or designated who has the lead for taking action. As a result, field staff reported that it was not unusual to receive requests from several people from different headquarters offices—each asking for information or directing activities that dealt with the same issue but from a different functional or programmatic perspective. The field often has been faced with addressing these multiple requests without being given a context for the requests and how what they have been asked to do fits into a broader issue. As a result, numerous field staff indicated that they felt like they work not just for the COO, but "for everyone in headquarters." Many field staff reported that their ability to be out walking the project site, which is a critical aspect of project oversight, was adversely affected by the amount of time they spent in the office responding to headquarters' requests. A Defense Nuclear Facilities Safety Board report on Savannah River sent to Secretary Bodman in August 2006 raised questions about that site's ability to implement a more ambitious technical assessment plan prepared by the Nuclear Materials Stabilization Project because of the time staff devoted to such requests.

The Panel addressed this issue in its January 2007 Observations Paper by proposing that the COO develop a tracking and control system to manage requests for information/actions made to field sites. The COO developed a system that required headquarters offices to report to the COO's office any task for the field that required more than four hours, but the system does not appear to be working effectively. During their visit to the Hanford Site in April, Academy staff were struck by the intensity with which both the Richland Operations Office and ORP staffs spoke about this issue. The problems with Hanford's projects are well known. Thus, it is understandable that headquarters believes that it needs to be more familiar and involved with the work taking place. However, Academy staff heard repeatedly from ORP and Richland managers how they are barraged from headquarters with requests for information and other requirements. One official noted that sometimes the number of calls he received, even on relatively minor issues, were so numerous that they prevented him from taking timely action to resolve the problems. Another manager indicated that he often was unable to plan his own workload because of headquarters involvement in his operations. The requests from headquarters, not the needs of his organization, dictated how he spent his time. **In its August 2007 Observations Paper, the Panel proposed that the COO work with the Hanford site offices' leadership to gain a full understanding of headquarters interactions with those offices and the impact headquarters' requests/requirements are having on the site offices' ability to manage their work, and to develop a proposal to address the issues identified.**

The COO intends to discuss with the field how the tracking and control system is working and to address identified problems. Academy staff also discussed with the COO that one problem may be that the system is too subjective with respect to determining how long a task will take, and have suggested that someone other than the requester determine the level of effort required to perform the work. As a result, the COO plans to have the senior program managers[20] in the COO's Office of Site Support assess the level of effort required to provide other headquarters offices with the information requested.

The Panel also found that requests to EM's field sites do not originate just from within EM. Staff reported that requests for information from outside of EM often are more burdensome than requests from EM headquarters. For example, one site reported receiving five requests a day for information from the DOE Office of Engineering and Construction Management (OECM), which manages a monthly scorecard system for DOE projects managed under DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*.[21]

> **The Panel recommends that the Chief Operations Officer develop a mechanism to track and control requests for information/action made to field sites from organizations external to EM.**

Efforts to Define Organizational Roles and Responsibilities

As noted in the Introduction to this report, EM created a Roles, Responsibilities, Authorities, and Accountabilities (R2A2) Working Group. The group's charter was to develop a plan of action that addressed issues associated with R2A2s within EM headquarters; between headquarters and field sites; and among field sites (on a case-by-case basis). For several months, the Working Group's efforts focused on examining the R2A2s of EM headquarters offices; identifying conflicts, the need for clarification, and gaps; updating existing systems, such as EM's Functions, Responsibilities and Authorities and Integrated Safety Management System descriptions to reflect the current reorganization; identifying where standard operating procedures were needed or needed to be updated; and developing a responsibilities and accountability matrix. The end product is to be an EM headquarters operational manual that implements and institutionalizes the R2A2s.

Academy staff received some preliminary information from the R2A2 Working Group on the gaps, conflicts, and areas that need clarification. These data were compiled using information provided by both headquarters and field staff. Several of the issues identified mirror areas of concern raised by the Panel, such as headquarters micromanagement of field sites; the role of site liaisons; headquarters tasking of the field; and the R2A2s of the Office of Project Recovery. To date, the Working Group's efforts have documented how work is currently being conducted in EM and has not attempted to assess how roles and responsibilities conform to Assistant Secretary

[20] These new positions are discussed above in the section, "Staff Capacity in the Office of the Chief Operations Officer."
[21] Order 413.3A and OECM's rating system are discussed in the Project Management chapter in the section, "EM Headquarters Oversight of Project Performance."

Rispoli's organizational vision.[22] **In its August Observations Paper, the Panel proposed that the Assistant Secretary ensure that the work of the Roles, Responsibilities, Authorities, and Accountabilities Working Group is consistent with his organizational model of how EM should function within the existing structure.**

EM agreed that it will need to revise the Group's work to reflect the organizational changes being implemented. However, with the establishment of the Management Analysis and Process Management Office, it transferred the remaining work of the R2A2 Working Group to that office. While the Panel agrees that the R2A2 work is a logical responsibility of a management analysis office, the new office is not yet adequately staffed to assume responsibility for the work that still needs to be done. At present, the office's staffing consists of a director and five individuals on detail.[23] The Panel believes that until the Management Analysis and Process Management Office is adequately staffed, EM needs to capitalize on the in-depth subject-matter knowledge already acquired by the core members of the Working Group in order to conclude the work in a timely fashion.

EM'S FIELD STRUCTURE AND SITE MANAGEMENT

EM carries out its cleanup responsibilities through a large field office structure that is centered around the sites of the former weapons complex. The eight field offices reporting to the COO, shown in Figure 1, are "owned" by EM, i.e., EM has landlord responsibilities at these sites and is responsible for all aspect of site operations.

EM also has ongoing cleanup activities at several other sites where it is part of a multi-organizational operation and is not the lead secretarial office. Included among these are two large sites—the Oak Ridge Operations Office (owned by the Office of Science) and the Idaho Operations Office (owned by the Office of Nuclear Energy)—and several small sites, such as the Brookhaven National Laboratory (owned by the Office of Science). At these sites, EM is responsible only for its specific cleanup activities and does not have "landlord" responsibilities. EM gets its administrative support (procurement, personnel, etc.) from the landlord organizations. The EM staff at these sites also receive significant subject matter expertise in areas such as safety, including safety basis, nuclear safety, fire safety, and industrial hygiene. Generally, EM staff were generally complimentary of the support they have received from their landlord organizations, and there was universal agreement that the EM operations at those sites do not have the resources to provide that level of service for themselves.

A unique subset of the non EM-owned small sites are those owned by the National Nuclear Security Administration (NNSA), which include sites such as the Los Alamos National

[22] Assistant Secretary Rispoli's vision would have the COO focus on day-to-day operations and the other headquarters offices focus on complex-wide, longer-term strategies, policies and plans, and complex-wide issues; not duplicate field functions. With regard to the Engineering and Technology Office, his vision would establish that office as a world-class source of engineering expertise, providing such expertise for Source Evaluation Boards and developing new technologies needed for the future.

[23] The office has received approval to add three more people.

Laboratory, the Nevada Site Office, and the Lawrence Livermore National Laboratory. Because of the legislation that created NNSA, no one other than an NNSA official may direct an NNSA employee, contractor, or any operation at an NNSA site. The staff performing the EM work are both NNSA employees and EM employees supervised by NNSA staff, and NNSA hires the contractors to perform the work. The NNSA headquarters office of the Associate Administrator for Infrastructure and Environment oversees the EM cleanup operations at NNSA sites. EM receives reports on the status of the work at these sites, but is not responsible for directly overseeing the work.

The Panel found a long-standing issue concerning the supervision of the staff working on EM projects at NNSA sites.[24] There also have been other, more general management issues related to how EM and the NNSA sites work together. In particular, the Panel heard conflicting reports on communication practices between the NNSA sites and EM. According to NNSA headquarters officials, the EM programs at its sites can communicate directly with EM as long as they inform NNSA headquarters of those interactions. That appears to be how it has worked in practice at the Nevada Site Office. However, at Los Alamos, staff have been operating under the premise that if they needed to contact EM for any reason, they had to go through NNSA headquarters, who would then make the appropriate entreaties to EM. EM's senior leaders reported that they have been criticized by NNSA for having made direct contact with employees working on EM cleanup operations at NNSA sites. They also expressed concerns about not having adequate information about what is happening at the NNSA sites. EM and NNSA have now signed a protocol which, among other things, states that, "while there may be disagreements among these offices, nothing in the NNSA Act or this management protocol prevents communication and cooperation, or excuses failures in these areas." Although this language is useful, the Panel believes that it does not sufficiently clarify communications practices between EM and NNSA.

With respect to managing cleanup activities, there is no single model for how the sites are structured. Oak Ridge's structure is built around its major projects. It has offices for the Melton Valley Closure Project, the East Tennessee Technology Park Closure Project, and the Balance of Reservation Closure Project. Likewise, Hanford's Office of River Protection has offices for each of its two major projects—Tank Farms and WTP. The Idaho Cleanup Project (ICP) and Savannah River are organized more along the lines of cleanup activity type. ICP has an office for Waste Disposition and another for Facility Material Disposition; Savannah River has offices of Nuclear Material Stabilization, Waste Disposition, and Closure. The organizational structure of Hanford's Richland Operations Office is somewhat based on geography. Two of its major project offices are River Corridor and Central Plateau. Their responsibilities correspond to the activities taking place at those locations on the site.

Sites also have different approaches to how they provide their projects with subject matter experts, such as facility representatives and safety, quality assurance, and project controls experts. Some sites have staff with those capabilities embedded within their various project teams. Others have created separate offices with subject matter experts that are responsible for providing assistance in a matrix fashion to all projects. It does not appear that these differences

[24] This subject is discussed in Chapter 5, Human Capital Management, in the section, "EM's Human Capital/Human Resources Service Delivery Configuration."

in organizational structure have caused any significant issues for the organization. Organizational responsibilities are generally well-defined at the sites, and people tend to know who their counterparts are at other site offices, and they seek advice and/or assistance when needed. The one problem that these structural differences exacerbate, however, is the ability to adequately assess staffing requests from the various offices. EM does not have a resource estimation system tied to workload.[25] Without such a system, it is difficult to weigh resource requests when they are coming from similar organizations. The challenge of balancing staff needs is further compounded when the requesting offices are structured differently.

The Hanford Site is unique in that it has two EM site offices—the Richland Operations Office and ORP—responsible for projects at the site.[26] Having two site offices at Hanford has had both advantages and disadvantages. Staff report that an advantage has been the increased management focus and resources for the site's troubled tank retrieval efforts. On the downside, however, is that the working relationship between the sites has been dependent largely on the leadership of those organizations, and that relationship has not always been productive. Several EM staff and a Tribal representative also noted that there have been problems integrating activities at the site. A key example has been in the area of soils and groundwater. Another issue associated with having two site offices is staff utilization. With the number of resources being limited across the EM complex, compounded by the difficulty of finding certain expertise like seismic and fire protection engineers, there is a case to be made for centralizing such expertise in one of the two Hanford offices to help leverage those scarce resources to better meet the workload requirements of all the site's projects and to help standardize the approaches to those activities across the site.

When Academy staff asked site staff the question of whether there should be one or two offices at Hanford, the majority responded that there should be only one; it was just a matter of timing. Some staff believed there needed to be two offices until the WTP was in an operational mode; others believed the work could be done more effectively if there were one office now. There were some staff, however, who believed that there always should be two offices at the Hanford Site.

In its August 2007 Observations Paper, the Panel proposed that EM develop a plan to consolidate the soils and groundwater activities at the Hanford Site. EM has indicated that it is moving forward to implement the Panel's proposal. **The Panel also proposed that EM examine the organizational alignment of its subject matter experts (facility representatives, safety, quality assurance, etc.) at the site to determine whether centralizing those functions into a single office serving both site offices would provide more efficient and effective**

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[25] This subject is discussed in Chapter 5, Human Capital Management, in the section, "Workload Forecasting."

[26] Until 1998, the Richland Operations Office managed all activities at the Hanford Site. In 1998, Congress carved out the Hanford tank waste retrieval efforts from the Richland Operations Office and gave responsibility for those projects to a new, autonomous office—the Office of River Protection. Both site office managers report to the COO. In December 2002, the managers of ORP, the Richland Operations Office, and the Assistant Secretary of EM signed a memorandum of agreement outlining the authorities of each office and how they are to coordinate those authorities. In September 2003, the managers of ORP and the Richland Operations Office extended that memorandum of agreement.

services. Finally, the Panel proposed that EM begin to develop a long-range plan to combine the operations of the two Hanford site offices.

At the July 2007 Panel meeting, EM leadership expressed interest in these Panel proposals, but viewed them as things to consider in the future. Subsequently, the Panel learned that EM hired a contractor to provide additional subject matter expertise to both site offices. The Panel believes that this reinforces the need for EM to examine how it performs this work across the entire Hanford Site in order to promote consistent operations. The Panel also believes that EM needs to begin now to plan for combining the two Hanford site offices as this effort will take a significant amount of time.

> **The Panel recommends that EM examine the organizational alignment of the subject matter experts at the Hanford Site to determine whether centralizing those functions into a single office serving both site offices would provide more efficient and effective services. The Panel also recommends that EM begin now to develop a long-range plan to combine the operations of the two Hanford site offices.**

EM'S MISSION SUPPORT FUNCTIONS

Like any organization, EM needs the services of mission support specialists to execute its mission, including contracts and procurement, human capital, finance, budgeting, information technology, and logistical support. As noted earlier, the offices responsible for all of the mission support functions performed in EM headquarters report to the PDAS. Early on in this study, the Panel expressed concerns about the lack of senior leadership focus on EM's business and management functions. As will be discussed later in this report, EM has had significant acquisition and human capital issues that need to be addressed. To resolve them requires leadership that is focused on integrating EM's planning, budgeting, human capital, and acquisition functions. As noted above, the PDAS has been very involved in the operational activities of the organization, which has distracted him from the critical responsibility of overseeing the business/management side of the organization. **In its September 2006 Observations Paper, the Panel proposed that EM create a Chief Business Officer position, filled with a term appointment, to lead and oversee EM's mission support DAS offices. Once EM fully implemented the reorganization, the Assistant Secretary could determine whether to retain the position as a term appointment, make it permanent, or abolish it.**

The Assistant Secretary decided not to adopt the Panel's proposal. And in its January 2007 and August 2007 Observations Papers, the Panel continued to raise concerns about the management of the business/management side of the house. Although still a concern, the Panel understands the Assistant Secretary's reluctance to modify his organizational vision and make major organizational changes. However, with an annual budget of nearly $6 billion, the Panel emphasizes the need for senior leadership focus on EM's financial and other business/management functions. The Panel notes that the upcoming personnel change in the PDAS position offers the Assistant Secretary an opportunity to ensure that the business/management functions of the organization are a top priority for the new PDAS. And

EM leadership has assured the Panel that this will be the case. However, the Panel believes that it is critical that the Assistant Secretary adopt the Panel's recommendation in the section of this chapter, "The Roles of the PDAS and the COO," that the Assistant Secretary stay actively involved in the new PDAS' and COO's efforts to define their roles.

Mission Support in the Field

As noted above in the section on site management, EM operations at non EM-owned sites, such as the ICP and Oak Ridge, rely on the landlord organization for mission support services. Mission support offices for the EM-owned sites are scattered throughout the complex. Two of the large EM-owned sites, Savannah River and the Richland Operations Office, have their own mission support offices and are largely self-sufficient. ORP has its own acquisition staff and relies on the Richland Operations Office for its other administrative support. The Carlsbad Field Office and the Portsmouth/Paducah Project Office have staff to perform some mission support activities and rely on the EM Consolidated Business Center (EMCBC) for others.

In 2004, EM established the EMCBC to support the five Ohio Field Office closure sites and the Rocky Flats Closure Project. Its mission was to provide the full range of support services to those offices including human capital, financial, legal, contracting, logistics, and IT support. The EMCBC also has an Office of Technical Services consisting of a cadre that was established to retain technical staff from closure sites who could provide expertise to other sites.[27]

In its September 2006 Observations Paper, the Panel proposed that EM clearly define the long-term mission of the EMCBC and the support it should provide throughout the complex. The Panel found that there was ambiguity surrounding the future of the EMCBC because its major customers were closing down. EM headquarters leadership appeared to pay little attention to how the EMCBC operated and the issues facing it. Since then, as a result of the Panel's proposal, EM leadership announced a long-term vision for the EMCBC and has taken steps to define its role across the complex. The EMCBC formed integrated project teams to visit each site to better determine their needs and has created a matrix of primary and support services that it will provide to all EM headquarters and field sites. It also has developed service level agreements with the EM small sites that it supports.

COMMUNICATIONS

Communications is a broad and complex subject that encompasses both an organization's internal and external communication systems and practices. Like any organization, EM managers hold regular meetings with their staffs to share information and discuss issues. In general, EM staff reported that communications within the organization have improved significantly since the arrival of Assistant Secretary Rispoli. From the Assistant Secretary down to the office directors in headquarters and assistant managers at the sites, staff meetings abound. The organization is embracing a more open environment where information is shared more freely. As Academy staff traveled around the complex, however, staff in headquarters and the field raised issues with the quality and quantity of information exchanged at meetings. These

[27] The cadre is discussed in Chapter 5, Human Capital Management, in the section, "EMCBC Closure Cadre."

concerns were often related to the ability and/or propensity of their direct supervisors to communicate.[28]

EM's activities require it to work and communicate with local communities, states, tribal nations, and regulators on an ongoing basis. The sites have primary responsibility for these interactions. Academy staff interviews with EM stakeholders in DC and across the complex elicited mixed reactions from stakeholders on their communications with EM. In some cases, the local community, state, and other stakeholders enjoyed a close working relationship with the site and believed they were kept informed and appropriately involved in decisionmaking. In other instances, the relationship and the adequacy of communications were much less positive.

Assistant Secretary Rispoli has been actively involved with EM's external partners. He regularly attends the semi-annual EMAB meetings and annual meetings of the State and Tribal Governmental Working Groups and Site-Specific Advisory Board chairs. When traveling to the field, the Assistant Secretary often has met with Tribes/Pueblos and stakeholders in the community. Interviews with Tribes/Pueblos and EM's stakeholder community indicated that Secretary Rispoli's efforts to meet with them are appreciated and the exchanges have been helpful. However, their contact with him can only be infrequent, and several have indicated that some means of having more direct communication with EM headquarters with respect to decisions being made and issues facing the EM Program would be of value.

As noted in the Panel's January 2007 Observations Paper, there is no headquarters office responsible for corporate communications and outreach with the Tribes/Pueblos and community stakeholders. The Office of Public and Intergovernmental Accountability, which reports to the DAS for Regulatory Compliance, coordinates EM's interactions with intergovernmental groups and advisory boards.[29] But it has no outreach responsibilities to provide a unified EM message to all of the Tribes and EM's stakeholder community. The latest information available to the Panel with respect to the new Office of Communications and External Affairs does not specify such a role for that office. The Panel believes that EM would benefit from such a headquarters outreach function, but notes that field program personnel need to be involved with such an activity.

> **The Panel recommends that EM expand the role of the Office of Public and Intergovernmental Accountability to include working cooperatively with field program personnel to develop a corporate communications and outreach program with the Tribes/Pueblos and community stakeholders; work with the Tribes/Pueblos and community stakeholders to develop standard operating procedures for how the office should carry out those**

[28] Communication will be one of the subjects addressed by the leadership training program EM is developing for current and future leaders/managers, partially in response to EM staff responses to the Office of Personnel Management's 2006 Federal Human Capital Survey, which is discussed in Chapter 5, Human Capital Management, in the section, "Workforce Environment and Diversity."

[29] Many of the interactions between EM and the Tribes and states revolve around regulatory and other compliance agreements between the parties. According to EM officials, the placement of the Office of Public and Intergovernmental Accountability within the Office of Regulatory Compliance has been helpful to bring issues before EM senior officials who are in the best position to address Tribal and stakeholder concerns.

responsibilities; and inform the Tribes/Pueblos and community stakeholders accordingly.

DEFINING A PATH FORWARD

Throughout this study, the Panel has raised concerns about EM's organizational structure, which is based on a military model. In the Panel's experience, the critical factors that make the model successful in the military—staff and leaders experiencing the same training and mentoring and coming from a similar organizational culture—do not exist in civilian agencies. The lack of similar experiences and training works against the military model in a civilian setting. Although the Panel agrees that Assistant Secretary Rispoli should not undertake another reorganization at this time, the Panel believes that EM should be reorganized at some point in the future. Future leadership should examine the merits of different organizational models. Any such effort should strive to identify structures that minimize rigidity and the likelihood of infighting and tension; maximize cooperation and operational nimbleness; and encourage innovation.

The Panel is pleased to note that EM leadership is committed to improving how the organization functions. EM has hired a contractor to work with the Management Analysis and Process Management Office to develop a path forward that integrates its management improvement efforts in an organized, systematic fashion. The EM Management Initiative (EM-MI) is what EM has defined as a business model designed to help the organization accomplish its mission through clearly defined roles and responsibilities in headquarters and the field; disciplined systems and processes; useful tools and job aids; and a management approach that emphasizes results. Its four key components consist of:

(1) an EM Strategic Management System, which will integrate and systematize EM's planning; budget formulation; program implementation; and analysis and evaluation activities

(2) an EM Program Management Guide and Program Management Manual

(3) EM program management training

(4) an EM workforce analysis

As part of this initiative, EM will be examining how it defines its programs and the appropriate roles of headquarters and the field to carry them out. The work of the R2A2 Working Group will serve as a useful starting point for this effort. The program management planning effort will then drive a workforce planning effort. The Panel is optimistic that this systematic approach will provide an organizational logic to drive and inform the numerous management improvement actions EM currently has underway. It thinks that this effort also can be a foundation for EM to build upon to engage in continuous management improvement activities. However, in order to manage an effort as large as the EM-MI and to institutionalize an ongoing management improvement process, EM needs a mechanism to prioritize and monitor management initiatives that:

- clearly identifies the major areas for improvement
- outlines the actions that need to be taken
- identifies the person(s) responsible for the improvement areas and individual actions
- establishes a timetable for completing all actions
- defines success measures/evidence of completion

The Panel recommends that as part of the EM Management Initiative, EM institutionalize a management action planning process that can guide the organization through this and all future management improvement activities.

CHAPTER 3
ACQUISITION

EM's work, which is technically challenging and fraught with uncertainties, is accomplished principally through the use of contractors.[30] In the past, EM has struggled to establish the acquisition infrastructure, tools, and discipline that one would reasonably expect to find in an organization so dependent upon the success of its contractors. The Academy Panel's examination of EM's acquisition operations coincided with significant acquisition reform efforts already underway in EM that were designed to address identified shortcomings. Prior to the Academy's study, Assistant Secretary Rispoli appointed a DAS for Acquisition and Project Management, which signaled his intention that acquisition would be taken much more seriously than in the past. The DAS, in turn, has developed an EM Acquisition Center concept, which will significantly change how EM handles its major acquisitions.[31]

During the last 19 months, the Academy Panel and staff have worked with EM senior management on an interactive basis to understand the issues and provide advice concerning EM's efforts to reshape its acquisition environment. The Panel made several proposals on a variety of subjects, including the Acquisition Center concept, the DOE business clearance review process, EM's capacity to process major procurements, and contracting mechanisms, all of which EM has been quick to adopt. This chapter discusses the issues EM faced in its acquisition operations and its new Acquisition Center concept; summarizes and updates the major observations and proposals that the Panel presented in its three Observations Papers;[32] and reports on the actions EM has taken to respond to the Panel's proposals.[33] It also addresses two areas not dealt with in the previous papers—EM small business contracting initiatives and contract administration.

EM'S ACQUISITION OFFICES

The overwhelming proportion of EM's acquisition needs involve cleanup and remediation efforts at EM field sites. The preponderance of contract placement and administration activities associated with these highly complex contracts are performed by contracting staff located at EM's site offices. EM's three largest sites—the Richland Operations Office, the Office of River Protection (ORP), and Savannah River—have their own contracting staffs. In 2004, EM established the EMCBC in Cincinnati, Ohio to provide EM's smaller sites with a full range of business support services, including acquisition. The EMCBC also provides some acquisition

[30] For additional information on EM's acquisition profile, see Appendix B, Section I, "Overview of Environmental Management Acquisition."

[31] Until recently, the EM Acquisition Center was referred to as the "acquisition machine." It is defined as "an integrated business system for managing major EM acquisitions efficiently and effectively using standardized and repeatable business process." This involves dedicated staffing and leadership to ensure the timely planning, solicitation, source selection, and award of EM's major acquisitions.

[32] Some of the more detailed information from those papers is included in Appendix B.

[33] Attachment 1 provides the status of EM's efforts to address all of proposals made by the Panel in its three Observations Papers.

assistance to the Carlsbad Field Office and Portsmouth/Paducah Project Office, which have warranted contracting staff to deal with procurements. EM also relies on DOE operations offices (e.g., Idaho and Oak Ridge) that are owned by other DOE program offices to provide acquisition services at non EM-owned sites.

ACQUISITION ISSUES FACING EM

Among the problems facing EM is that major acquisitions occur infrequently (every five years or more). Therefore, site staff lack familiarity with source selection processes, and there has been little expertise in EM headquarters to help facilitate these complex actions. In addition, site staff must spend time away from their critical day-to-day responsibilities to participate in these processes.

In addition to these internal challenges, EM has had to address issues with Departmental acquisition practices, which in general—and as they relate to EM contracts in particular—have drawn severe criticism by GAO and others. All DOE acquisitions are subject to a dollar threshold for applying DOE headquarters' business clearance requirements—a process where the Office of Procurement and Assistance Management (OPAM) and the Office of General Counsel review documents generated during the course of large procurements.[34] Until recently, for EM that threshold was $5 million.[35] With an average dollar size of each action reaching $17.8 million in FY 2006, 25 percent of the new awards and 48 percent of other actions that OPAM reviewed were EM actions. EM staff reported significant delays in obtaining the required DOE headquarters reviews and approvals, which have been a major frustration both to EM officials and to contractors. DOE headquarters officials agreed that the business clearance process takes too long, but DOE and EM staffs do not share a common understanding of the cause of these delays.

THE EM ACQUISITION CENTER

The DAS for Acquisition and Project Management is addressing concerns about EM's acquisition activities by creating an EM Acquisition Center for major acquisitions that combines a centralized capability with an integrated project team approach to:

- develop acquisition plans
- expedite and facilitate the review of EM procurements by DOE headquarters
- perform source selection responsibilities
- perform contract placement responsibilities

[34] These include, among other things, the acquisition plan, the proposed solicitation, the competitive range determination, and the source selection decision.
[35] DOE increased some thresholds in May 2007. This subject is discussed further in the section of this chapter, "DOE Headquarters Business Clearance Review Process."

The Acquisition Center concept places responsibility for acquisition planning in EM's Office of Procurement Planning. That office will take the lead to develop an overall EM acquisition strategy and site- and project-specific acquisition and contract strategies.[36] However, field offices will be integrally involved throughout the process. The concept also creates in the Office of Procurement Planning a liaison function responsible for expediting/facilitating the DOE headquarters business clearance review process. It is anticipated that centralizing the planning and liaison functions in EM headquarters will lead to a more timely and effective execution of EM's procurement strategy and fewer delays in the OPAM/General Counsel business clearance review due to the proximity of these functions to DOE headquarters.

In the January 2007 Observations Paper, the Panel proposed that EM examine the acquisition and planning policies and practices of the Naval Facilities Engineering Command (NAVFAC) as part of an action plan to improve EM's acquisition planning and execution. The Panel believed that EM could benefit from exploring NAVFAC's:

- lessons learned in the acquisition of environmental management services
- use of indefinite quantity contracts
- templates used to support the acquisition planning and source selection processes
- Business Management System

Subsequently, senior EM headquarters acquisition staff and an acquisition support contractor interviewed NAVFAC personnel, and EM plans to incorporate appropriate best practices into its planning operations.[37]

The Acquisition Center also creates a permanent staff in headquarters to perform the source selection function for all major acquisitions. Site office personnel will continue to comprise a significant proportion of the voting membership of the Source Evaluation Boards (SEBs) and provide throughout the source selection process appropriate advisory support concerning site conditions and risks. However, headquarters staff will perform the work associated with establishing the SEBs, i.e., chair the SEBs; develop documentation for DOE and EM headquarters reviews; produce the technical evaluation reports and supporting documentation; and manage the overall SEB process. Having staff dedicated to these activities will build a cadre with expertise to perform this work and will free site staff from these time-consuming activities.

The Panel recognizes the potential benefits from the proposed centralization of these planning and source selection functions, but also is mindful that such efforts often at can be at the expense of meaningful input from the field. It is critical that a substantial role for EM site management and staff be clearly defined and maintained during all stages of the acquisition process.

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[36] A description of DOE acquisition planning requirements is included in Appendix B, Section II, "DOE Acquisition Planning Requirements."

[37] Information on the Academy staff's benchmarking session with NAVFAC is found in Appendix B, Section III, "Results of Benchmarking with the Naval Facilities Engineering Command."

Initially, the Acquisition Center also would have created a contract placement function in EM headquarters to award EM's major contracts. After award, the contracts would be transferred to site contracting staff for administration. In its September 2006 Observations Paper, the Panel questioned EM's intent to locate the contract placement function in headquarters. **Instead, the Panel proposed that EM locate the contract placement function at the EMCBC** to build upon the acquisition infrastructure that already existed there. EM leadership agreed. **In its January 2007 Observations Paper, the Panel also proposed that EM further utilize the EMCBC's acquisition infrastructure to provide cost and price analysis support to all EM sites and to help the sites develop local acquisition guidance and templates.** The EMCBC has cost and price analysts that provide the EMCBC contracting officers with independent advice and insights concerning site contractors' pricing policies and practices and assist them in developing more effective negotiation objectives. Although Savannah River and Carlsbad are responsible for administering major site contracts, neither has had access to cost and price analyst support. In addition, the EMCBC's Office of Contracting has a Policies and Administrative Support Team that developed local instructions and guidance to support EMCBC staff and customers. However, neither Savannah River nor Carlsbad has developed any local operating procedures or guidance to support their acquisition and financial assistance operations. Although Savannah River and Carlsbad do not have the volume of transactions or the variety of customers as EMCBC, some basic guidance and templates would help promote consistency of operations and assist their customers in requisitioning and other aspects of the acquisition process. EM also agreed with this Panel proposal and transferred six full-time equivalents to the EMCBC so it could hire three procuring contracting officers and three cost and price analysts to support the EM Acquisition Center and site contracting operations. All of these positions have been filled.

The Panel is pleased to note that EM has made significant progress to implement the EM Acquisition Center. The DAS for Acquisition and Project Management has drafted and EM field procurement directors have reviewed a detailed draft Concept of Operations (CONOPS) that contains:

- a description of operations during the acquisition initiation, acquisition planning, source selection, and contract management phases
- oversight mechanisms
- roles and responsibilities of all key personnel involved in the acquisition process

The document outlines strong leadership from EM headquarters for major acquisitions with significant participation from the sites throughout the acquisition lifecycle. The lack of a clear understanding of how the EM Acquisition Center would function and, in particular, the field's role, was a common concern at all sites the Academy staff visited. The CONOPS should help ease those concerns. The process to develop the CONOPS reinforces the importance of headquarters leadership and the need for substantial involvement of site personnel throughout the acquisition process.

In its January 2007 Observations Paper, the Panel expressed concerns about the staff capacity in EM headquarters to execute the Acquisition Center concept because the DAS for Acquisition

and Project Management had no GS 1102s (contract specialists) to carry out the acquisition planning and source selection functions. The Panel believed that successful implementation of the concept required EM to have this level of expertise. **Thus, the Panel proposed that the Assistant Secretary develop for submission to DOE headquarters a staffing request for the necessary GS 1102 procurement analysts.** OPAM did not support EM's request. Because EM headquarters does not have authority to award contracts, OPAM did not believe that EM should have GS 1102s. However, the Deputy Secretary ultimately determined that EM should be allowed to hire GS 1102 procurement analysts to support the EM Acquisition Center. Ten of the positions (six at the EMCBC and four at EM headquarters) have been filled, and another advertisement for one additional headquarters position closed on October 30, 2007.

The EM Acquisition Center is ready to undertake its first major acquisition. EM has selected the Portsmouth Gaseous Diffusion Plant to be the first procurement to use the new concept. EM has assigned an acquisition planning manager, and the acquisition planning integrated project team (IPT) has been formed and is functioning.

HEAD OF CONTRACTING ACTIVITY AUTHORITY IN EM

The Federal Acquisition Regulations (FAR) defines the Head of Contracting Activity (HCA) as "the official who has overall responsibility for managing the contracting activity."[38] In DOE, the Procurement Executive delegates authority to each designated HCA to award and administer contracts, sales contracts, and financial assistance instruments; exercise overall responsibility for managing the contracting activity; and appoint contracting officers.[39]

Until recently, the DOE Procurement Executive delegated HCA authority to the EM site managers at Savannah River, ORP, and the Richland Operations Office, and to the director of the EMCBC. Those individuals issued contracting warrants to the site contracting staff. The EMCBC director also issued warrants to contracting staff assigned to the Carlsbad Field Office and the Portsmouth/Paducah Project Office.

To strengthen the management of EM's acquisition operations and promote their consistency and accountability, Assistant Secretary Rispoli proposed in August 2006 that the DAS for Acquisition and Project Management become the HCA for all of EM.[40] The DAS would then issue warrants to the contracting staff at the sites.[41] The DOE Procurement Executive agreed to this conceptually. The Panel also agreed with EM's desire for a single HCA, however, **in its January 2007 Observations Paper, the Panel proposed that the DAS for Acquisition and**

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[38] FAR 2.101

[39] DOE Order 541.1A, Appointment of Contracting Officers and Contracting Officer Representatives, requires that the HCA ensure that only trained and qualified procurement and financial assistance professionals are delegated contracting/financial assistance authority. The HCA is responsible for appointing contracting officers and signing all SF 1402 certificates (contracting officer warrants). Neither of these responsibilities may be re-delegated.

[40] Memorandum from James Rispoli, Assistant Secretary for Environmental Management, to the Director, Office of Procurement and Assistance Management, dated August 8, 2006.

[41] This approach is consistent with HCA implementation at other civilian agencies. Examples are included in Appendix B, Section IV, "Head of Contracting Activity Delegation."

Project Management develop and execute an implementation plan for assuming EM HCA responsibilities that balanced EM's oversight concerns with day-to-day site operational responsibilities.

EM and DOE headquarters agreed with the Panel's proposal and EM developed an implementation plan, which it submitted to the DOE Procurement Executive on August 31, 2007.[42] Academy staff reviewed it and concluded that it presents a sound blueprint for implementing the new EM HCA authorities. These authorities include additional responsibilities for personal property management and contractor human resources. Although the implementation plan calls for maximizing utilization of site resources to perform these responsibilities in the near term, EM anticipates strengthening the HCA's emphasis on them in the future. On November 15, 2007, the OPAM director designated the DAS for Acquisition and Project Management as the HCA for EM.[43] The delegation contains specific authorities (some of which may be re-delegated) related to acquisition, assistance, sales, property, and appointment of contracting officers. OPAM's approval or waiver is required for:

- competitive solicitations of $15 million or more
- subcontracts of $25 million or more
- all other contract actions of $10 million or more
- grant and cooperative agreement actions of $10 million or more

EM will begin to implement the new HCA authorities immediately. However, as discussed below, the Panel is very concerned about the delegation thresholds, which it believes, given the average size of EM's contracting actions, are inordinately low.

DOE HEADQUARTERS OVERSIGHT[44]

DOE Headquarters Business Clearance Review Process

As noted above, DOE headquarters performs a business clearance review function for many of EM's major acquisitions, and the amount of time to complete these reviews has been the source

[42] Memorandum from James A. Rispoli, Assistant Secretary for Environmental Management, to Edward R. Simpson, Director, Office of Procurement and Assistance Management, subject: Submission of Implementation Plan to Designate the Deputy Assistant Secretary for Acquisition and Project Management as Head of Contracting Activity for the Office of Environmental Management, August 31, 2007.

[43] Memorandum from Edward R. Simpson, Director, Office of Procurement and Assistance Management, to John E. Surash, Deputy Assistant Secretary for Acquisition and Project Management, subject: Delegation of Authority/Designation of Head of Contracting Activity (HCA) for the Office of Environmental Management. Memoranda rescinding HCA authority for the EMCBC, the Richland Operations Office, ORP, and Savannah River Office also were issued.

[44] A detailed description of this process can be found in Appendix B, Section V, "DOE Headquarters Business Clearance Process."

of frustration and concern.[45] **In its September 2006 Observations Paper, the Academy Panel proposed that EM work collaboratively with OPAM and the Office of General Counsel to do an engineering analysis of the DOE business clearance review process, including flowcharts, to identify the causes for the current delays, and to reengineer the process to incorporate servicing metrics and the shared commitment among the offices to produce a more efficient, effective, and timely review of documents that are generated during the course of an EM acquisition.** Subsequently, DOE's Office of Management began a comprehensive effort to reengineer the business clearance review process, and EM advised that the Panel's proposal would be addressed as part of that effort. The effort entailed process mapping, interviews with senior representatives of all the major DOE headquarters program offices, and benchmarking of comparable processes at the National Aeronautics and Space Administration and NAVFAC. The reengineering team issued its report[46] on November 14, 2007, and an implementation plan is under development. The report contains 22 recommendations that are organized in four categories: improving the effectiveness and efficiency of the business clearance process; improving DOE contracting activity accountability and performance; improving the procurement system; and improving knowledge management. Major recommendations include:

- raising the delegations of procurement authority for competitive negotiated acquisitions to $50 million for those DOE contracting activities that award and administer major site and facility management contracts
- requiring each contracting activity to annually report for potential business clearance review its five largest competitive acquisitions, regardless of dollar value, and all competitive acquisitions that are valued in excess of $50 million
- conducting a follow-on assessment to determine adjustments to current delegation thresholds for other than competitive negotiated transactions (e.g., sole-source, financial assistance, interagency agreements, subcontracts)
- requiring that the contracting activity establish, prior to development of an acquisition plan, a formal IPT for all acquisitions that are valued greater than $50 million
- establishing a formal procurement management review function to supplement the current Balanced Scorecard Self-Assessment Program (discussed below)
- initiating a Department-wide study of the DOE acquisition workforce that assesses the adequacy of the current staffing levels and associated resources for each of DOE's contracting activities

[45] In its June 2006 report, *DOE CONTRACTING, Better Performance Measures and Management Needed to Address Delays in Awarding Contracts* GAO-06-722, GAO found in its review of five DOE contracts that "delays in obtaining the required review and approval from DOE headquarters officials caused an average 5-month delay in contract award."

[46] *Report on Reengineering the Business Clearance Process*, prepared by the Acquisition Process Reengineering Team, U.S. Department of Energy, Office of Procurement and Assistance Management.

In addition, the report contains numerous recommendations that are designed to address delays and inefficiencies in the business clearance process.[47]

One of the Panel's major concerns with DOE's business clearance process has been the delegated authority provided to EM's HCAs. At the outset of the study, they had delegated authority up to $5 million. Acquisitions above that level were subject to DOE business clearance reviews and approvals. In May 2007, OPAM increased the threshold for several DOE sites. For example, the Richland Operations Office and Savannah River received new delegated acquisition authorities equal to the thresholds now being delegated to the DAS for Acquisition and Project Management under the new HCA authority described above. In general, the Academy Panel is encouraged by DOE's reengineering effort and its potential for improving the efficiency and effectiveness of the current business clearance process. But it notes that the proposed $50 million threshold for competitive procurements that is contained in the reengineering report will only exempt some of EM's smaller competitions from the business clearance process, and the report leaves the thresholds for other actions intact. Given the dollar magnitude of EM's contract actions, the new thresholds provide EM little relief from the business clearance review process.

The issue is not whether there is a need for an increase in authority but the extent of such an increase. **In its January 2007 Observations Paper, the Panel proposed that the delegation level be raised to $100 million, with requirements between $20 million and $100 million subject to review by the EM HCA[48] and the DOE General Counsel.** EM met with OPAM and received a negative response to the Panel's proposal. During a discussion of the business clearance process between DOE General Counsel staff and Academy staff, however, the General Counsel's staff supported the idea of piloting the higher thresholds at a single EM site. EM has advised Academy staff that it plans to submit an implementation plan to OPAM that provides for such a pilot after six months of operating under the new HCA delegation.

It is OPAM's view that meaningful reform of EM's acquisition operations does not hinge upon elevated review thresholds and that, for now, EM's thresholds will remain consistent with other headquarters DOE HCA authorities. OPAM acknowledges the progress EM has made to improve its acquisition performance, but maintains that some of the vulnerabilities that existed in the past still remain. Once EM has demonstrated that is has implemented required systems improvements, OPAM has indicated that it is prepared to increase the current threshold levels. The Panel still believes that the $100 million delegation level is an essential component of an

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[47] For example: requiring OPAM staff to collect, reconcile, and consolidate all DOE headquarters review comments, e.g., General Counsel, Acquisition Planning and Liaison Division management, headquarters stakeholder organizations (Safety, Security, Engineering and Construction Management, Contractor Human Resources Management Team) prior to referral to the contracting officer for resolution; classifying all comments/recommendations as either mandatory or optional, and identifying the rationale/basis for the comment (e.g., law, regulation, management direction, lesson learned from a prior transaction); expanding the current practice of providing approval of packages on a conditional basis to the maximum extent practicable, subject to the contracting activity's written agreement to fully implement mandatory review comments (this would not require the contracting activity to resubmit the package for further business clearance review); and developing an electronic business clearance data collection, reporting, and tracking system.

[48] This will be the Deputy Assistant Secretary for Acquisition and Project Management once DOE issues its final approval.

acquisition program that balances EM's operational needs with meaningful oversight, and urges EM to continue to pursue its timely adoption.

Finally, the Panel also noted that EM needed to ensure that its own review processes for feeding DOE's business clearance process and approving contracts for which it has delegated authority were streamlined and did not cause delays in the acquisition process. **Accordingly, in the August 2007 Observations Paper, the Panel proposed that the DAS for Acquisition and Project Management review all processes for reviewing and approving acquisition transactions at EM headquarters.** EM has agreed with the proposal and plans to begin the review when the new DOE business clearance process goes into effect.

DOE's Balanced Scorecard Program

DOE does not rely solely on the business clearance process to ensure the quality of the Department's contracting activities. Prior to 1995, it conducted procurement reviews of DOE's contracting offices where it looked at a sample of transactions executed. In 1995, DOE replaced its headquarters-based, process-oriented review program with a Federal Balanced Scorecard Performance Management Program, where DOE operations/field offices perform periodic self-assessments that:

- determine the degree of customer satisfaction with performance
- employ measures and trends to determine cost and efficiency of business systems and processes
- assess the organization's strategic information and skills in order to ensure that they are aligned to support critical business systems and processes
- ensure compliance with applicable laws, regulations, and contract terms and conditions[49]

Numerous federal agencies have adopted balanced scorecard programs for their acquisition organizations, and the Panel recognizes their utility in providing meaningful measurement of an office's effectiveness and efficiency. However, in the Panel's view the self-assessments required by DOE's program are likely to be staff-intensive and it is doubtful that any of EM's sites (with the possible exception of the EMCBC) can conduct them without there being a significant impact on a site's acquisition operations. Also, the lack of independence of the reviewers is an issue. In the Panel's view, it would be more effective to have an independent party perform that portion of the review instead of the site. **In its January 2007 Observations Paper, the Panel proposed that EM and DOE establish an acquisition management review program.** As noted above, the OPAM business process reengineering team also has recommended reinstitution of procurement management reviews.

[49] *Department of Energy Office of Procurement and Assistance Management Balanced ScoreCards for the Business Systems*, Office of Procurement and Assistance Management website, http://professionals.pr.doe.gov/ma5/MA-5Web.nsf/Business/BSC+for+Management

EM has agreed with the proposal and plans to implement it during FY 2008. The Panel envisions an approach that would supplement DOE's existing balanced scorecard program, which it continues to endorse. Efforts should be made to eliminate any duplication of effort between the two programs, and to develop essential tools that OPAM can use to encourage performance improvement in EM and other DOE organizations.

OPPORTUNITIES TO EXPAND THE EMCBC'S FINANCIAL ASSISTANCE RESPONSIBILITIES

All EM acquisition sites are responsible for awarding and administering contract (acquisition) and grant and cooperative agreement (financial assistance) actions. Acquisition and financial assistance actions require knowledge of legal instruments that differ in terms of their principal purposes; regulatory environments and processes; and types of awardees. Even though EM's mission is overwhelmingly acquisition-based, all of its acquisition sites currently award and administer financial assistance actions. EM also uses other DOE offices to process its financial assistance activity.

The EMCBC has a small staff in its Office of Contracting that focuses on financial assistance. The Academy Panel thinks that this capability could gradually be expanded to absorb new and/or existing financial assistance workloads from other EM sites. Other staff in the Office of Contracting and other offices in the EMCBC, such as the Chief Counsel, could provide the support infrastructure needed to process the financial assistance actions. The Panel concluded that consolidating EM's financial assistance activities would:

- free up staff at major EM sites to concentrate on the significant acquisition-related issues at the sites
- improve the consistency and quality of the award and administration of EM financial assistance by assigning it to a dedicated staff of professionals who would focus exclusively on financial assistance
- minimize reliance on other DOE offices to provide the requisite support

Accordingly, in the January 2007 Observations Paper, the Academy Panel proposed that the DAS for Acquisition and Project Management develop a plan for centralizing the award and administration of all EM financial assistance instruments at the EMCBC. EM agreed with the proposal and was proceeding to develop an implementation plan. However, field staff raised concerns that the close working relationships with local financial assistance recipients will be disturbed by this centralization effort. They believe that the scope of work covered by these instruments have local interest and significant political implications that require hands-on administration at the local level. They are concerned that relocating the financial assistance agreements and contracting officer functions to the EMCBC may have a detrimental effect on the quality of communications between the site offices and the financial assistance

awardees.[50] In its August 2007 Observations Paper, the Panel emphasized that the onsite contracting officer representative will need to continue to maintain a close working relationship with the local assistance recipients and ensure that communications remain active and productive. EM plans to further review the staff's feedback, make any necessary changes to the implementation strategy, and complete implementation by the end of FY 2008.

ACQUISITION SUPPORT AT DOE SITES

During the course of this study, Academy staff visited 10 DOE sites, shown in Table 1, that provide acquisition support to the EM Program.

Table 1: Acquisition Offices Servicing EM Visited by Academy Staff[51]

Acquisition Office at:	Location	Size of Field Office	DOE Program Landlord
EMCBC	Cincinnati, Ohio	NA	EM
Savannah River Operations Office	Aiken, SC	Large	EM
Carlsbad Field Office	Carlsbad, NM	Small	EM
Richland Operations Office	Richland, WA	Large	EM
Office of River Protection	Richland, WA	Large	EM
Portsmouth/Paducah Project Office	Lexington, KY	Small	EM
Idaho Operations Office	Idaho Falls, ID	Large	Nuclear Energy
Oak Ridge Office	Oak Ridge, TN	Large	Science
Los Alamos National Lab	Los Alamos, NM	Small	NNSA
Brookhaven National Lab	Islip, NY	Small	Science

Quality of Support

The acquisition staff at all EM-owned sites appeared to be well-trained, with site management ensuring that the necessary training to meet required certification levels is provided. During site visits, Academy staff interviewed numerous program personnel and customers of the sites' acquisition offices. In general, the contracting staff received high marks in terms of their general competence and the support provided. However, in some cases, interviewees' assessments included observations about the contracting office being understaffed, leaving the impression that their service expectations had been reduced accordingly.

EM staff and management at Idaho, Oak Ridge, and Brookhaven were similarly pleased at the level of acquisition support they receive from their landlord organizations. In general, they believe that the EM work is receiving the same degree of attention as the landlord's. This also

[50] *Report on Proposed EM Financial Assistance Centralization Effort at the EMCBC*, Office of Project and Contract Execution, September 2007.

[51] Academy staff also visited the NNSA Nevada Site Office, however, there is no onsite acquisition office. Acquisition requirements are handled by NNSA's Service Center in Albuquerque.

was true at Los Alamos, despite some issues related to the NNSA-EM working relationship.[52] The Panel concluded that, with the exception of the effort to centralize the award and administration of financial assistance, there was no compelling reason to disturb the existing contracting support arrangements with the non-EM offices.

Workload and Staffing

Academy staff compared the number and dollar value of instruments under administration and the number of staff assigned for the visited sites.[53] However, the EM workload/staffing ratios provide limited insights into the adequacy of contracting staff. Because much of the work involves administering major contracts with significant complexities and challenges, these ratios alone cannot be used to assess the adequacy of staffing at any specific site. Site visits also confirmed a general lack of bench strength at most of the EM acquisition offices, which is further compounded by looming retirements and the loss of key senior staff. In addition, the Academy staff's recent analysis of field contract administration (see the section later in this chapter) raises questions about the adequacy of staffing levels for those activities. All of this argues in favor of EM's initiatives to develop more streamlined and centralized approaches to handle major procurements. It also demonstrates the need to backfill projected vacancies to ensure smooth workload transitions and prevent serious degradation in service. Finally, it supports a proposal the Panel made in its August 2007 Observations Paper to develop a workload/workforce planning methodology.[54]

CONTRACT TYPES AND THE USE OF PERFORMANCE-BASED INCENTIVES

Throughout the study, Academy staff examined many of EM's major contracts. Although contract type is not necessarily a determining factor with respect to the success or failure of a project, if an inappropriate contract type is used, the consequences to the government and the contractor can be significant.

Contract Types

EM has used several different contract types to perform its work. Initially, management and operating (M&O)[55] and management and integrating (M&I)[56] contracts were the most common

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[52] The Human Capital Management and Organization and Management chapters of this report discuss this subject in greater depth.

[53] Except for Brookhaven, descriptions of the acquisition offices' workload and staffing are contained in Appendix B, Section VI, "Acquisition Support at DOE Sites."

[54] Workload/workforce planning is discussed in Chapter 5, Human Capital Management.

[55] As defined by FAR 17.601, management and operating contract means an agreement under which the government contracts for the operation, maintenance, or support, on its behalf, of a government-owned or -controlled research, development, special production, or testing establishment wholly or principally devoted to one or more major programs of the contracting federal agency.

[56] M&I contracts were created by DOE as a contract reform measure to better reflect the changing missions of the sites and tailor the scope to program requirements. Under this type of contract, one contractor is responsible for integrating the work of a variety of subcontractors that carry out most of the work at the sites. This approach has been applied at sites such as Oak Ridge for environmental restoration work.

contract vehicles used. Although these contracts were cost plus award fee (CPAF)[57] in nature, they generally did not include specific performance-based standards for the contractor's performance. As the government intensified its focus on contractor performance, the use of CPAF and cost plus incentive fee (CPIF)[58] contracts with objective performance standards became more prevalent.

There has been considerable disagreement among EM headquarters, site staff, and OPAM on the appropriate contract type for EM's activities, which have resulted in confusion and significant delays in the acquisition process. Many people interviewed extolled the benefits of the CPIF contract and its ability to focus all parties on completion and closure. Supporters pointed to examples, such as Rocky Flats[59] and the Fernald Closure Project, where total cost and schedule reductions occurred under CPIF contracts despite the initial uncertainties those projects faced with respect to potential risk and project end state, i.e., the level of cleanup required and the final use of the land. Other examples around the complex where CPIF contracts are working well include the River Corridor Closure Project Contract at the Hanford Site in Richland, WA, which contains special contract provisions to address some of the concerns related to typical EM contract uncertainties. For example, to reduce the impact of differing site conditions, the contract establishes a 15 percent threshold requirement in quantities/cost variation for equitable adjustments related to differing site conditions. Issues of funding availability are dealt with by a provision that requires equitable adjustment if DOE does not conform to the contract's funding profile.

Despite these and other successes with CPIF contracts, many staff cautioned that if the end state for a site is not well defined up front or if the level of uncertainty and risk is too great to overcome, this contracting approach is not advisable. Perhaps the most visible example of where a CPIF contract has not been well-suited to the project's complexities and uncertainties is the Waste Treatment and Immobilization Plant (WTP) project also at the Hanford Site. The WTP contract with Bechtel National Inc., (BNI) includes the design, construction, and start up of the WTP. The WTP will be an industrial complex of facilities for separating and vitrifying (immobilizing in glass) millions of gallons of radioactive and chemical wastes stored at the Hanford Site. The five major components of the WTP include a pretreatment facility for separating the waste; high-level waste and low-activity waste facilities where the waste will be immobilized in glass; an analytical laboratory for testing the quality of the glass; and the balance of facilities, which will comprise over 20 various support facilities.

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[57] The CPAF contract provides for reimbursement of allowable costs incurred, payment of a base fee (normally 1-3%), and payment of award fee based on the government's post-performance evaluation of the contractor's success in meeting criteria (often subjective) contained in the award fee plan.

[58] Under a CPIF contract, the contractor earns the target fee if final costs are at the target level. A share formula is negotiated where the contractor earns additional fee if final costs are below the target cost and receives a reduced fee to the extent that costs exceed the target or if other contract terms are not met. Additional incentives or disincentives may be included to provide for increases/reductions of fee based on the contractor's meeting/not meeting certain predetermined performance levels, e.g., early/late completion or safety metrics. The CPIF contract contains provisions that establish the minimum and maximum fees that may be earned.

[59] See Appendix B, Section VII, "Lessons Learned From Rocky Flats" for a more complete discussion of the Rocky Flats project.

In December 2000, BNI was awarded a CPIF contract with a total project cost of $4.35 billion to design, construct, and commission the WTP by mid-2011. In April 2003, with the design about 30 percent complete, BNI revised the project cost estimate to $5.78 billion with no change in the completion date. Two years later, BNI revised the estimate to $8.35 billion with a 4-year schedule slippage to mid-2015. As a result of these cost increases and schedule delays, DOE's Office of Engineering and Construction Management engaged the Logistics Management Institute to review the project.[60] In June 2006, BNI proposed a total project cost (without fee or potential incentives) of $11.553 billion and a completion date of August 2019. That estimate was the subject of an independent validation review conducted by the U.S. Army Corps of Engineers,[61] which computed an estimate at completion cost of $12.203 billion and a schedule completion date of November 2019. On December 22, 2006, the DOE Deputy Secretary approved a baseline change for the WTP to establish a total project cost of $12.263 billion and a completion date of November 2019.

There were numerous factors that contributed to the problems at WTP.[62] In hindsight, however, all parties agreed that a CPIF contract was clearly not an appropriate contracting vehicle for the WTP. The extent of technical uncertainties was too great to establish the types of cost and schedule targets incorporated in the contract. Although this choice of contract did not lead to the cost growth and schedule slippage, the contract's incentive fee structure is now a casualty of those problems.[63] ORP will be renegotiating the contract to incorporate the new approved cost and schedule baselines, resolve any outstanding requests for equitable adjustment (REA), and establish a new incentive approach for the subsequent performance period. Timely resolutions of these issues are critical if additional changes to the baseline are to be avoided. BNI suppliers have already indicated that the delays in construction will necessitate a renegotiation of their prior agreements.

Given the very different circumstances found at EM sites, the Panel concluded that there is no one cookie-cutter approach for selecting the appropriate contract vehicle, and **in its September 2006 Observations Paper, the Panel proposed that EM, in consultation with OPAM and the Office of General Counsel, develop detailed guidance for determining the appropriate contract types for EM acquisitions.** EM issued guidance that addressed this proposal in May 2007.

In that paper, the Panel also discussed the role of federal staff and their interactions with contractors. One of the criticisms of the M&O contract approach was that federal staff were

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[60] *Hanford Waste Treatment and Immobilization Plant Project, After Action Fact-Finding Review*, Report DE535T1, January 2006.

[61] *Independent Validation Review of the May 2006 Estimate at Completion for the Hanford Waste Treatment and Immobilization Plant Project*, U.S. Army Corps of Engineers, Walla Walla District, August 28, 2006.

[62] Appendix B, Section VIII, "Cost Growth and Schedule Slippage at the Waste Treatment and Immobilization Plant" summarizes the views of GAO, Logistics Management Institute, and Assistant Secretary Rispoli about the causes for the problems with the WTP project, which included faulty initial estimates, a flawed acquisition strategy, contractor performance problems, DOE management problems, and significant technological challenges; and discusses current acquisition issues.

[63] Cost and schedule incentives of over $300 million are no longer meaningful. Some of the performance incentives when operations begin may still be viable.

continually directing contractor activity to the detriment of final closure and completion. The shift to a more results-focused effort by EM's prior leadership led to the admonition to "manage the contract, not the contractor." Today, EM leadership strongly stresses the importance of managing the project, with the contract as the vehicle for doing so. The Panel endorses this approach provided that it does not involve extensive technical direction to the contractor about how the work should be performed, but rather focuses on monitoring the contractor's progress in meeting specific performance objectives and standards that are contained in the contract. **To promote additional clarity regarding these roles and responsibilities, the Panel proposed that EM leadership develop guidance for EM staff that clarifies the staff's role in dealing with the contractor.** EM issued appropriate guidance in May 2007.

The Academy Panel believes that the actions EM is taking to improve its acquisition operations and the project management discipline that is being instilled within EM (discussed in Chapter 4, Project Management) will help prevent or mitigate the types of cost growth and schedule slippage experienced at the WTP. However, the Panel believes that it is important that other sites are aware of the types of acquisition-related problems that occurred at WTP and how to prevent them. **In the August 2007 Observations Paper, the Panel proposed that the Assistant Secretary prepare and issue a document that summarizes the basic factual circumstances related to the cost growth and schedule slippage on the WTP project and identifies the lessons that could be applied to other EM acquisition situations.** EM has agreed to prepare a short document to address the Panel's proposal.

Performance-Based Acquisition Concepts and Incentives

Performance-based acquisition is a collection of strategies, methods, and techniques for acquiring services that focuses on describing end results rather than prescribing the manner in which the services are to be provided, and measuring whether or not those results are obtained. All EM sites use performance-based acquisition concepts and incentives. However, the Panel found that the extent to which contracts had measurable performance standards and methods to assess contractor performance varied. For example, the performance-based incentive structures of the Tank Farm and Project Hanford Management Contracts appear to be very appropriate for their complexity and nature. Although the performance-based incentives have slight variations in their structures, they are clear, measurable, have defined acceptance criteria, and provide clear indications of the government-furnished items or services that are necessary for success. In addition, each has a detailed contract management plan that summarizes contract requirements; identifies essential roles and responsibilities; and serves as a comprehensive blueprint for performing the necessary contract monitoring and administration responsibilities. The Savannah River IT contract also contains a sound, comprehensive set of measurable performance standards for IT support. However, in other cases, performance standards were not established for all of the services. In addition, none of the documents submitted to Academy staff described the method for assessing the contractor's performance against the standards contained in the contract. Similar deficiencies were found in other EM contracts. **In the January 2007 Observations Paper, the Academy Panel proposed that EM develop additional training and management emphasis with regard to performance-based acquisition concepts.** EM has agreed to implement this proposal.

ADDITIONAL PANEL OBSERVATIONS

EM's Small Business Contracting Program

The U.S. Small Business Administration (SBA) negotiates the annual socioeconomic procurement preference program, or contracting goals, with federal agencies. The goals are based on statute and require that, in the aggregate, agencies award prime contracts as follows:

- 23 percent to small businesses
- 5 percent to small disadvantaged businesses
- 5 percent to women-owned small businesses
- 3 percent to HUBZone[64] small businesses
- 3 percent to service-disabled veteran-owned small businesses[65]

DOE is the largest civilian contracting agency. Historically, its facilities management contractors (FMCs), which are principally large businesses, educational institutions, and non-profit organizations, have received an overwhelming proportion of DOE's contract obligations. For example, in FY 2006, over 84.4 percent of DOE contract dollars were awarded to FMCs.[66] The remaining 15.6 percent were used to fund non-FMC work, and were DOE's only available pool for meeting its prime contracting small business goals.[67]

Prior to 1999, DOE was allowed to count FMC subcontracts as if they were prime awards for the purposes of goaling and reporting results. In 1999, the Office of Federal Procurement Policy decided that DOE could no longer count FMC subcontracts as prime awards. Even with a corresponding reduction in its small business prime contracts goal, DOE has had difficulty meeting its goals in subsequent years.[68]

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[64] The Historically Underutilized Business Zone (HUBZone) Act of 1997 created the HUBZone Program to provide federal contracting assistance for qualified small business concerns located in historically underutilized business zones, in an effort to increase employment opportunities, investment, and economic development in those areas. If SBA determines that a concern is a qualified HUBZone small business concern, it will issue a certification to that effect and will add the concern to the List of Qualified HUBZone Small Business Concerns on its Internet website. A firm on the list is eligible for HUBZone program preferences without regard to the place of performance.

[65] SBA Goaling Program, http://www.sba.gov/aboutsba/sbaprograms/goals/SBGR_2006_SBGR_PSO.html. SBA negotiates separate goals with each federal agency, which may be above or below the aggregated percentages.

[66] EM, the Office of Science, and NNSA account for over 90 percent of DOE obligations and the great preponderance of FMC contracts.

[67] *Report to the Secretary of Energy on the U.S. Department of Energy's Small Business Programs, Fiscal Year 2006*, prepared by the Office of Economic Impact and Diversity of the Office of Small and Disadvantaged Business Utilization.

[68] DOE's small business prime contracting goal was adjusted downward from 18 percent in FY 1999 to 5 percent in FY 2000.

EM Efforts to Increase Small Business Prime Contracting

In 2006, GAO reported that:

> DOE's efforts to increase the opportunities for small businesses to win contracts with the department included restructuring or "breaking out" portions of projects historically conducted by the department's facility management contractors and redirecting that work to small businesses, modifying procurement strategies to expand opportunities for small businesses, and continuing to emphasize the award of nonfacility management contracts to small businesses.[69]

EM has successfully pursued these strategies to increase its prime small business participation. First, as reported by GAO,[70] EM redirected work from major projects to small businesses as shown in Table 2.

Table 2: Redirected EM Procurements

Project and Location	Brief Description of Work	Contract Value (in millions)
222-S Lab, Hanford, WA	Analytic work on waste samples	$58.8
Columbus Closure Project, OH	Environmental cleanup	$42.1
Glass Water Storage Building #2, Savannah River, SC	Construction of waste storage facility	$63.2
Grand Junction Office Mission Support, CO	Technical, project management, and administrative services	$159.5
Portsmouth Infrastructure, OH	Facility management contract for facility operations	$48.8
Portsmouth Remediation, OH	Facility management contract for environmental cleanup	$141.3
Paducah Infrastructure, KY	Facility management contract for facility operations	$39.9
Paducah Remediation, KY	Facility management contract for environmental cleanup	$191.6

Secondly, in FY 2004, EM established indefinite delivery/indefinite quantity contracts that were awarded to 8 large and 14 small businesses to provide as-needed services for cleanup, deactivation, and removal of facilities services. To date, EM has awarded 10 task orders under indefinite deliver/indefinite quantity contracts with an aggregate award amount of $156.2 million. Eight of the awards, with an aggregate amount of $57.8 million, were to small businesses.

[69] *DOE CONTRACTING, Improved Program Management Could Help Achieve Small Business Goal*, GAO-06-501, April 2006.
[70] Ibid. page 10.

These actions have produced positive results. FY 2006 and FY 2007 prime small business contracting goals and achievement for DOE and EM are shown in Table 3.[71]

Table 3: FY 2006 and FY 2007 Prime Small Business Performance

	2006 Goal	2006 Achievement	2007 Goal	2007 Achievement
DOE	4.34%	5.37%	4.42%	6.19%
EM	3.35%	5.47%	3.35%	7.15%

In addition, in FY 2006, EM awarded another 15.1 percent of its total contracts dollars to small businesses through subcontracting.[72] On June 26, 2007 at DOE's Annual Small Business Conference, EM received the Federal Small Business Achievement Award for its success in migrating work from large to small businesses and the Federal Small Business Advancement Award for increases in small business participation. An employee of EM's Savannah River site office received the DOE Small Business Program Manager of the Year for efforts to increase prime small business contracting at the site.

Potential Issues with EM's Small Business Program

The breakout strategies EM has employed, although successful, also have raised some concerns among EM staff, which are summarized below.

- The increased number of contracts/task orders to administer impacts the workload of contracting, program, and technical staff.
- Site staff must define and manage an increased number of contractor interfaces.
- Some small businesses lack experience or familiarity with:
  - earned value management
  - DOE/EM safety requirements
  - DOE/EM prime reporting and accounting requirements
  - other performance expectations that have been developed over the years and are fully understood by prime FMCs that previously performed the work

Currently, EM does not have procedures in place to vet such concerns prior to making a small business award. Recently, another issue has emerged regarding the different pension benefit plans of M&O and non-M&O contracts and the possible problems this may cause for future breakout strategies. EM is currently studying the matter and developing options to address it.

[71] *U.S. Department of Energy, Small Business Obligations Analysis, Goals vs. Actual Report*, furnished by EM staff on 8/29/07.
[72] From a presentation by Assistant Secretary James A. Rispoli at the 8th Annual DOE Small Business Conference, Washington, D.C., June 27,2007.

Conclusions and Recommendations

The Panel applauds EM's aggressive efforts to increase prime contracting for small businesses. EM's contracting program can benefit from developing additional small business sources and the increased competition that will result. However, EM needs to establish processes and procedures to ensure that concerns and issues regarding redirected work efforts are fully vetted before any set-aside decision is made, and that resources are made available and actions are taken to eliminate or mitigate any problems once a set-aside is made. In particular, EM should focus on the number and competencies of contracting staff needed to administer any significant increases in small business contracts.

> **The Panel recommends that the DAS for Acquisition and Project Management establish acquisition planning requirements and develop appropriate planning templates that provide for full consideration of the issues and concerns related to small business set-asides. The requirements should require a full description of any additional resources and strategies needed to make the set-aside successful, such as:**
>
> - **additional staffing**
> - **solicitation provisions that provide prospective small business offerors with increased opportunities to obtain the necessary information to fully understand contract requirements and quickly initiate performance**
> - **structured post-award conferences and training to ensure full understanding of EM expectations**
> - **incentives and disincentives for facilities management contractors to ensure their full cooperation in transitioning work and establishing/maintaining necessary site interfaces**

Contract Administration

With the exception of the EMCBC, EM's contracting offices are predominantly engaged in contract administration. Contract administration has been defined as follows:

> Contract Administration involves those activities performed by government officials after a contract has been awarded to determine how well the government and the contractor performed to meet the requirements of the contract. It encompasses all dealings between the government and the contractor from the time the contract is awarded until the work has been completed and accepted or the contract terminated, payment has been made, and disputes have been resolved. As such, contract administration constitutes the primary part of the procurement process that assures the government gets what it paid for.[73]

[73] *A Guide to Best Practices for Contract Administration*, Office of Federal Procurement Policy, October 1994.

The FAR identifies over 80 separate contract administration functions.[74] The complexity of these functions varies significantly, and the frequency with which they are performed is highly dependent upon the volume and nature of the contracts/agreements being administered. Unlike the pre-award functions, which are subject to numerous procurement laws, regulations, policies and guidelines, the post-award environment is subject to far less prescription and lacks the step-by-step guidance often found in the pre-award phase. For that reason, DOE developed the *Department of Energy Reference Book for Contract Administrators*[75] to provide additional guidance to all DOE personnel involved in contract administration.

Contract administration is a collaborative responsibility. The contracting officer/administrator performs the official contract administration responsibilities required by the terms of the contract and the FAR. However, these official actions are frequently based upon factual assessments or programmatic decisions made by a variety of actors external to the contracting office. Examples include individuals in program and project management; environment safety and health; security; transportation; finance; engineering; and legal offices. Table 4 below illustrates how these responsibilities might be shared.

Table 4: Program Office/Contracting Office Roles in Contract Administration

Program Office:	Contracting Office:
• Assesses contractor performance/inspects delivery of supplies/services	• Exercises contractual remedies to deal with reported performance problems • Coordinates development of past performance report cards
• Recommends needed changes to contract	• Negotiates equitable adjustment to contract and issues modification
• Reviews contractors' invoices/vouchers	• Ensures contractor payments are consistent with performance and contract terms • Approves/disapproves payment

EM senior management has described its biggest contract administration challenge as "keeping the contract current." As of the end of July 2007, EM contracting offices were reporting 46 pending REAs/baseline changes in the aggregate amount of $4.8 billion.[76] Processing these actions requires extensive coordination between project staff and the contracting staff. EM is developing a Standard Operating Policy and Procedures process chart that describes the roles and responsibilities of the individuals responsible for these actions.

[74] FAR 42.302.
[75] http://professionals.pr.doe.gov/ma5/MAWeb.nsf/Procurement/ReferenceBookforContractAdministrators?OpenDocument
[76] Data from Monthly Acquisition Updates submitted by the field. Thirty-two of the requests in the amount of $4.2 billion were associated with the WTP project.

Contract Administration by EM Field Contracting Offices

Academy staff surveyed the Field Procurement Directors at EM's four major sites (Savannah River, ORP, the Richland Operations Office, and the EMCBC) to obtain their perspectives on contract administration. They were asked to estimate the percent of time their staffs spent on specific contract administration responsibilities. The results of that survey are reflected in Table 5.

Table 5: Major EM Contract Administration Functions Performed by Contracting Office Staff

Contract Administration Function[77]	Average Estimated %[78] of Contract Staff Time Devoted to the Function
Administering contract incentive provisions	16.0
Issuing unilateral contract modifications (e.g., incremental funding, contract options, etc.)	10.7
Processing REAs	10.2
Administering subcontract consent provisions (including procurement system reviews)	9.8
Processing other bilateral contract modifications resulting from contract changes or adjustments to the delivery schedule	8.5
Processing contract payments	7.7
Imposing contract remedies to deal with performance issues related to cost, timeliness or quality	6.0
Administering government property provisions	5.3
Administering contractor human resource issues	4.0
Administering contract environment, safety and health provisions	3.6
Miscellaneous administrative tasks*	18.2
	100%

* Includes headquarters reporting and data collection; cost analysis and other financial management matters; balanced scorecard; closeouts; interagency agreements; Acquisition Career Management Information System training; small business; and other general administration issues.

Academy staff also asked the Field Procurement Directors questions about their staffs' capacity to perform contract administration functions. Table 6 on the following page summarizes their responses.

[77] The first six functions consume the highest percentage of contract staff time.
[78] Percentages relate to performing contract administration responsibilities not overall staff time, which may include contract placement functions.

Table 6: Responses to Questions Concerning Staffing Resources, Training, and Experience

Staffing Questions	# of responses indicating "More than Adequate"	# of responses indicating " Adequate"	# of responses indicating "Slightly Inadequate"	# of responses indicating "Very Inadequate"
The number of on-board staff to perform the above functions is:	0	1	3	0
Staff training to perform the above functions is:	0	2	2	0
Staff experience in performing the above functions is:	0	2	2	0

The three directors who did not believe that they had an adequate number of staff indicated that they needed additional resources to administer CPIF and construction contracts and additional cost analysis support. In some cases, concerns about the number of staff were because contracting staff had been reassigned to serve on SEBs for major site procurements underway. When those contracts are awarded, the staff will return to their contracting offices, but the offices will have new major contracts to administer. EM intends to conduct a staffing analysis during the next year to ensure that adequate contracting staff resources are available at EM sites.[79] With respect to training, the directors suggested that additional training was needed in the areas of CPIF contract administration (for both procurement and technical staff), cost allowability, cost-reimbursement contracting, and the technical aspects of EM's work.

The directors' responses to questions concerning their office's working relationships with contracting officer representatives and federal project directors are shown in Table 7 on the following page.

[79] Memorandum from James A. Rispoli, Assistant Secretary for Environmental Management, to Edward R. Simpson, Director, Office of Procurement and Assistance Management, subject: Submission of Implementation Plan to Designate the Deputy Assistant Secretary form Acquisition and Project Management as Head of Contracting Activity for the Office of Environmental Management, August 31, 2007, page 14.

Table 7: Responses to Questions Concerning Working Relationships

Working Relationship Questions	# of responses indicating "Very Effective"	# of responses indicating " Effective"	# of responses indicating "Adequate"	# of responses indicating "Ineffective"
How would you characterize you and your staff's working relationship with the federal project directors?	2	2	0	0
How would you characterize you and your staff's working relationships with the contracting officer representatives?	2	2	0	0

Finally, in response to a question about how to improve contract administration, the directors provided a variety of suggestions, including:

- better alignment of DOE Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, and acquisition strategies and processes
- implementation of specific processes related to contract administration
- clear communication of direction and consistent follow through from the DAS for Acquisition and Project Management
- clear EM direction/policy on risk management as it relates to contract administration
- revised policy on contingency
- increased autonomy, authority, and resources for field contracting
- less headquarters micromanagement
- more time spent at the site by headquarters or EMCBC staff involved in pre-award acquisition in order to become familiar with the unique aspects of the site and the project (e.g., bargaining unit agreements, benefit plans, and stakeholder involvement)
- improved coordination of business clearance comments from EM or the Office of Management

<u>EM Headquarters Oversight of Field Contract Administration</u>

EM's Office of Contract and Project Execution has oversight responsibility for field post-award contract administration. Currently, that oversight is accomplished through:

- reviews of proposed contract modifications and extensions, REAs, fee determinations, and subcontract consents, which are subject to the DOE Office of Management's business clearance process

- monthly conference calls with all field offices during which the status of the following items are discussed:[80]
    - outstanding issues on contracts under administration
    - pending/anticipated REAs
    - non-REA major scope or funding changes
    - contractor incentive fee payments
    - status of government-furnished services or items (GFSI)
    - contractor workforce issues
    - pension and medical benefits funding requests versus budget
    - small business goals and performance
    - contract closeout status
    - DOE headquarters actions/decisions needed
    - other field manager issues or concerns

These activities have been performed on an unofficial basis pending approval of EM's HCA delegation request. Now that the HCA has been approved, the Office of Contract and Project Execution also will:

- manage resolution of issues related to GFSI and site contractor workforce restructuring
- consolidate reporting of Field Procurement Directors' compliance with DOE Order 361.1A, *Acquisition Career Development Program*
- work with OPAM to schedule and conduct cross-functional assessments of contract management and administration at EM sites
- serve as liaison between the field and the Office of Legacy Management regarding contract workforce restructuring[81]
- designate contracting liaisons for EM and non-EM field sites who support major acquisitions by:
    - providing ready access to all EM contracts, including contract modifications
    - having knowledge of and documenting assigned contract management plans
    - having knowledge of performance-based incentives and fee data for assigned contracts
    - interacting with site contracting staff and Office of Management site-specific representatives
    - having knowledge of GFSI and requirements on a fiscal year basis for assigned contracts
    - reviewing business clearance documents

[80] The field submits reports in advance of these calls.

[81] These responsibilities relate to the planning, coordination, and transition activities required to ensure that contractor entitlements to retirement pensions and post retirement benefits are preserved during the transfer of site management responsibility from EM to the Office of Legacy Management.

- participating in teams performing assessments of contract management practices and processes
- participating in post-award IPTs[82]

Partnership for Public Service Pilots

EM has chosen to participate in the Partnership for Public Service's Acquisition Innovation Project, which was conceived by senior procurement executives from 12 federal agencies and 14 private sector organizations. The project chose to focus on contract administration and identified three keys to successful post-award contract management:

- a sustainable and accountable partnership
- an infrastructure for success
- a system of measures to monitor and improve performance[83]

EM's West Valley and Moab sites are pilots for the project. They recently have awarded support contracts that represent transitions from an M&O to a CPAF contract environment and offer opportunities to pilot different contract "launch" strategies and communication approaches in the initial stages of contract performance. Some field staff reported that in some cases the contract does not contain all the requirements that are ultimately imposed. One individual indicated that there are "embedded expectations" that are not always translated into contract language. These issues will be addressed during the pilot program. Training in CPAF contracts has been provided to the Moab site office and is projected for West Valley in December 2007. EM staff report that the early focus on communication has been the most helpful in transitioning to a decidedly different contracting culture.

Early results from the pilots will be shared with the Partnership in the October-November 2007 timeframe. Although involvement with the Partnership will end at the point, EM intends to continue with the initiative until its completion. EM believes that the lessons learned from the pilots will have broad applicability throughout the complex, and expects that "site personnel will be provided tailored contract training, information on the specific terms and conditions of newly awarded contracts, including information on roles and responsibilities, appropriate interactions with contractor counterparts, contractor performance incentives, and identification of key Federal and contractor points of contact."[84]

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[82] Memorandum from James A. Rispoli, Assistant Secretary for Environmental Management, to Edward R. Simpson, Director, Office of Procurement and Assistance Management, subject: Submission of Implementation Plan to Designate the Deputy Assistant Secretary for Acquisition and Project Management as Head of Contracting Activity for the Office of Environmental Management, August 31, 2007 pages 20-21.

[83] *Creating Momentum in Contract Administration, the Acquisition Innovation Pilot Handbook*, Partnership for Public Service, November 2006.

[84] Memorandum from James A. Rispoli, Assistant Secretary for Environmental Management, to Edward R. Simpson, Director, Office of Procurement and Assistance Management, subject: Submission of Implementation Plan to Designate the Deputy Assistant Secretary for Acquisition and Project Management as Head of Contracting Activity for the Office of Environmental Management, August 31, 2007, page 13.

Conclusions and Recommendations

The size, complexity and inherent uncertainties that characterize EM's major projects will continue to tax the organization's project management and contract management capacities into the future. The movement away from the more traditional M&O contracts to CPIF and other performance-based approaches has placed greater demands on staff and the need to deal with contractual changes in a timelier manner. EM has made great strides in the project management area to develop more realistic project baselines and monitor performance against them.[85] However, the Panel believes that EM needs to significantly improve the coordination between the federal project directors and the contracting office to ensure that the contract implications of a contemplated baseline change are well understood, and that both offices work together to realign the baseline and the contract in a timely manner. With oversight responsibilities for EM contracting and project management, the DAS for Acquisition and Project Management is well positioned to exercise leadership in this area.

> **The Panel recommends that the DAS for Acquisition and Project Management develop written guidance that clearly describes the roles, responsibilities, and processes for executing baseline changes that meet EM and DOE project management requirements and modifying contracts in a timely manner. The guidance should be supplemented by interactive training sessions (onsite or teleconference) that allow site personnel the opportunity to ask questions about the guidance.**

Given EM's contract administration workload, the Panel questions whether current contract staffing levels are adequate. With the increased use of CPAF and CPIF contracts and performance-based incentives, contract administration responsibilities have grown and the work has become more complex. The contracting staff is already struggling to process REAs and other baseline change actions timely. And EM's efforts to foster increased small business prime opportunities will only add to the contract administration workload. The Panel endorses the OPAM business process reengineering team's proposal to study the adequacy of DOE contracting staffing and EM's intention to conduct a staffing analysis during the next year. But it believes that the timeframe for completing the analysis of EM's contracting offices needs to be advanced in order to identify staffing needs and initiate recruitment as soon as possible.

> **The Panel recommends that the timetable for EM to complete the staffing analysis of its contract operations be advanced to December 2007.**

The Panel commends EM's participation in the Partnership for Public Service's Acquisition Innovation Project and its intention to share the lessons learned with other sites. If the strategies for communication and contract launch can benefit small projects, it is likely that they will add significant value during the early transition stages of EM's major acquisitions that are yet to be awarded.

[85] See the Chapter 4, Project Management, for more information on this subject.

The Panel recommends that the DAS for Acquisition and Project Management ensure that appropriate launch strategies are developed for each major EM acquisition that take full advantage of the lessons learned from the Moab and West Valley pilots of the Partnership for Public Service's Acquisition Innovation Project.

CHAPTER 4
PROJECT MANAGEMENT

Because EM's mission of environmental remediation and risk reduction is accomplished primarily through contractors, the acquisition process is critical to EM's success. However, that process is just one piece of EM's overall project management regime. Once a contractor has been selected and a contract awarded, EM is responsible for managing and overseeing the conduct and completion of work in accordance with predetermined cost, schedule, and scope. While EM has modified its approach to project management and contractor oversight over the years, Assistant Secretary Rispoli's tenure has brought a heightened emphasis on proactive management of contractors that reflects EM's long-term mission at various field sites. Drawing on his tenure as Director of the Office of Engineering and Construction Management (OECM),[86] Assistant Secretary Rispoli has had EM apply to the operating and cleanup projects that characterize much of the EM portfolio, the project management principles contained in Order 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, which was developed to provide comprehensive project management procedures for DOE line-item construction projects. This initiative to "projectize" the EM portfolio includes building an infrastructure and tools to support more rigorous oversight of project performance; the development of stable cost and schedule projections for EM projects; standardized training for EM's federal project directors (FPDs) and other federal project staff; and a host of other initiatives.

The Panel began its examination of EM's project management activities by reviewing the National Research Council's multi-year effort to assess project management capabilities throughout DOE, which found problems related to project planning, cost estimation, baseline development, and risk management.[87] In an effort to identify lessons learned that could have applicability elsewhere in the complex, the Panel also examined a project where EM's project management activities led to the successful cleanup of a site—Rocky Flats. Rocky Flats has been described as one of DOE's greatest cleanup achievements, with the site closing months early and well under cost.[88]

The Panel then began to assess the many facets of project management and how they are carried out within EM. Among the areas that the Panel examined during the course of the study were the systems employed to manage projects; cost estimation; procedures for managing safety and implementing quality assurance; FPD training and certification; headquarters oversight and project metrics; and the management of project risk and uncertainty. This chapter presents the

[86] OECM is a Department-level entity charged with supporting and assessing acquisition and project performance, as well as facilities and infrastructure, throughout DOE.
[87] The National Research Council is an arm of the National Academies that carries out much of the research and project work performed by those organizations. A discussion of its review of DOE's project management activities is included in Appendix C, Section I, "Review of National Research Council Studies."
[88] More information about the Rocky Flats project is available in Appendix B, Section VII, "Lessons Learned From Rocky Flats."

Panel's findings related to EM's project management activities, the proposals made by the Panel during the course of this study, and the status of EM's actions to implement them.

MANAGING THE EM PROJECT PORTFOLIO

The 89 projects currently in the EM portfolio can be divided into three categories: (1) cleanup projects, which focus on remediating potentially harmful environmental conditions created by the former weapons program; (2) operating projects, which track the operation of facilities that process certain types of waste into forms that reduce or isolate potential risks; and (3) construction projects, which consist of the construction of new facilities to process hazardous waste and other materials. Although cleanup and operating projects constitute 83 of the 89 projects in EM's portfolio, the construction projects—such as the Salt Waste Processing Facility at the Savannah River Site in Aiken, SC and the Waste Treatment and Immobilization Plant (WTP) at the Office of River Protection (ORP) in Richland, WA—are among the most expensive and technically complex.

DOE Project Management Guidance

As noted above, project management within DOE is governed by DOE Order 413.3A.[89] The Order includes several distinctive features, such as a mandate to validate performance baselines[90] for all EM projects, and the use of decision "gates," known as critical decision (CD) stages, which ensure timely oversight and accountability of projects.[91] Tailoring EM work to DOE guidance has presented a challenge. Many of the requirements in Order 413.3.A, which was designed for construction projects, are not clearly applicable to the operating and cleanup projects that are most common to EM. Despite these difficulties, there appears to be wide consensus within EM that Order 413.3A and related guidance documents, as implemented by the Assistant Secretary, have had a substantial, positive effect on the quality of project management at EM. Currently, EM is pursuing a new round of efforts to further projectize its portfolio, including mandating that all EM projects produce and execute against validated near-term baselines, as well as produce reasonable out-year funding estimates.[92] EM anticipates that this effort will bolster the overall credibility of the program within DOE, as well as in the eyes of external parties such as congressional appropriators; federal and state regulators; and local stakeholders and Native American tribes.

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[89] http://www.directives.doe.gov/pdfs/doe/doetext/neword/413/o4133a.html. Appendix C, Section II, "Managing the EM Project Portfolio" includes further discussion of Order 413.3A.

[90] Order 413 defines a performance baseline as: "The collective key performance, scope, cost, and schedule parameters, which are defined for all projects. Performance Baseline includes the entire project budget (total cost of the project including contingency) and represents DOE's commitment to Congress."

[91] Prior guidance documents also relied on a series of decision gates, but the criteria for passing through the CDs outlined in Order 413.3A are less subjective than in prior documents. A more detailed explanation of the CD stages laid out in Order 413.3A is available in Appendix C, Section II, "Managing the EM Project Portfolio."

[92] A memorandum issued jointly by Assistant Secretary Rispoli and OECM Director Paul Bosco in April 2007 defines a near-term baseline as covering "a minimum of five years or…the period of performance for the current contract if it exceeds five years."

Baseline Management Framework

Sites are responsible for developing detailed project baselines for all of their projects. Projects that have common attributes, such as a common assumed end state, geographic location or activity type, are typically grouped within a Project Baseline Summary (PBS), which includes important summary-level information and performance data that is used both within and outside of EM. Some EM headquarters staff expressed concerns about the baseline structure, noting that PBS definitions often can encompass a large number of sub-projects, thus masking performance problems in individual aspects of a large project. Likewise, many field staff were concerned that reporting at the PBS level as currently constructed did not give headquarters an adequate picture of the work being done at the sites.

In its January 2007 Observations Paper, the Panel shared this concern, but did not make a proposal, recognizing that altering EM's overall PBS structure would present a major distraction to EM's current activities, and that any changes in that structure would cause significant problems in budget presentation, particularly the historical comparability of budget submissions across fiscal years.[93] The Panel did suggest, however, that EM leadership assess whether its project oversight activities would benefit from establishing some sub-PBS unit of analysis that would help bring the field and headquarters into harmony regarding project reporting and oversight. As of November 2007, EM was continuing an ongoing effort to identify subprojects below the PBS level.

FEDERAL OVERSIGHT OF CONTRACTOR PERFORMANCE

Much of the work performed by EM's field staff is focused on oversight of contractor performance. EM's ratio of contractors to federal employees (about 31 to 1),[94] as well as the diverse and complex nature of the various sites located across the complex, make EM one of the most contractor-reliant agencies in the federal government today, and necessitate a strong oversight regime.

As noted elsewhere in this report, EM's prior leadership had instructed federal field staff to "manage the contract, not the contractor," with the result being a shift away from intensive federal management of contractor activities. Since taking over the leadership of EM, Assistant Secretary Rispoli has replaced that philosophy with one where federal staff take a more proactive role in the management of EM projects, with the contract serving as the vehicle for these management activities. Accordingly, EM has undertaken steps to enhance the project management capacity of its federal staff, and has indicated its intention to continue moving forward in this regard. The Panel endorses these initiatives, but cautions that project management should not entail federal staff providing technical direction to the contractor on how to perform the work. In a performance-based environment, project management efforts should

[93] Staff of the House EWD Appropriations Subcommittee have expressed a similar concern.
[94] Approximately 1,100 EM site staff manage a contractor force of about 34,000, for a ratio of about 31 contractors per federal employee.

focus on developing approaches and tools to assess and monitor the contractor's progress in meeting specific performance objectives and standards that are contained in the contract.

Use of Earned Value Management

In order to track progress on each PBS and its constituent sub-projects and control accounts, EM requires its contractors to employ an Earned Value Management System (EVMS), which analyzes and reports deviations from baseline projections. The complex-wide adoption of EVMS has been a critical component of EM's initiative to projectize its project portfolio. The burden of establishing and operating a working, verified EVMS is entirely on the contractor responsible for the work being monitored.[95]

A critical element of EVMS' effectiveness is the quality of the system itself. According to DOE Order 413.3.A, OECM must certify each contractor's EVMS.[96] Once a contractor's EVMS has been certified, however, EM has no formal mechanism to ensure that it remains compliant with those standards throughout the life of the project. The Panel also found that EM has not taken full advantage of EVMS' capability to produce a Contract Performance Report (CPR), which provides project status information in five different reporting formats that can be used to help manage project baselines. **In its January 2007 Observations Paper, the Panel proposed that EM require its contractors to produce EVMS' five standard Contract Performance Report reporting formats. Further, the Panel proposed that EM develop a mechanism to monitor contractors' EVMS in order to ensure the integrity of the data produced.**

In July 2007, EM's DAS for Acquisition and Project Management issued a memorandum mandating that all EM projects report EV data using some standard CPR formats, and that sites develop an EV surveillance plan by October 1, 2007 that "will establish a plan for the site to review the contractor's earned value (EV) system on a monthly basis[.]" As of November 2007, all sites had provided EM headquarters with an update on the status of these plans; a summary and analysis of them will be available by the end of December 2007. EM also revealed plans to institute a monthly report, prepared by federal staff for the FPDs at each site, on EV and other performance metrics. EM plans to have a template for this report by December 2007 and hopes to implement the actual reporting sometime in 2008.

Actions to Enhance EM Staff Capacity to Manage Projects

Aside from EVMS, EM headquarters has not developed any other standardized systems for FPDs and their staffs to use to manage project performance. As a result, many FPDs throughout the complex have devised and deployed a wide array of their own "desk drawer" systems for managing project performance on a day-to-day basis. Some senior EM headquarters managers expressed a desire for EM to supply FPDs with a standard "toolbox" of project management tools to supplement EVMS.

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[95] A more detailed explanation of EM's use of EVMS is available in Appendix C, Section III, "Federal Oversight of Contractor Performance."

[96] As of September 2007, less than 40 percent of EM contracts were being executed under a certified EVMS. The other contractors' systems were in various stages of the certification process.

In its August 2007 Observations Paper, the Panel expressed concern about the time-consuming and duplicative nature of FPDs constructing their own performance management systems. **It proposed that EM standardize and integrate project performance management tools across the complex, particularly those that supplement or are integrated with the Earned Value Management System. The Panel further proposed that EM conduct a complex-wide assessment to ascertain what tools FPDs are now using to manage project performance on a day-to-day basis. The results of this assessment should form the basis for developing a standardized project management "toolbox."** The Panel recognizes that EM field sites have a diverse missions and activities and, therefore, requirements for project performance management tools may vary across the complex. Thus, it would be unwise to reduce project managers' flexibility by restricting the range of tools that are at their disposal. However, the Panel believes that EM headquarters should play a more active role in providing project managers with a standard array of tools from which to choose and assisting in the development of new tools, rather than leaving project managers to "reinvent the wheel."

One area where EM already has taken action is in the area of scheduling. Work at all EM sites is governed to some extent by agreements with local regulatory, civic, tribal, or other organizations. As a result, many FPDs must manage projects in compliance not only with the project baseline, but with a mandated milestone schedule. Academy staff found several instances where FPDs either had no formal scheduling tools that incorporated external project milestones, or relied on self-made systems that did not include logic ties between external milestones and project tasks. At the same time, headquarters managers reported difficulties in coordinating activities, such as shipping waste between sites, due to the lack of a standardized scheduling format for EM field sites. To address project scheduling issues, EM has undertaken an initiative to standardize project scheduling data[97] across the EM complex and integrate them into a headquarters-level Environmental Management Integrated Schedule (EMIS). EMIS was operational as of October 2007 and will continue to be updated with additional functionality.

In addition to lacking standard tools, the Panel found that most FPDs at EM field sites lacked sufficient staff with the required training to perform in-depth analysis of EV data. As discussed in Chapter 5, Human Capital Management, EM's federal staffing levels are low relative to other agencies with similar missions, such as the U.S. Army Corps of Engineers (COE) and the U.S. Naval Facilities Engineering Command. Academy staff found this relative disparity to be particularly pronounced in the area of project controls personnel. Within the context of EM, the field of project controls encompasses a number of key responsibilities related to managing project performance. Very few project control officers (PCOs)—the job classification that includes training in in-depth EV analysis—have been deployed in the field. This remains a substantial weakness in the quality of EM project management.

Cost estimation also is a critical skill area within EM, as estimates of project cost often drive EVMS baseline assessments. Although OECM's standard audit of an onsite EVMS includes some verification of the contractor's cost estimation practices, in recent years, EM has not had a staff of internal cost estimators capable of analyzing cost estimates over the life of a project. The

[97] Project scheduling data in this instance are distinct from EV-based cost and schedule data, although both will ultimately be part of the standardization effort.

Panel believes that EM requires a robust, internal cost-estimating capacity in order to manage its contracts effectively and verify the cost estimates provided by contractors at the field level. **In its January 2007 Observations Paper, the Panel proposed that EM develop an internal cost-estimating capacity in EM headquarters as well as at EM's field sites. The Panel added that EM should expand the work scope of its existing cost-estimating contractors to have them develop training and mentoring programs for EM's workforce.**

EM leadership is currently focused on rebuilding an internal cost estimating Center of Excellence, and in November 2007 selected the EMCBC as the location for a new complex-wide federal cost estimating resource. The EMCBC has hired a veteran cost estimation subject matter expert to provide initial field support and policy direction, and has requested additional FTE in order to fully staff this function. In addition, Academy staff have been informed that DOE's Office of the Chief Financial Officer is establishing a Department-wide cost estimation group. This group will have responsibility for training in cost estimation, and will encourage federal staff to pursue certification from external bodies, but is unlikely to establish any kind of cost estimating certification internal to DOE.

With respect to other shortcomings in the staffing level and/or expertise of EM's project management workforce, EM leadership expects that they will be addressed by a comprehensive effort now underway. In March 2007, EM contracted with the firm Project, Time & Cost, Inc., through an interagency agreement with COE, to identify and fill skill gaps in its project management capacity at sites across the EM complex and, ultimately, to federalize these skills into the EM workforce. EM leadership expects this initiative, Best-In-Class Project and Contract Management, to produce an overall improvement in the quality and rigor of project management at EM field sites.[98]

The House EWD Appropriations Subcommittee has expressed some preliminary support for EM to hire additional staff,[99] and interviews with EM field staff revealed enthusiasm for the initiative. However, staff also expressed strong skepticism as to whether the effort can overcome the formidable human capital challenges facing EM; in particular, the challenges of "growing" experts in professions that can often require decades of training and experience to master, such as cost estimation and project scheduling, and hiring enough personnel to fill identified skill gaps.
The Panel believes that the Best-In-Class initiative, if conducted as planned and implemented fully, will help raise the caliber of EM's project control officer staff and the overall quality of its project management activities. However, the Panel shares the field staff's reservations about whether EM will have the needed FTE ceiling and be able to recruit enough personnel with the subject matter expertise to fill the gaps identified by the assessment.

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[98] More information on the responsibilities associated with the project control officer and cost estimation functions, as well as a fuller explanation of the Best-In-Class initiative, is available in Appendix C, Section III, "Federal Oversight of Contractor Performance."

[99] The House version of the 2008 EWD Appropriations Bill notes that "the oversight of contractor performance by the federal workforce is critical to ensure that taxpayers are getting good value for their money," and accordingly, "provid[es] resources to improve this oversight, such as increasing the federal staff by 120 positions in the areas of contract management and project management." H. Report 110-185. *Energy and Water Development Appropriations Bill, 2008.* p. 116.

The Panel recommends that EM's leadership begin a concerted effort to determine how it plans to meet the human capital and other logistical challenges inherent in the Best-In-Class Project and Contract Management initiative, and communicate its plans to project managers and other field personnel.

EM HEADQUARTERS OVERSIGHT OF PROJECT PERFORMANCE

Although federal staff at EM field sites have primary responsibility for the day-to-day management of EM projects, EM headquarters is responsible for disseminating policy and guidance and oversight. EM, as well as other relevant DOE offices, perform many of their oversight duties by conducting visits to EM field sites. However, the Panel focused mainly on oversight mechanisms that EM headquarters managers rely on when they are not in the field: automated systems, Quarterly Project Reviews (QPRs), and rating metrics.

Automated Reporting Systems

EM's Integrated Planning, Accountability and Budgeting System (IPABS) is an electronic system that integrates EM's planning, budget, and execution business processes. Today, IPABS provides support for much of EM's planning and execution work. It functions as a single data source for EM, and is used predominantly as a management tool by headquarters managers. As discussed in the next section, "Quarterly Project Reviews," in its January 2007 Observations Paper, the Panel proposed that EM make some modifications to IPABS. EM agreed with the Panel's proposal, but an IPABS Steering Committee subsequently determined that a wholesale revision of the IPABS system was needed. The Panel was pleased to see the efforts underway to improve or replace IPABS, but was concerned that the Steering Committee had not generated a formal requirements document that outlined system functions. Without such a document, the Panel feared that the Committee risked simply grafting additional modules and features onto a system that had already been expanded well beyond its intended uses. **In its August 2007 Observations Paper, the Panel proposed that the EM IPABS Steering Committee produce a formal requirements document that defines the functional requirements for replacing or modifying IPABS.** EM accepted this proposal and expects to have the requirements document completed by December 2008.

The accuracy of IPABS data are dependent on both the quality of the EV data produced by EM contractors and the ability of field staff to upload EV data to IPABS in a correct and timely manner. **In its January 2007 Observations Paper, the Panel proposed that EM modify its project management training to include an increased focus on the capabilities and limitations of its tracking and reporting systems—EVMS, IPABS, and the Project Assessment and Reporting System (PARS).[100] The Panel further proposed that EM develop a mentoring program where seasoned FPDs work with less-experienced FPDs in the use of**

[100] PARS is a DOE system that is the chief mechanism used to report project status and assessment information to DOE senior managers and key program stakeholders. PARS is based on EVMS specifications, and is populated with data electronically by the Project Execution module in IPABS.

these systems, and that EM include this mentorship as a standard in FPDs performance appraisals.

EM agreed that more training is needed, and will provide it in conjunction with a revised IPABS system.[101] EM did not, however, accept the Panel's proposal for including mentoring as a standard for FPD performance evaluations. EM leadership does not believe that holding FPDs accountable for this aspect of project performance is appropriate at this time.

Quarterly Project Reviews

EM's QPRs are a key mechanism used by headquarters to oversee projects. QPRs were initiated by former Assistant Secretary Paul Golan, and have been continued with a revised format by Assistant Secretary Rispoli. The QPRs are an important feedback mechanism for senior leadership, and sites view them as opportunities to raise concerns or issues relating to their projects. Assistant Secretary Rispoli and his management team also have increasingly used QPRs to coordinate organization-wide approaches to project challenges between relevant offices in EM headquarters and field organizations, especially vis-à-vis negotiations with outside parties, such as contractors, regulators, and congressional appropriators.[102]

Academy staff attended QPRs held in February, May, and August of 2007, and discussed the QPR process with EM headquarters and field staff. In general, the institution of QPRs is widely perceived as a positive development, although attitudes in the field are mixed as to the worthiness of the effort that goes into preparing QPR presentations, as well as the format itself, which is mandated by EM headquarters. Several FPDs interviewed expressed skepticism about whether the information conveyed by QPR presentations could be properly understood by, or useful to, headquarters managers in monitoring project performance.

After the February QPRs, EM made several changes to the QPR procedure, including increased automation of QPR report preparation, the inclusion of an FPD project assessment to replace the OECM assessment (discussed in the section of this chapter, "Metrics for Assessing Project Performance"), the inclusion of an integrated project schedule, and the extension of the QPR schedule itself to allow more time to address issues that arise during QPR sessions.

One issue of special concern to the Panel was the integration of budget and funding metrics into the QPR process. During the February QPRs, Academy staff observed that discussions at QPRs focused almost exclusively on performance-related data, with little if any comparison of project performance against fiscal year project funding constraints. Several EM officials indicated that budgetary concerns could easily be incorporated into QPR discussions without unduly merging the two areas, and producing projections of project performance data against budget data is a standard practice at the Department of Defense (DoD). Moreover, increased attention to funding

[101] EM, citing ongoing DOE efforts to entirely replace PARS, has declined to provide any EM-specific PARS training at this time.

[102] A more detailed explanation of QPR format and procedures can be found in Appendix C, Section IV, "EM Headquarters Oversight of Project Performance."

issues could help EM field sites and headquarters adopt a more coordinated, proactive approach to reprogramming requests.

In its January 2007 Observations Paper, the Panel proposed that EM modify IPABS to enable it to compare EVMS cost and performance information with budget data, and that the results of this analysis be included in future QPR reports and other project status documents.

EM has taken steps to implement the Panel's proposal. August QPR presentations contained a simple comparison of fiscal year funds versus expected project costs, and Academy staff observed that this spurred enhanced discussions of funding issues during the sessions. EM now has committed to include an enhanced budget presentation, including explicit comparison of EV data and expected funding, in the March 2008 QPRs.

Metrics for Assessing Project Performance

One of the key tools EM headquarters managers have used to gauge project performance is the color assessment rating scheme employed by OECM. On a monthly basis, OECM evaluates each project in the EM portfolio, using EV performance as well as a number of other factors, such as the timeliness of EV data, results of independent reviews, and discussions with project managers.[103] Based on this assessment, OECM issues a project rating of 'green,' 'yellow,' or 'red.' Figure 2 on the next page depicts OECM's rating process. EM headquarters officials report that these ratings are useful for assessing project performance insofar as they give the DOE Deputy Secretary and EM managers an at-a-glance indication of which project may require increased management attention. But they also note that the color assessments are limited by some lack of comparability across EM projects.[104]

[103] Order 413.3A indicates that OECM must perform this assessment only for "projects having a Total Project Cost greater than or equal to $100M and Environmental Management Clean-Up Projects having an Total Project Cost greater than $400M." However, nearly all projects in the EM portfolio fit within this criterion, and are thus assessed by OECM.

[104] A further explanation of how OECM metrics are derived is available in Appendix C, Section IV, "EM Headquarters Oversight of Project Performance."

Figure 2: OECM Color Assessment Scheme

Overall Project Assessment	=	EV Assessment	+	OECM Assessment
Project is expected to meet its Cost/Schedule Performance Baseline		Cost and Schedule Earned Value within: .9 – 1.15		*OECM Assessment Factors:* - *Data Validity* - *Quarterly Reports* - *Project Reviews (EIRs, IPRs)** - *How Current are the Data?* - *Discussions with Program and Project Managers* - *Other Information (e.g. DNFSB)*
Project is at-risk of breaching its Cost/Schedule Performance Baseline		Cost or Schedule Earned Value within: .85 – 1.25		
Project is expected to breach its Cost/Schedule Performance Baseline		Cost or Schedule Earned Value outside of Yellow boundaries		

* EIRs are External Independent Reviews. IPRs are Independent Project Reviews.

Despite the limitations of the OECM color assessments, because they are presented to and may be acted on by the Deputy Secretary, these often are the metrics to which EM is held accountable, regardless of how well the assessment represents the actual health of a given EM project. Accountability for these ratings generally flows down to the field level, to individual site managers or even, in some cases, to individual FPDs. Many site staff interviewed believe that OECM color assessments have an excessive influence on the attention paid to a project by top EM managers relative to the amount of information the assessments truly convey about a project's performance. Much of this seems to stem from a lack of definitions associated with the various color ratings. In particular, both 'red' and 'yellow' assessments are interpreted as a sign that intervention by EM headquarters is required, particularly because they may in turn prompt further inquiries by the Deputy Secretary.

Project performance ratings are an essential tool for headquarters managers, and OECM color ratings serve an important function in providing an at-a-glance assessment of a large and diverse project portfolio. However, the Panel does not believe that EM is well served by the current level of emphasis placed on the OECM color-coded assessments of project performance. The preservation of clear lines of accountability for project performance within EM requires that assessment metrics are clearly defined, and that the definitions are clearly communicated throughout the complex and accepted by managers and staff. The lack of guidelines for when EM headquarters intervention is or is not required for 'yellow' versus 'red' projects has created disincentives to the field to report performance problems until headquarters assistance is judged to be absolutely necessary. Some field staff reported that responding to such interventions often impaired FPDs' ability to repair or prevent project setbacks. **Accordingly, in its August 2007 Observations Paper, the Panel proposed that EM examine its procedures for responding to, and holding field personnel accountable for, the color assessments of projects. These**

procedures should address, but need not be limited to, concrete definitions for the "meaning" of each assessment color.

As of this writing, OECM is leading an overall effort to more clearly define and differentiate 'red' and 'yellow' assessments, particularly in its monthly reports to the Deputy Secretary. This effort is expected to conclude by the end of December 2007. EM has revealed plans to build on OECM's initiative with an EM-specific effort to better define roles and interpretations surrounding color assessments, to be completed approximately one month following the conclusion of the OECM effort.

The Panel also examined the granularity of EM's project assessment metrics. EM project managers in the field as well as EM headquarters managers expressed the desire for a high-level measure of project performance that provides a more detailed assessment. The Panel concurred, noting that the color-coded assessments do not convey enough detail about individual projects to be an appropriate standard of accountability for EM FPDs and site management, and they do not provide an apples-to-apples comparison of projects across the EM complex as the color designations might imply. Accordingly, Academy staff explored several alternative schemes for assessing project performance at the PBS level, including a "Critical Success Variables" model based on an external independent review performed at the Fernald Closure Site.[105] This scheme relies on metrics—critical success variables—such as cost, schedule, regulatory issues, safety, etc. that can be customized to suit the unique features of each EM project, either at the PBS or sub-PBS level. Figure 3 is an example of how this performance assessment model might look for an EM project.

Figure 3: "Critical Success Variables" Model[106]

Critical Success Variable	PBS 01	PBS 02	PBS 03	PBS 04
Cost				
Schedule				
Tech. Scope				
Quality				
Regulatory				
Management				
Procurement		N/A		N/A
Safety				
FY Funding	**$250M**	**$1.86B**	**$736M**	**$19M**

[105] More information about all of these models is available in Appendix C, Section IV, "EM Headquarters Oversight of Project Performance."
[106] All project data are fictional.

While these assessment metrics would not substitute for more detailed measures of project performance, such as EV performance data, the Panel believes that EM headquarters managers would benefit from more refined performance metrics that provide enhanced granularity and detail and that can be more useful for comparative purposes. **In its August 2007 Observations Paper, the Panel proposed that the DAS for Acquisition and Project Management work with each field office to produce project-specific success metrics. These metrics should take into account the type of work being performed and the specific facilities involved and technologies deployed, and should ideally be devised in collaboration with relevant contractors. The Panel proposed that these metrics be reported on a quarterly basis as part of the EM QPR presentation format.**

EM leadership agreed that a more detailed project performance assessment scheme would be appropriate, and informed Academy staff that it planned to base these new metrics on the Fernald example, as well as a similar model in use at the Rocky Flats closure sites. It hopes to include the new assessment scheme in the monthly FPD reports currently being developed (see the earlier section on "Use of Earned Value Management"). EM also plans to include these metrics in the QPR format, but the monthly FPD reports will be the primary vehicle for using them to evaluate project performance.

MANAGING TECHNICAL COMPLEXITY AND PROJECT RISK

The EM project portfolio has a relatively high degree of uncertainty, risk, and technical complexity, which is due to a number of factors:

- Many EM projects involve the remediation of highly toxic and radioactive materials that often require the construction or operation of facilities to process the materials into less harmful forms. Many of these projects involve first-of-a-kind construction design and facilities engineering.
- Many environmental remediation projects also require EM to develop new technologies in the areas of chemical engineering and nuclear physics. The uncertainty associated with transferring these new technologies from a laboratory environment to large-scale implementation is considerable.
- Many of the former weapons production facilities where EM performs its work did not keep detailed records of the environmental risks they introduced into local environments. At many sites, EM found additional contaminants that were not anticipated in a project's original definition, necessitating major revisions to technical scope and, consequently, to baseline cost and schedule.

Inadequate planning for these risks and uncertainties can have a significant impact on a project. The WTP, which has seen project cost and schedule expand far beyond original projections, is a very visible case in point. A principal cause of the project's problems was the optimistic treatment of the uncertainty and risk associated with the design of novel technologies for a large, complex, first-of-a-kind, nuclear-chemical plant.

Managing the Development and Implementation of Technologies

Observers both within and outside of EM have indicated that EM needs a better strategy to address the technological complexity of its projects. In accordance with provisions in the 2007 House EWD Appropriations Bill, EM developed a Technology Roadmap, which attempts to define the role of the engineering and technology functions within the organization. The Roadmap also identifies and categorizes EM's engineering and technical risks. In February 2007, the National Academy of Sciences undertook a project to support this initiative, and is expected to release a formal report sometime around June 2008.

The issue of technology maturity, i.e., whether a technology has been sufficiently developed to be implemented, has been a major challenge for EM. EM has had no common technical vocabulary to facilitate programmatic direction and coordination of technological needs assessment, development, and implementation at and across project sites. In October 2006, Academy staff met with GAO staff who were in the midst of a study that found that technological immaturity had contributed to cost and schedule overruns for some of DOE's major construction projects, including some of the most costly projects within EM. Both staffs were exploring EM's potential use of Technology Readiness Levels (TRLs), which are metrics for quantifying the maturity of a given technology, as a means to better address the technical complexities of its projects.[107]

In consultation with GAO staff,[108] the Panel proposed in its January 2007 Observations Paper that EM implement Technology Readiness Levels and institute a formalized process for assigning ratings to proposed technological solutions. In March 2007, GAO issued its report in which it recommended that DOE "evaluate and consider adopting a disciplined and consistent approach to assessing TRLs for projects with critical technologies."[109] GAO indicated that employing TRL would facilitate greater communication across field sites and potentially pave the way for broader strategic thinking.

EM agreed with this proposal, and has taken several steps towards implementation. EM initiated a pilot Technology Readiness Assessment (TRA) process, focused primarily on the WTP and associated projects at the Hanford Site, and ORP staff developed customized TRA criteria for WTP.[110] When Academy staff visited the Hanford Site in April 2007, ORP project and engineering staff were enthusiastic about the effort. Although there were some early challenges in adapting the TRA process to EM's unique project portfolio, several staff expressed the belief that its application earlier in the design and engineering of the WTP could have prevented or alleviated some of the engineering and performance setbacks that occurred.

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[107] TRLs were developed by the National Aeronautics and Space Administration and are widely used in DoD.
[108] GAO staff informally advised the Panel that it planned to recommend TRLs in their report.
[109] *DEPARTMENT OF ENERGY, Major Construction Projects Need a Consistent Approach for Assessing Technology Readiness to Help Avoid Cost Increases and Delays*, GAO-07-336, March 2007
[110] The pilot has since expanded to the Richland Operations Office, also at the Hanford Site, and the Savannah River Site in Aiken, SC.

EM also began working with DoD to develop lessons learned that can be incorporated into EM's efforts to implement TRLs and the TRA process. Ultimately, it is hoped that EM will produce a version of the TRA process that can be incorporated within existing elements of the project management process per DOE Order 413.3A, such as Risk Management Plans and Project Execution Plans.[111]

Anticipating and Budgeting for Project Risks

Managing project risk is one of the most challenging areas for the EM project portfolio. The factors cited above that contribute to the technical complexity of EM projects also produce substantial risk to project cost, schedule, and scope baselines. Moreover, because about 90 percent of EM project funds are dedicated to predetermined project baselines, there is a relatively small pool of funds to draw from when project risks materialize.

Order 413.3A specifies that all EM projects must have a Risk Management Plan that is reviewed and updated regularly. EM assesses project risks by determining both their likelihood and the cost/schedule impact should one occur. The results of this analysis are used to determine an overall confidence level that the project can be completed within given cost and schedule specifications. Based on that, EM determines how much contingency funding—funding dedicated to mitigating expected project risks—to request in congressional budget submissions.

For line-item construction projects, EM policy is to request enough funding to ensure at least an 80 percent confidence level. Operating and cleanup projects, however, are funded at only a 50 percent confidence level, with the difference between the amount of money needed to fund a project at a 50 percent versus an 80 percent confidence level labeled "unfunded contingency." Should a project risk materialize that has a financial impact greater than the funding allotted at a 50 percent confidence level, EM generally responds either by moving funds from one project to another, within reprogramming limits, or by extending the schedule of that work into future fiscal years when additional funding can be requested.

The sheer magnitude of the cumulative costs associated with all of EM's current unfunded risks, in conjunction with the relatively low reprogramming thresholds that Congress has dictated for many EM projects, raised concerns among the Panel about EM's unfunded contingency policy. EM responded that a number of factors, such as the long lifespan of operating and cleanup projects, as well as the undesirability of carrying over project funds from year to year, necessitate this practice. EM managers also pointed out that, because operating and cleanup projects typically encompass a number of disparate elements (e.g., remediation, waste disposal, facility operations, etc.), they have operated under the assumption that cost overruns in one area could be offset by surpluses in another, with overall funding balancing out over the long term. While Academy staff were unable to find an example where unfunded contingency resulted in an inability to mitigate project risks, EM was likewise unable to cite any empirical data indicating

[111] Additional material regarding EM's pilot on the use of TRLs, including background on the TRL scale itself and GAO's findings on this topic, is available in Appendix C, Section V, "Managing Technical Complexity and Project Risk."

that funding operating and cleanup projects at a 50 percent confidence level does, in fact, produce a balance between shortfalls and surpluses in the long term.[112]

Accordingly, in its August 2007 Observations Paper, the Panel proposed that EM undertake a study to determine whether, historically, the funds identified as "unfunded contingency" have been balanced between overruns and surpluses, as well as whether the practice has prompted an excessive need for project time extensions or reprogramming requests to Congress. The Panel proposed further that EM consider making the results of this study the foundation for a systematic reexamination of whether 50 percent is the appropriate confidence level to fund its operating and cleanup projects.

Several senior EM officials agreed with the notion that the 50 percent funding level should be reexamined, and staff on the House EWD Appropriations Subcommittee also expressed a desire to see the results of such an evaluation. In response, EM has agreed to initiate a three step effort that will:

1. complete by January 2008 an historical review of EM's use of unfunded contingency, with particular emphasis on reprogramming requirements, operating plan funding adjustments, or project schedule extensions
2. analyze the results of this review and identify alternative approaches by March 2008
3. evaluate current confidence levels for operating projects by June 2008

IMPLEMENTING SAFETY AND QUALITY ASSURANCE

Staff throughout the complex repeatedly emphasized that EM's top priority is to accomplish environmental remediation and risk reduction in a safe and high-quality manner. Accordingly, the implementation of and adherence to safety guidance and procedures are critical aspects of the EM Program.[113]

Oversight of Safety Performance and Procedures

Although some specific aspects of EM's safety regime, which encompasses both nuclear and industrial safety, are regulated by the Code of Federal Regulations (CFR) and overseen by the Defense Nuclear Facilities Safety Board (DNFSB),[114] it is governed primarily by DOE directives (policies, orders, manuals, standards, guides, and handbooks). Several Department-level offices play a role in safety, such as the DOE Central Technical Authority (CTA) for Energy and

[112] More detailed information on how EM categorizes project risks, as well as its practices surrounding the allocation of unfunded contingency, can be found in Appendix C, Section V, "Managing Technical Complexity and Project Risk."

[113] A more detailed summary of the policy and guidance for EM's safety and quality assurance programs can be found in Appendix C, Section VI, "Polices and Guidance for EM's Safety and Quality Assurance Programs."

[114] The DNFSB, established in 1988, is an agency charged with oversight of the nuclear weapons complex administered by the U.S. Department of Energy, focusing primarily on issues of nuclear safety, security, and engineering.

Environment,[115] which provides technical support for EM safety operations, and the Office of Health, Safety, and Security (HSS), which provides policy direction as well as some independent oversight. A key document providing coordination between HSS and DOE's various program offices, including EM, is the DOE Integrated Safety Management System (ISMS). ISMS is delineated in DOE Policy 450.4, *Safety Management System Policy*,[116] as well as DOE Manual 450.4-1, *Integrated Safety Management System Manual*.[117] The objective of ISMS is to ensure that federal and contractor staff systematically integrate safety considerations into management and work practices at all levels. The overall management of safety functions and activities is seen as an integral part of mission accomplishment. ISMS is applicable to all facility life-cycle phases, including design, construction, operation, decontamination, and decommissioning.

Within EM headquarters, the Office of Safety Management and Operations is the focal point for all safety-related issues, and includes sub-offices dedicated to Safety Management, Operations Oversight, and Transportation. EM plans to add a fourth office, Quality and Standards Assurance, in the coming months.[118] The DAS for Safety Management and Operations is responsible for developing and interpreting DOE and EM safety policy and standards; ensuring their proper and timely implementation; and overseeing the continuous improvement of EM's safety performance. The DAS also serves as the designated champion for ISMS implementation within EM headquarters and in this capacity, leads EM's site-based ISMS champions across the complex.[119]

At the site level, organizational structures for safety-related functions differ across the complex, although nearly all include some combination of safety authorization basis[120] specialists, facility representatives,[121] and engineering and/or environmental subject matter experts. At nearly all sites visited by Academy staff, a single official or office was designated as the focal point for safety-related issues, and that official often had a direct line of access to site management. In addition, site managers, FPDs, and other staff have some responsibility for safety issues.

Overall, Academy staff found that safety is deeply ingrained in the culture of EM's federal workforce. According to senior DOE officials, EM's overall safety regime, in terms of both nuclear and industrial safety, is among the most advanced and proficient within DOE. However, both HSS and the DNFSB have raised concerns that the quality of authorization bases and safety

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[115] In March 2006, DOE Secretary Bodman designated the three Under Secretaries (for Energy and Environment, Science, and Nuclear Security) as DOE CTAs. The Under Secretaries for Energy and Environment and Science are served in their capacities as CTAs by the Chief of Nuclear Safety. The Under Secretary for Nuclear Security, who also is the Administrator for NNSA, is served in this capacity by an analogous but distinct organization, the Chief of Defense Nuclear Safety.

[116] Full text: <http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/p4504.html>

[117] Full text: <http://www.directives.doe.gov/pdfs/doe/doetext/neword/450/m4504-1.html>

[118] For more detail, see the following section, "Implementing Quality Assurance."

[119] In general, a site manager, deputy site manager, or other high-ranking safety official serves as a site's ISMS champion.

[120] An authorization basis, required for certain categories of nuclear facility, is a report documenting aspects of facility design and operational requirements relied upon by DOE to authorize operation of that facility.

[121] Facility representatives are responsible for monitoring the safety performance of facilities and their operations, and are the primary points of contact with the contractor for operational safety oversight. They are responsible to line management.

oversight procedures are not uniform throughout the EM complex, particularly given the decaying condition of many EM facilities due to age and wear over time. Academy staff heard similar concerns expressed about the quality of sites' procedures for managing corrective actions that result from external and internal reviews and audits. Academy staff also noted some variations in contractors' safety performance and procedures, which were due at least in part to a lack of safety requirements in requests for proposals and contracts issued by EM. Together with HSS and the CTA for Energy and Environment, EM is taking an active role to create a set of standardized contract clauses relating to safety performance for inclusion in EM contracts.

Field staff interviewed throughout the complex did not believe that strict uniformity of safety oversight procedures is needed given the diverse nature of the facilities at EM's sites. However, the Panel observed that relatively low levels of federal staff to perform safety oversight functions, an overall aging workforce, and poor bench strength in key areas of safety-related technical expertise all contribute to less robust implementation of safety guidance than might exist at a more generously-staffed agency. Although the Panel saw no clear actions that EM should take relating to safety, other than enhancing its federal staff capacity in this area, it believes that it is important that EM ensures that roles and responsibilities for safety remain clearly defined and that safety policy and oversight maintain their independence from actual operations.

Implementing Quality Assurance

Quality assurance (QA) is governed primarily by DOE Order 414.1C,[122] which defines standards and rules for QA programs throughout the DOE complex. The Order also incorporates other guidance documents such as CFR rules and professional standards. While ultimate responsibility for QA lies with federal DOE staff, Order 414.1C does include a contractor requirements document, the contents of which are largely duplicative of the overall Order.

The Academy staff found that explicit QA considerations were given an overall low degree of emphasis by EM staff in the field. While Academy staff did not conduct an investigation of QA-related incidents at EM field sites, with the exception of the Richland Operations Office, field personnel rarely placed strong emphasis on an overall QA posture for the site. Many field staff portrayed QA as being concerned primarily with overseeing the contractor's QA program, even though several of the QA criteria in Order 414.1C apply to federal staff activities rather than the contractor. Even with this emphasis on the contractor, senior EM headquarters managers indicated that field sites have been unable to ensure that QA requirements flow steadily downwards to EM contractors and subcontractors.

From an organizational standpoint, Academy staff found that while QA at the site level often was discussed as being "everybody's responsibility," in practice, actual QA responsibility was diffuse and undefined, with no clear QA champion identified. This mirrors an assessment by several EM headquarters' managers that the level of cultural importance field sites place on QA was much less than that given to other aspects of project management, such as safety, cost, and schedule performance.

[122] For full text and further information: <http://www.directives.doe.gov/pdfs/doe/doetext/neword/414/o4141c.html>

As in the safety arena, it appears that at least some of the shortcomings in the QA area are due to a lack of adequate staffing. CTA staff indicated that some EM projects have only a fraction of the QA staff that comparable projects would have in private industry. In addition, QA-related direction from headquarters also seems unclear in its expectations and definitions of an acceptable QA program, often not going much further than simply directing field staff to implement the requirements spelled out in QA-related guidance documents. There is little direction in terms of where QA responsibility should reside in a field organization. The Panel believes that these factors have resulted in QA implementation that is inconsistent and lacks rigor at the field level.

Although the Panel's impression of EM's safety regime was favorable, the Panel also is cognizant of the close linkage between safety and QA. Consequently, the Panel has some concerns about the potential impact of what appears to be a relatively low amount of management attention to QA, both in headquarters and the field. The Panel believes that some of this is attributed to the lack of a clear focal point for QA within EM headquarters. Primary QA responsibility currently lies with the DAS for Safety Management and Operations, but until recently, no organization within EM headquarters has had specific responsibilities for providing direction and oversight to EM's QA program.

As part of an overall restructuring of the COO's office,[123] EM established an Office of Quality and Standards Assurance (QSA) reporting to the DAS for Safety Management and Operations, which will be the focal point in headquarters for QA issues.[124] According to its mission and functions statement, the QSA office will "ensure that the necessary technical, safety, and quality requirements and standards are properly identified and adequately implemented for all line-item EM capital projects and major operating projects and facilities in a timely and technically defensible manner." With regard specifically to QA, the office will "provide leadership and management of a corporate QA evaluation program to oversee the field implementation of the specific QA and quality control processes" at major EM projects.[125] As of November 2007, two EM employees have been detailed to the office, two additional detail assignments to the office have been proposed, and position descriptions for additional FTE are being drafted. Field personnel interviewed by Academy staff widely expect that this new office will improve the implementation of QA within EM, particularly in terms of providing the field with a clear source of QA authority and responsibility in EM headquarters.

In March 2007, the DAS for Safety Management and Operations, through the COO, issued a memorandum announcing a complex-wide initiative to assess QA programs at EM field sites. Currently, it is focusing only on high-risk, line-item construction projects in the EM portfolio, though there is some indication that the assessments will ultimately expand to include EM's

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[123] The restructuring of the COO's office is discussed in Chapter 2, Organization and Management, in the section, "Staff Capacity in the Office of the Chief Operations Officer."

[124] The QSA office also will be responsible for other actions to ensure proper process and policy implementation. For example, it will lead the procedural and decisionmaking aspects EM TRA evaluations. The office will work with the Office of Engineering and Technology, which will conduct the actual assessment and provide technical expertise.

[125] The mission and functions statement outlines 10 major areas of responsibility for the QSA office, which are included in Appendix C, Section VI, "Policies and Guidance for EM's Safety and Quality Assurance Programs."

operating projects. **In its August 2007 Observations Paper, the Panel proposed that the DAS for Safety Management and Operations build upon EM's current assessment of QA at construction sites, and perform a general assessment of QA. This assessment should focus on: translating QA guidance into a functional QA regime at the site level in a way that accounts for existing staffing levels and organizational structure; assessing staffing requirements needed to perform QA functions at an optimal level; clearly identifying a well-qualified focal point for QA at EM field sites; and providing the QA focal point with direct lines of access to top managers at the site level.**

EM leadership agreed with the Panel's assessment of its QA regime. However, it does not plan to address this specific proposal until its own QA assessment is completed. In addition to establishing the QSA office, EM identified several measures it plans to take to improve QA implementation throughout the complex, including adding additional QA resources at the sites; establishing clear guidelines for future QA assessments; exploring the designation of a "go-to contractor" for QA site reviews; establishing a more systematic way to share QA lessons learned; and producing QA guidance tailored more closely to EM projects. In addition, EM indicated that it already is working to establish a designated QA manager at each of EM's major field sites, pursuant to lessons learned from its current round of QA assessments. While few specific timetables for completing these actions have been developed, it is clear that EM has elected to reevaluate its overall approach to QA.

FEDERAL PROJECT DIRECTORS AND INTEGRATED PROJECT TEAMS

The Panel's study of project management included not only the methods and mechanisms used to accomplish and oversee project performance, but also the organization and training of the project-related federal staff who perform these critical functions. As noted earlier, as part of its efforts to "projectize" its portfolio, EM has taken steps to certify all EM FPDs at appropriate levels of expertise as defined by the DOE Project Management Career Development Program (PMCDP).[126]

Training and Certifying Federal Project Directors

The DOE PMCDP establishes four levels of FPD certification, each with increasingly rigorous requirements in the areas of knowledge and skill requirements; training courses; experience or developmental assignments and activities; and behavioral factors. Each certification level ultimately determines the total project cost (TPC)[127] of projects an FPD may manage. Since the certification program was announced and made mandatory in April 2004, EM has worked to ensure that all of its active FPDs are certified consistent with the TPC of the projects they manage.

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[126] More information on EM's efforts to train FPDs can be found in Appendix C, Section VII, "Training and Certifying Federal Project Directors."

[127] TPC is defined by DOE Guide 430.1-1, Chapter 6, as "all costs specific to a project incurred through startup of a facility, but prior to the operation of the facility."

In its August 2007 Observations Paper, the Panel expressed a concern about the FPD certification standards, noting that the training regime failed to distinguish between the skills and training necessary to manage relatively short-term capital construction projects versus EM's operating and cleanup projects, which are often more technically complex and have longer life-cycles. **Accordingly, the Panel proposed that EM undertake a study of the appropriateness of the DOE FPD certification standards to the unique operating and cleanup projects that characterize its project portfolio and use the results as a basis to tailor a version of those standards specifically for EM FPDs.** Senior EM officials indicated that EM will enhance PMCDP training to address the need for familiarity with hazardous and radiological operations for new EM PMCDP Level 1 candidates, and also will reexamine its overall FPD certification process. EM expects to complete this effort by February 2008. EM has no plans, however, to evaluate the suitability of the certification levels themselves.[128]

Another issue related to the FPD certification process that was identified by many EM staff was that EM's career track promotes to management positions individuals with technical backgrounds who have not had adequate management training or experience.[129] The FPD certification program does not have a management/leadership focus. To address this shortcoming, Assistant Secretary Rispoli has encouraged FPDs to attend an EM Project Management Case Study Workshop, which is part of EM's Executive Leadership Program—a mandatory program for all EM senior executive level staff. The case studies, which correspond with the various requirements outlined in Order 413.3A and associated DOE manuals, are approached from a manager's perspective, and one goal of the program is to develop the management skills of the participants. Thus far, FPDs and other non-managerial personnel from the Richland Operations Office and ORP have participated in the training program. Participants' post-training evaluations from those sessions generally were positive. However, because the workshop is part of a senior executive training program, its value to FPDs has not yet been fully demonstrated.

> **The Panel recommends that EM pilot test a project management case study workshop aimed specifically at federal project directors (FPDs) and, if successful, include the workshop as mandatory training at some or all FPD certification levels. EM also should use lessons learned from FPDs at the Office of River Protection and the Richland Operations Office who have already attended the workshop to develop the pilot and help make this determination.**

The Panel believes strongly that this training curriculum could benefit FPDs and that EM should take appropriate steps to determine whether to mandate it. Particularly in light of EM's plans to

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[128] EM has indicated that, for the purposes of determining the certification level required for a project, only the cost of the near-term baseline is considered. This would tend to minimize the difference between EM projects and projects in other DOE programs in terms of the level of annual funding required.

[129] The Panel addresses this issue broadly in Chapter 5, Human Capital Management. In its August 2007 Observations Paper, the Panel proposed that EM institute leadership training as a means to provide current and future supervisors and managers with needed competencies.

increase its federal field staff based on the Best-in-Class initiative, it is critical that the FPDs who will oversee this staff have adequate managerial as well as technical training.

Implementing Integrated Project Teams

EM also has worked to establish for its projects integrated project teams (IPTs)—multi-disciplinary, matrixed organizations of project staff as prescribed by Order 413.3A—that bring together for each project the various disciplines that are important to the project's success, including contracting officers, safety- and quality-oriented personnel, legal counsel, and subject matter experts in relevant technical areas. Discussions with field staff indicated that the IPT concept increasingly is seen as a pillar of EM's project management procedures. However, the effectiveness of the IPT concept was limited by several factors, including overall low federal staffing, lack of available, clearly-identified subject matter expertise, and lack of standard operating procedures for IPT members.

Overall, the Panel believes that the IPT concept is a critical component of EM's project management regime. However, its success will depend on the availability of adequate staff and needed expertise.

CHAPTER 5
HUMAN CAPITAL MANAGEMENT

In the last 6 years, EM's onboard workforce has decreased by about 46 percent. This significant downsizing of the organization was the result of prior management policies based on the stated goal that EM was to "go out of business" as quickly as possible, and that with the appropriate contract and contractor, federal oversight should require fewer federal personnel. Living on the brink of reductions-in-force and a DOE A-76 outsourcing study that included EM's scientific and engineering workforce, many employees, especially younger ones with less career tenure, exercised personal self-management and departed EM for more secure employment. The net result was a significant loss of skills and talent within EM's federal workforce.

With the arrival of Assistant Secretary Rispoli, EM experienced a dramatic shift in its future vision. A reassessment of EM's project baselines showed that several sites have projects that will continue for many years into the future, and the goal of "going out of business" was replaced by a long-term future for EM that includes new mission responsibilities. With this change in the organization's end game, EM's management philosophy and human capital climate began to change. While EM continued to accelerate the closure of sites, the Assistant Secretary initiated changes that stabilized and increased the role of the federal workforce in contractor oversight and depended increasingly on the staff's capacity to perform as project managers, acquisition professionals, and safety professionals, as well as on a wide range of financial and managerial expertise. Although these changes reduced the staff's anxieties about their future and slowed the exodus from the organization, there has yet to be a reassessment within DOE of the staffing levels needed for EM to execute its newly defined, long-term mission. This chapter provides benchmarking data that indicate that EM's field operations are understaffed. It also discusses problems EM is experiencing in its efforts to fill existing vacancies.

Throughout this study, EM employees and managers discussed the issues surrounding EM's staffing levels and raised a variety of other human capital/human resources (HC/HR) concerns, which the Academy Panel and staff discussed extensively with EM and DOE headquarters HR staffs. In its three Observations Papers, the Panel presented several proposals regarding EM's HR service delivery; HC management and challenges; and workforce environment.[130] The ongoing interactions and continuing discussions between the Panel, EM leadership, and Academy staff have resulted in EM taking action on most of the Panel's proposals.

This chapter summarizes and updates the major observations, conclusions, and proposals presented in the Panel's three Observations Papers, reports on the actions EM has taken to respond to the Panel proposals, and offers final Panel recommendations for immediate action to address EM's significant human capital challenges.

[130] A complete list of all prior Panel proposals to improve the EM HC/HR function can be found in Attachment 1 to this report.

EM'S WORKFORCE PROFILE

According to August 2007 data,[131] the EM workforce was 1,370—276 employees in headquarters and 1,094 in the field. As noted above, this on-board strength represents a 45.2 percent decrease from EM's FY 2001 workforce of 2,500. The 1,094 federal field staff manage the contractual output of a contractor workforce estimated at 34,000.[132] Determining a federal workforce with the appropriate skills to carry out all of the acquisition and project management responsibilities to acquire and oversee this contractor workforce, which are detailed in chapters three and four of this report, is one of the major challenges facing EM. Creating strategies and plans to develop and retain its workforce and to identify and address all HC issues facing the organization presents other challenges.

HUMAN CAPITAL MANAGEMENT PLANNING

In November 2005, HR specialists from EM headquarters and field sites prepared a Human Capital Management Plan (HCMP) that included a comprehensive assessment of EM's vulnerability to workforce retirement and analyzed EM's key competency areas, e.g., acquisition, project management, technical, and other disciplines. It also outlined a variety of HC strategies to acquire and develop needed competencies within the future workforce, including leadership development, management development, succession planning, and workforce replenishment.[133] Interviews revealed that EM line managers had only limited involvement in the development of HC strategies.

HC Challenges

Throughout this study, EM's leadership, senior management officials, and staff made numerous positive statements about the EM workforce and Assistant Secretary Rispoli's actions to build an organizational culture that values the workforce. However, they also voiced several significant HC-related concerns. These concerns, summarized below, collectively communicated a relatively high level of anxiety relative to EM's short- and long-term ability to fulfill mission requirements.

1. When assigning staff to the new headquarters offices, the 2006 reorganization gave high priority to employee preference rather than organizational requirements, which reduced the competency level in some offices.
2. The past "culture of demise" that accompanied the organization's mission for closing sites had negatively affected the workforce pipeline and EM's ability to recruit new talent.
3. In the engineering and general physical science disciplines, EM's 2 largest occupations, approximately 40 percent of the employees will be eligible to retire within 5 years.

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[131] The data in this section were taken from EM's October 2007 Draft Human Capital Management Plan.
[132] Staff level details and staff/contractor ratios are included in Appendix D, Section I, "EM Workforce Profile."
[133] In July 2006, EM refined the HCMP.

4. Hiring controls, which required the Principal Deputy Assistant Secretary's (PDAS) approval for all hires, even those likely to be filled through internal promotions, had been in place for some time and significantly delayed the hiring process.[134]
5. As discussed below, EM headquarters managers had long-standing concerns regarding the quality of HR services provided by DOE headquarters.
6. Several individuals interviewed believed that because, historically, employees were placed into positions for which they lacked competence, poor performance materialized and has been tolerated. They also believed that reversing this performance pattern will be time-consuming and difficult, that management will not address the issue, and, therefore, that the problem will continue.
7. In order to meet Assistant Secretary Rispoli's expectations that EM assume greater responsibility for contractor oversight through effective project management techniques and enhanced procurement operations, additional staff and competencies are required immediately. These hiring requirements necessitate innovative and immediate HC solutions.
8. EM needs to build on the strengths and improve on the weaknesses identified in the 2006 Federal Human Capital Survey of employees.[135]

The Panel commended EM's development of its HCMP, but suggested that field and headquarters line personnel needed greater input and buy-in on the strategies to be employed to meet EM's HC challenges. To accomplish this, and to ensure that EM has an effective process in the future for involving line personnel, **the Panel proposed in its September 2006 Observations Paper that EM establish a Human Capital Steering Committee (HCSC), comprised of headquarters and field managers and financial and HC/HR advisors, responsible for corporate agreement and oversight of critical HC initiatives and for ensuring that these initiatives are communicated throughout the complex.** EM adopted this proposal, and the EM HCSC has met quarterly to address a variety of HC issues. The Assistant Secretary also recently assigned the PDAS responsibility for providing strategic guidance and oversight to the development and implementation of EM's HC strategy. The Panel is pleased that EM has accepted this proposal and encourages the EM HC Steering Committee to meet, with PDAS participation, at least quarterly to monitor and provide advice on all HC initiatives**.**

EM'S HUMAN CAPITAL/HUMAN RESOURCES SERVICE DELIVERY CONFIGURATION

Providing HR services to EM's workforce is the responsibility of several different offices. The May 2006 reorganization elevated the significance and organizational placement of EM's HC/HR activities by establishing a DAS for Human Capital and Business Services. In the

[134] The EM hiring controls were lifted by the PDAS in October 2006, pursuant to an Academy Panel proposal.
[135] EM survey results are discussed in the "Workforce Environment and Diversity" section of this chapter.

original design for this office,[136] a Human Capital Planning office reported to the DAS, and its functions included the analysis of workforce readiness needs and the corresponding development of HC strategies and programs. Also reporting to the DAS was a Headquarters Personnel and Information Technology office, which included the IT function and preliminary HR transactional support, such as proposing position classifications and developing job analyses. The office also served as the day-to-day liaison between EM and the DOE Office of Headquarters and Executive Services (Headquarters HR), which actually performs for EM headquarters all HR servicing activities, e.g., staffing, position classification, labor/employee relations, benefits, and personnel action processing. The Department has not delegated to EM the authority to execute these actions.

At EM-owned sites, EM HR staff provide day-to-day HR support. EM's two largest sites, the Richland Operations Office and Savannah River, have HC/HR offices that are responsible for providing strategic advice and operational HR services to their workforces. The Richland Operations Office also services the Office of River Protection. The EMCBC HR office provides support to itself and to EM's field sites that are not large enough to have their own onsite HR office.[137] The Department has delegated to these EM field HC/HR operations full authority to perform HR servicing. At non EM-owned sites, HR services for EM staff are provided through cross-service support agreements with the DOE landlord organizations where the EM sites are located. For example, at Idaho and Oak Ridge, EM staff receive HR support services from the host organizations, Nuclear Energy and the Office of Science, respectively.

In its September 2006 Observations Paper, the Panel noted that EM HR servicing ratios for both direct and cross-serviced support (with the exception of the headquarters DOE and Oak Ridge HR offices) are generous by comparison to ratios in many federal agencies where service delivery strategies have been reengineered and efficiencies have been gained, particularly through the automation of classification and staffing functions.[138] While DOE and EM have implemented similar HR automation, the ratios do not suggest that savings in HR staffing were an agency-wide outcome of the automation investment.

HUMAN RESOURCES SERVICING CONCERNS

Field Satisfaction with Operational HR Servicing

Field interviews with both management and non-supervisory staff found a fairly consistent mix of positive, negative, and neutral comments regarding HR servicing. DOE does not impose specific service level standards on its HR offices or require servicing metrics beyond what the Office of Personnel Management (OPM) requires, nor has EM developed specific standards or

[136] At the August 2006 Panel meeting, EM leadership announced plans to reorganize this office, which is discussed in the "Human Capital/Human Resources Competence" section of this chapter.
[137] The smaller sites generally have a staff member who is the liaison between the site and the EMCBC.
[138] See Appendix D, Section II, "EM's Human Capital/Human Resources Delivery Configuration" for more information on HR servicing ratios.

service metrics to steer productivity of its HR operations, which could be particularly useful as EM strives to meet its workforce replenishment objectives.

Although field comments regarding the quality of HR servicing were reasonably balanced throughout the complex, field interviews highlighted concern with the EMCBC's servicing of some geographically remote, small-site clients. In those instances, management representatives indicated that while the EMCBC was doing well in providing recruitment services, they needed more HR assistance with their day-to-day supervisory issues, such as preparing position descriptions and taking performance-based actions. In one fairly small-sized location, management was even considering hiring a full-time HR staff member just so the site would be able to better handle those issues.

EM-Funded Employees at NNSA Sites

Interviews with EM managers at NNSA sites revealed some unique concerns with HR servicing for EM staff at those locations (3 EM staff at Los Alamos and 24 at the Nevada Site Office). Comments from interviewees suggested that HR servicing often was complicated by the continuing need to explain EM-specific issues to the NNSA HR service providers whose mission familiarity is understandably aligned with NNSA. Academy staff also found a disturbing, long-term issue concerning the administrative management of the EM workforce at NNSA sites. For several years, EM employees at NNSA sites were assigned to an obsolete organizational entity that had been disestablished when the NNSA Albuquerque Service Center was created. While the employees continued to be EM employees, NNSA supervisors provide their day-to-day oversight at various sites. Each year when appraisals came due, the question of, "Who should rate these employees—should it be EM or NNSA?" recurred, and employees complained that as a result their appraisals often were late. While DOE HR and the General Counsel's office made several efforts over time to resolve this situation, and both NNSA and EM participated in these efforts, a solution to the lingering issue was agreed upon only recently after the Panel discovered this long-standing issue.[139]

While the Panel was pleased to see that a resolution to this long-standing issue is now being implemented, the Panel still has concerns that the HR/HC needs of the EM staff at NNSA sites are not sufficiently visible within EM, and that this small component of the EM workforce is not well supported by the current HR servicing arrangement. During the past year, the EMCBC assumed all HR servicing for the EM employees at two NNSA sites—Oakland and the Separations Process Research Unit.[140] Given this fact and that the EMCBC already services EM's other small sites, the Panel believed there was ample reason to think that the EMCBC could provide quality service to the EM employees at other NNSA sites as well. **The Panel proposed in its August 2007 Observations Paper that EM assess the feasibility of having the EMCBC provide HR servicing to EM staff at NNSA sites.** The Panel observed that incorporating this HR servicing into the EMCBC offered the potential of better integrating into the EM mainstream the HC/HR needs of the EM staff at NNSA sites. Since August, EM

[139] The agreement involves clarifying that NNSA supervisors will be responsible for day-to-day supervision of these EM employees and for preparing their annual performance appraisals.
[140] NNSA closed the Oakland Operations Office, which had been providing HR services to those EM staff.

consulted with NNSA to explore the feasibility of the proposal. To date no agreement has been reached. The Panel urges EM to work actively to reach an agreement with NNSA that would allow the EMCBC to provide HR services for the EM staff at all NNSA sites.

HR Servicing Concerns in EM Headquarters

The subject of HR servicing for EM headquarters has been a contentious one. From the outset of this study, EM headquarters managers expressed concerns about the HR servicing support provided by the DOE Headquarters HR office. These concerns came to a head when EM submitted to DOE headquarters the recruitment and processing actions needed to implement the 2006 reorganization. When the actions were not completed as timely as desired, EM sought additional HR authority to provide either fully or partially its own HR support. DOE headquarters denied the request. DOE policy is that the DOE Headquarters HR office will provide servicing for all DOE workforce located in headquarters.[141]

Interviews with DOE and EM officials reveal opposing viewpoints on the causes for the processing delays. EM believed it did the appropriate pre-planning and coordination needed to expedite processing. However, DOE headquarters indicated that EM's pre-planning analysis and documentation included technical flaws, which generated processing delays. It also indicated that prior communication and advance problem solving between the two organizations had been insufficient to avoid implementation glitches.

In its September 2006 Observations Paper, the Panel proposed that EM and DOE headquarters work together to develop and implement an HR strategy that addressed all of EM's current and anticipated personnel needs and HC initiatives. Initially, the Department's Chief and Deputy Chief Human Capital Officer and EM's PDAS and DAS for Human Capital and Business Services met weekly to track the progress of all EM personnel actions. For these meetings, EM's vacancies were listed in priority order, and for each vacancy, information was provided on each step in the process and actual completion dates. Although DOE does not have departmentally tailored HR servicing standards, EM developed a baseline for completing each action based on DOE headquarters' past performance timeframes.

In January 2007, however, Assistant Secretary Rispoli sought and received authority from the Deputy Secretary for the EMCBC to provide certain HR servicing (preliminary classification and recruitment processing) to EM headquarters. To effect this change, EM and DOE staffs worked to transfer business practice knowledge so that the EMCBC could assume these responsibilities. These efforts resulted in a draft agreement that recorded the agreed-upon processes. But the agreement did not clarify the long-term intent of this servicing arrangement. EM wants permanent authority for the EMCBC to provide full HR service to EM headquarters. DOE Headquarters HR initially had reservations about the permanency of the arrangement, but has become more comfortable with the proposal. In order to effectively plan and manage EM's HR workload and to avoid problems in the future, the Panel believed that DOE HR and EM must agree to a long-term solution that addresses the concerns of both parties. **In its August 2007**

[141] There are two exceptions to this policy at present—the Offices of Science and Legacy Management. Further exceptions are not planned.

Observations Paper, the Panel proposed that DOE Headquarters HR and EM bring to closure as soon as possible all issues and questions related to long-term HR servicing for EM headquarters so future objectives and work requirements are clear to all parties and staff time does not continue to be consumed on this matter.

This matter remains unresolved. The Panel is concerned that this issue has been allowed to linger, particularly given the HR challenges discussed in this chapter that EM is facing, and believes that immediate, interim action is needed to help DOE Headquarters HR and EM reach a final resolution.

> **The Panel recommends that while DOE and EM continue to discuss this issue, a pilot demonstration be conducted that gives full delegated authority to the Environmental Management Consolidated Business Center to provide HR servicing to EM headquarters.**

EM's Ability to Fill Staff Vacancies

The situation in EM headquarters is part of a larger problem with EM's ability to hire staff in a timely fashion. Data reveal that despite the field's general satisfaction with its HR servicing, EM's site offices struggle to fill their vacancies. During site visits, Academy staff found that every site had vacancies in several key positions, including supervisory, technical, and administrative positions. Perhaps the most glaring example of this was at the Office of River Protection, where 8 of the site office's 17 supervisory/managerial positions were filled with acting managers. There are several reasons why EM has had difficulty filling vacancies, not the least of which is that the nuclear energy industry went into a significant decline after the Cold War ended, and this country is in the process of rebuilding the expertise needed to address the complex technical problems associated with EM's work. In many technical areas, resources are scarce, and EM is not the only organization seeking this expertise. It is competing with numerous public and private entities as the nuclear industry once again expands.

The attrition level now facing EM, primarily due to retirements, compounds the problem of attracting new staff to the organization. Based on August 2007 data, approximately 22 percent of EM's workforce is eligible to retire immediately, and 40.3 percent is eligible to retire in 5 years. One senior EM official noted that for every two people hired, three people leave. With that as a pattern, the Panel is increasingly concerned about what appears to be a slow "employment erosion" within the organization.

Throughout this study, EM staff, particularly in the field, repeatedly expressed their concerns about the lack of bench strength in their offices. As of September 2007, EM's FTE ceiling was 1,495 and EM's onboard strength was approximately 1,380 employees. This staff vacancy rate is not significantly different than it was a year ago, despite EM leadership lifting the hiring restrictions on its site offices, noted above, and urging sites to fill their vacancies. At this rate, EM's employment level will underutilize the FY 2008 FTE ceiling by approximately 115 FTE.[142]

[142] With an estimated FTE cost of $170,000, this represents $19,550,000 of unused program direction funds.

The Panel is very concerned about EM's ability to fill its existing vacancies. EM's successful execution of its mission—to reduce the risk and clean up the environmental legacy of this country's nuclear weapons program—is of vital importance. The Panel was encouraged to learn that the EMCBC is working closely with the sites to identify critical positions that can be hired using centralized hiring practices. The following functional areas will comprise the first round of centralized hiring: construction management, project control, property management, cost estimation, and acquisition management. This will allow EM to selectively target recruiting resources and announce positions for multiple vacancies, a step intended to increase hiring success.

Recruitment Strategies

To help infuse the organization with new talent, EM implemented the EM Career Intern Program (EMCIP), which is designed to provide a continuing source of highly competent technical personnel. However, several field staff questioned the effectiveness of an intern program to address EM's immediate technical needs. They doubted whether someone right out of school had the expertise needed to oversee EM's complex contracts and ensure that work done by contractors complies with the terms and conditions of those contracts. They believed that potential employees needed some experience in designing, decontaminating, and decommissioning facilities before working for EM. Although they agreed that intern programs could have a viable place in the EM workforce replenishment solution, they suggested that EM's HC/HR offices needed to take a multifaceted recruitment approach.

The Panel believes that EMCIP is an excellent program to serve as a pipeline of talent for the future. However, EM lacks depth of experienced staff in its critical occupations. In addition to its intern program, EM needs to develop other proactive recruitment strategies to remedy skill deficiencies at the mid, senior, and executive levels of its workforce. Several organizations, including the Academy, have conducted research in the recruitment area from which EM might benefit.

The Partnership for Public Service, an organization that works to help the federal government become an employer of choice, has emphasized the need for mid-career hires within the federal sector. In its September 2004 report, *Mid-Career Hiring*, it acknowledges that all good organizations develop talent from within, but because the number of mid-career employees who will retire in the coming years will likely exceed the number of promotion-ready candidates who are already in the federal government, federal agencies must take steps to replenish its mid-career workforce. EM is facing this HC challenge because of prior efforts to reduce the size of the EM workforce and a lack of career development programs for the remaining workforce. Now that a longer-term EM mission has been defined, those factors contribute to EM's immediate need for experienced technical people who can join its workforce and perform the work that needs to be done. In addition, seasoned personnel will be an invaluable asset in providing worthwhile developmental experiences to EM interns.

The Partnership for Public Service also has helped several agencies revise and streamline their hiring processes. In the summer of 2004, it provided assistance to NNSA, which was recruiting a senior scientific position. NNSA's recruitment effort had lasted for months and yielded only

three applicants and no selection. The Partnership for Public Service consultants revised the vacancy announcement to make it more informative and the position more desirable. A marketing strategy was created that emphasized the importance of the agency's mission, why one should want to work at NNSA, and the competencies required to perform the work. They used the Internet and other job boards to conduct a proactive search for candidates. The effort produced 28 qualified applicants for the critical position.

The Academy also has cited a number of effective recruiting tactics[143] similar to those practiced by the Partnership for Public Service, such as:

- developing data and metrics on recruitment and hiring
- marketing the organization: "Create a vision; sell the image."
- using web-based recruitment tools
- mapping and streamlining the employment process
- developing and using candidate management and tracking systems
- encouraging on-site visits
- using the organization's best employees as recruiters
- using current flexibilities, such as recruitment bonus/relocation allowance
- emphasizing the attractive federal benefits package (health, life, thrift plan, and annual and sick leave), as well as agency work-life programs, such as alternate work schedules

With EM facing stiff competition for many of its technical positions, the Panel believes that EM will need to adopt creative hiring strategies such as those listed above and use all of the flexibilities available to it if it is to successfully staff up to its allocated FTE ceiling. Because the vacancy problem exists throughout the EM complex, the Panel believes that EM needs to take an organization-wide approach to this problem. The DOE Headquarters HR Office also needs to lend its support to this critical effort by helping to remove any roadblocks that might arise and serving as an advocate for EM's efforts. To the extent possible, the Panel also believes that the EMCBC should provide assistance to site offices that are experiencing difficulties with their recruiting and hiring efforts.

The Panel recommends that EM's Human Capital Planning office, working in concert with DOE Headquarters HR and the Human Capital Steering Committee, develop innovative recruitment strategies to attract and hire the junior-, mid-, senior-, and executive-level staff required to achieve EM's current and future mission objectives. The Panel further recommends that,

[143] National Academy of Public Administration, *The Quest for Talent: Recruitment Strategies for Federal Agencies*, 2001.

to the extent that resources permit, the EMCBC help sites with their recruiting and hiring efforts.

WORKLOAD FORECASTING AND STAFF ALLOCATION

The inability of EM to staff up to its FTE allocation is only one aspect of EM's staffing problem. As noted earlier in this report, the Academy Panel found that there appear to be significant shortcomings in the number of staff allocated for such critical functions as project control officers, safety and quality specialists, and contract administrators. The Best-in-Class Project and Contract Management initiative, discussed in the Project Management chapter, also supports the Panel's view that EM lacks adequate staff in several technical areas.

Interviews with EM managers revealed that workload forecasting and the allocation of positions against workload were generally based on opinion rather than on objective workload-based data. In the Senate Report on the FY 2007 National Defense Authorizations, the Committee on Defense Authorization advised EM that it was "un-persuaded that the Department has analyzed itself in terms of its ability to reassign, retain, or rebalance within its current 1500 employees; and that before EM seeks additional funds for consultants or federal staff, it must first demonstrate this type of analysis has occurred." The Panel noted that the absence of a workload measurement and planning system in EM presented HC vulnerabilities for the organization and failed to comply with the Committee's direction for objective-based analysis. Absent such a system, there was evidence that EM's hiring was overly driven by factors such as budget; A-76 studies; and political and EM leadership decisions. **In its January 2007 Observations Paper, the Panel proposed that EM develop a workload forecasting system for the complex so that workforce resource planning can be calibrated to its mission requirements.**

In response to the Panel's proposal, EM asked Academy staff to conduct benchmarking reviews on workload planning approaches from which EM might benefit. The review considered internal workforce/workload measurement approaches utilized by EM headquarters, the Richland Operations Office, the Federal Technical Capability Program, and the Facility Representative Program Requirements. Academy staff also examined the workload planning methodologies used by:

1. the Nuclear Regulatory Commission (NRC)
2. the Naval Facilities Engineering Command (NAVFAC)
3. the Army Corps of Engineers (COE) [144]

[144] Academy staff selected federal methods to review given their applicability in substantiating staffing/budget needs at the agency, department, Office of Management and Budget, and congressional levels. Selected organizations advised the study team that their projection methods have been very helpful in this regard. Summaries of the NRC, NAVFAC and COE workload planning methodologies are included in Appendix D, Section III, "Workload Planning and Staff Allocation."

After examining the information received from the benchmarked agencies, Academy staff used the NAVFAC and COE workload forecasting methodologies to project what EM's staffing level would be using those systems. Because COE and NAVFAC projects generally have lower life-cycle costs (LCCs) than EM projects, Academy staff asked those organizations to estimate what their anticipated FTE requirements would be for a representative $25 million environmental restoration project so that the results could then be extrapolated for comparison with EM's larger LCC projects. Both COE and NAVFAC provided the information requested. However, their planning officials cautioned that the real-life staffing results could differ drastically depending on the acquisition/project execution approaches used, as well as the specific project milestones associated with the actual project phase (e.g., study/design or remediation/construction). With that caveat, Table 8 summarizes the COE and NAVFAC factors for this notional project.

Table 8: COE/NAVFAC FTE Projections for Notional $25 Million Project

Question	COE Response	NAVFAC Response
What percentage of the $25 million would be dedicated to project staffing?	17.7%	10%
What number of FTE would this percentage purchase?[145]	44 FTE	23.5 FTE
Of the overall number of projected FTE, what number would be at organization levels above the project level?	12 FTE	3.25 FTE
Of the overall number of projected FTE, what number would be at the project level?	32 FTE	20.25 FTE
What percentage of the $25 million would be used for staffing at the project level?	12.8%	8.1%

Next, Academy staff took the project-level staffing percentages that COE and NAVFAC provided—12.8 percent and 8.1 percent, respectively—and applied them against the LCCs of some current EM projects. This produced a total FTE requirement for the project life cycle, which was then divided by the cost per EM work year (i.e., $170,000). That result was then spread over 20- and 30-year life cycles (which are typical of many EM projects) to approximate what EM staffing would be if the COE and NAVFAC workload forecasting factors were used. The results are shown in Table 9 on the following page. There are several cautions to this approach. The comparison assumes that EM staffing would be spread evenly over the life cycle of the project. This assumption clearly does not reflect actual EM staffing practices, but it is useful for purposes of comparison. In addition, EM does not project future staffing costs at the same time as it projects future contract costs.

[145] COE and NAVFAC apply labor costs at $100,000 per FTE.

Table 9: EM Staffing Using COE/NAVFAC $25 Million Project Scenario for Selected EM Sites

EM Site*	Project LCC *(rounded to nearest tenth of billion)*	Annual FTE** using COE Staffing Factor (12.8%) with 20-Year LC	Annual FTE** using COE Staffing Factor (12.8%) with 30-Year LC	Annual FTE** Using NAVFAC Staffing Factor (8.1%) with 20-Year LC	Annual FTE** Using NAVFAC Staffing Factor (8.1%) with 30-Year LC	EM FY 2008 FTE***
SR	$33.9	1276	851	808	538	339
RL	$23.7	866	595	565	376	245
ORP	$56.4	2,123	1,416	1,344	896	112
CBFO	$5.2	196	131	124	83	50
PPPO	$14.4	542	361	343	229	45
ID	$7.8	294	196	186	124	67
OR	$6.0	226	151	143	95	83
LASO	$1.5	56	38	36	24	6****
NSO	$2.2	83	55	52	35	30****
LLNL	$.12	5	3	3	2	7****
Staffing Totals (based on COE/NAVFAC staffing factors)	**n/a**	**5,667**	**3,797**	**3,604**	**2,402**	**984**
EM Staffing as % of Staffing Totals	**n/a**	**17.4%**	**25.9%**	**27.3%**	**40.9%**	**n/a**

Source: LCC figures from March 2007 EM Quarterly Project Review.
*LASO is the Los Alamos Site Office; NSO is the Nevada Site Office; and LLNL is the Lawrence Livermore National Laboratory.
**FTE cost of approximately $170K per man-year provided by EM.
***FY 2008 FTE ceilings provided by EM.
**** Assumes matrixing of Albuquerque Service Center staff to augment site staff.

As shown in Table 9, applying the COE and NAVFAC workload forecasting factors produced staffing levels anywhere from two to six times the amount of staff EM actually had on the ground, depending on which assumptions were used, and significantly more FTE requirements than are currently provided in the FY 2008 budget.[146] Even though there are substantial differences between EM and NAVFAC/COE in terms of organizational structure, nature of projects, and approaches to contracting and project management, the differences in staffing levels cannot be totally discounted. The data also support Panel observations made during the course of this study that several occupations appeared to be understaffed, including project control officers and cost-price analysts. There also were indications of possible understaffing in several other areas, including quality assurance oversight, acquisition, and contract administration. The data presented, together with criticism from the Government Accountability Office, the DOE Inspector General, and congressional sources, indicate that this is an area that

[146] Additional information on the composition and distribution of the EM workforce at the time of the benchmark review and the COE and NAVFAC workload planning methodologies are found in Appendix D, Section III, "Workload Planning and Staff Allocation."

calls for examination. A number of areas would have to be researched, however, before it would be possible to make a more direct comparison of EM staffing with that of COE and NAVFAC, such as:

- which functions COE and NAVFAC have retained internally that EM performs using contractors
- which functions are performed for COE/NAVFAC and EM by others (e.g., landlord sites) on either a cost-free or reimbursable basis
- the degree to which staffing is influenced by EM's contracting approaches
- the degree to which the workforce grade/cost structure (i.e., estimated at $170,000/work year in EM and $100,000/work year in COE/NAVFAC) influences productivity
- the degree to which EM is satisfied that its current project management approaches are enabling it to optimally meet mission requirements
- the degree to which EM productivity may be a byproduct of workforce underutilization versus actual understaffing
- a range of other pertinent workload forecasting factors

The Panel appreciates the efforts EM is making to address the Panel's proposals regarding workload forecasting, such as seeking best practices from its internal methodologies, requesting the benchmarking review, and hiring a contractor to assist in developing a workforce forecasting methodology. The Panel believes that a sound workload/workforce forecasting methodology will serve as a foundation for EM's future HC initiatives. However, a critical first step in workload planning is identifying the various functions an organization performs. The next step would be grouping similar or like functions that are performed in more than one organizational unit. The degree to which EM can standardize its functions is not known at this time. However, organization and position design analyses, which assess attributes such as occupational distribution, pay plan utilization, and supervisory ratios, can help pinpoint opportunities for standardization or identify poor organizational and/or position design.

I**n its August 2007 Observations Paper, the Panel proposed that EM establish a rigorous staff requirements methodology and include an organization-wide analysis of its occupational distribution, pay plan utilization, and supervisory ratios as part of its overall workload planning initiative.** The Panel also noted that COE's and NAVFAC's staff forecasting practices, which develop staffing projections for the life of a project at the same time as a project's total contract costs are being developed, improves overall project management by providing visibility for long-term staffing requirements at the same time as long-term project costs are considered. These forecasting practices have helped COE and NAVFAC gain departmental, Office of Management and Budget, and congressional support of staffing/budget requirements early in a project's development, and has facilitated HC planning activities by providing additional clarity and time for such initiatives. **In its August 2007 Observations Paper, the Panel proposed that EM develop long-term staff estimates for its projects and that they be integrated with long-term project costs.** EM has reported it will adopt this proposal as a "next step." EM plans to use the Human Capital Steering Committee to tie this

effort to project management procedures. When the Panel expressed some concern that workload forecasting needed to be examined from a project management as well as a human capital perspective, EM included the DAS for Acquisition and Project Management as a member of the EM HCSC.

The Panel is concerned about EM's staffing allocation and believes there are compelling reasons for EM to immediately hire above its current FTE allocation. The most compelling reason is the change that has occurred in the organization's mission. EM's prior leadership reduced EM's FTE ceiling with the understanding that EM was "going out of business" in the near future and that some of its functions would move to other organizations. Current EM leadership has articulated a different vision for EM's future. A reassessment of EM's project baselines indicate that several sites have projects that will continue for decades, and EM has been given a new long-term role that includes addressing the nuclear and chemical waste generated by today's nuclear activities. The reductions in EM's staff allocation from FY 2001 to the present do not adequately consider EM's new future vision.

The Panel believes that the EM mission is among the most critical within the federal government. EM is responsible for one of the largest, most diverse, and technically complex environmental cleanup programs in the world. Assistant Secretary Rispoli asked that the Academy examine EM's human capital management operations as part of this study, believing that many of the problems in EM's acquisition and project management activities, which are critical to EM's success, stemmed from human capital management issues. The Panel concurs, and, as discussed throughout this chapter, it has made several proposals to EM during the course of this study, such as eliminating centralized hiring controls, resolving Headquarters HR servicing problems, and developing a complex-wide HR servicing strategy including metrics, that were designed to increase EM's ability to have adequate staff available to oversee projects and perform its critical mission.

Although adopting the Panel's proposals will improve EM's human capital management operations, the Panel believes that EM's current staffing allocation presents a significant risk to the program's success. At the October 2007 Panel meeting, DOE senior leadership revealed that DOE was embarking on a Department-wide workforce analysis effort. However, the Panel believes that action is needed immediately to increase EM's employment levels to counter the staffing decreases EM has experienced in recent years. The Panel was particularly struck by the large disparity between EM's current FTE allocation and estimates of what the allocation would be using the COE/NAVFAC staffing methodology. Although the Academy staff analysis was a rough estimate, the increase in the number of EM staffing using the methodology (two to six times EM current staffing levels) strongly suggests that the EM FTE ceiling is too low. The Best-in-Class Project and Contract Management initiative discussed earlier substantiates this finding. The Panel is confident that the rigorous workload analysis it has recommended will validate an immediate increment of 200 employees and suggest the need for additional staffing as well.

> **The Panel recommends that while EM develops a workforce planning methodology for the future and DOE headquarters conducts its workforce analysis for the Department, EM be authorized to hire immediately an**

additional 200 employees. Given the magnitude of EM's current staffing shortfall and the urgency of its hiring predicament, the Panel also recommends that EM propose to DOE headquarters that the EMCBC conduct this recruitment.

HUMAN CAPITAL/HUMAN RESOURCES COMPETENCE

The process EM used to assign staff to the new headquarters offices that resulted from the 2006 reorganization was highly participative. Staff were asked to identify, in order of preference, their top three choices for where they wanted to work. EM senior management reviewed the employees' requests and assigned staff to their new positions after ensuring that each person met the job requirements. Many interviewees noted that this process gave too much emphasis to employee preferences rather than the competencies to perform the work, which resulted in some mismatches between staff assignments and required competencies. This was especially true in the HC Planning and Headquarters HR and IT offices where, despite the generous numbers of staff in those offices, they lacked sufficient technical competence in the HC/HR field to address the significant HC/HR challenges facing the organization. Prior to the reorganization, the HC Planning office had two staff members with HC/HR expertise who were reassigned out of the office, and other staff with technical backgrounds who did not possess HC/HR competencies, were assigned to the office. Reported reasons for these reassignments were that EM leadership was attempting to fulfill employee preferences and that it was positioning technical staff as a means to minimize any undesired impact of the A-76 competitive sourcing action, which has since been cancelled. Regardless of the reasons, the net effect on staff HC/HR competency remained the same.[147] DOE and EM officials have been concerned about the limited HC/HR staff expertise in EM's HC Planning and Headquarters Personnel offices, and that this capacity shortage negatively impacted EM's ability to execute its HC/HR responsibilities.

In its September 2006 Observations Paper, the Panel expressed concerns with the shortage of HR/HC expertise it found in EM headquarters, particularly in the HC Planning office, and with EM's practice of staffing that office with technical staff and retraining them in HR/HC competencies as opposed to hiring HC professionals. Many of the HC planning requirements EM is confronted with require solutions in the very near term. While technical staff can offer valuable perspectives on many of these issues, any useful retraining of technical staff in needed HR/HC competencies is not a short-term proposition. In addition, this practice appeared to conflict with the concern expressed by many supervisors and managers regarding the limited bench strength of EM's technical staff.[148] The Panel believed that more appropriate alternative

[147] The composition and staffing of the Headquarters HR and HC Planning offices after the 2006 reorganization (as was described during staff interviews) are illustrated in Appendix D, Section IV, "Human Capital Competence."

[148] Throughout this study, Academy staff asked supervisors and staff about staff competency, training, and bench strength. For the January 2007 Observations Paper, Academy staff calculated the responses to these questions using a scale of one to five, with five being the highest rating. The most notable finding was the consistently low response from supervisors about their staff's bench-strength capacity—a 2.5 or lower across occupational areas. The questions and findings are in Appendix D, Section V, "EM Competency Assessment." Respondents included staff from Savannah River, the Carlsbad Field Office, and headquarters staff located in both the Forrestal and Cloverleaf

approaches to acquiring HC competency would be to obtain contract support or tap EM's own HC proficiency within the field to develop needed HC solutions. In its January 2007 Observations Paper, the Panel observed that EM did not have a specific strategy that outlines the optimal role of field site HR offices, the EMCBC, and/or contract staff for meeting EM's regular and surge HR workload.

In March 2007, EM hired an SES-level HR professional to head the HC Planning office. And as discussed in the Organization and Management chapter, EM also merged this office and the HR functions of the Headquarters Personnel and IT office into one organization under the supervision of this new executive. The new director has converted vacant positions that were held by technical staff into management analysts/HC positions and is seeking candidates with HR experience.

The Panel supports EM's plan to merge its HC Planning and Headquarters Personnel offices under the supervision of an HC director. Now that all of EM headquarters HC/HR functions are being restructured under new leadership and the office is acquiring additional staff with HR/HC competency, the Panel believes that it is an appropriate time for EM to develop a comprehensive HR service delivery vision for the organization. **In the August 2007 Observations Paper, the Panel proposed that EM finalize a strategic vision for EM human resources service delivery that establishes EM-wide HR servicing metrics and measures of efficiency, and identifies how the EM site HR offices, the EMCBC HR office, and contract HR service providers should be optimally used to meet regular and surge HR workload.** EM has begun such an effort.

Although the Panel was pleased to learn of EM's plans to add several additional HR-oriented positions to this new office, it was concerned that the positions would be classified as GS-343, Management Analysts (HR) in keeping with DOE HR practice, and not as GS-201, Personnel Management Specialists. Although EM does not have delegated hiring authority in headquarters requiring "operational" HR staff, its Human Capital Planning office is responsible for performing "staff level" strategic HC planning for the EM workforce. That staff will need HC expertise given the HC/HR-oriented program development and evaluation activities these positions will be expected to perform. The Panel observed that a GS-343 series designation may adversely impact EM's ability to attract and retain applicants with the required HC/HR competency. **The Panel proposed in its August 2007 Observations Paper that EM develop a proposal for DOE headquarters' consideration that provides a basis for allowing EM to hire staff in the GS 201, Personnel Management series.** EM agreed that new vacancies should be filled with candidates with a substantial HC/HR background, but did not agree that the positions should be classified GS-201s. The DAS for Human Capital and Business Services and the HC Planning office director argued persuasively that while the positions require incumbents with HR experience, they also must possess broader capabilities in the area of management analysis and program evaluation. Because these senior managers will be providing the vision and direction for these new positions, the Panel deferred to their decision.

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locations. Academy staff continued to ask these questions during the remaining site visits. Although not officially tabulated, the responses at those sites were consistent with the earlier sites visited.

An unintended consequence of the Panel's proposal to increase HC competence has been that some EM managers interpreted the Panel's proposal to mean that the current employees have no knowledge/HR expertise, and that their advice should not be followed. The Academy staff did not meet with the incumbent staff to assess their HR knowledge, but reviewed their current position classification and backgrounds to determine that many of these employees might be better utilized in their technical fields. The new HC director is taking steps to increase the HC competence of the office, including assessing the competencies of current staff and ensuring that appropriate HC/HR assistance is being provided. The Panel commends EM on its plan to staff the HC Planning office and ensure that staff within that office have a substantial core of HR/HC competencies. The Panel urges EM to ensure that future candidates for HC/HR positions have operational HC/HR experience, and to maintain the internal organizational capacity to perform EM's HC/HR functions.

EMCBC CLOSURE CADRE

Although the EMCBC's primary function is to provide mission support services to EM field offices, it also provides programmatic support. When first established in 2004, the EMCBC's Office of Technical Services—called the closure cadre—was comprised of EM employees who worked at EM sites that had closed or downsized in preparation for closing. The original purpose of the cadre was to retain within EM a pool of highly experienced individuals in closure operations who could be assigned to sites that were losing expertise as the work drew to a close. Cadre staff also could be called upon to assist non-closure sites with specific projects. The concept was considered to be a win-win situation for all concerned. Employees at closure sites who were facing the potential loss of their jobs were able to continue their employment with EM, and EM was able to retain highly experienced individuals whose talents were needed elsewhere throughout the complex.[149]

In recent months, EM has hired into the cadre additional staff from outside of EM. **In its September 2006 Observations Paper, the Panel suggested that EM convene an internal advisory group of managers, project directors, and financial and HC/HR professionals to identify the role and future vision for the cadre and make recommendations on its appropriate size, skills mix, and operating procedures.** EM adopted the Panel's proposal by forming a group under the HCSC, which provided recommendations to the COO regarding the future role of the EMCBC, including the cadre. The group identified a long-term need for the EMCBC to provide technical support to the field, and identified the disciplines that should be found in the cadre, such as project directors, facility representatives, safety specialists, industrial hygienists, health physicists, accountants, attorneys, and cost estimators. The group also suggested using a technical support services contract to provide short-term technical support. The COO concurred with the group's recommendations. In January 2007, the EMCBC's Office of Technical Services developed the Cadre Program Plan, which provided more specific details regarding roles, composition, and operating procedures for the cadre.

[149] The composition of the cadre as of October 15, 2007 is shown in Appendix D, Section VI, "EMCBC Closure Cadre."

As a condition of employment, cadre staff serve under personal mobility agreements, indicating their willingness to move to any EM location needing their unique skills. Failure to accept relocation is a basis for terminating their employment. The cadre's manager makes assignments—both short and long term—by calling cadre members and personally trying to persuade them to accept an assignment. Some cadre members were able to remain at the sites where they were physically located when they joined the cadre (i.e., Rocky Flats, Mound, or Ohio); but eventually closure progress will require their reassignment elsewhere. Other cadre members have had to relocate one or more times. Interviews revealed that it is more likely that cadre members will find employment outside of EM or retire before they accept a mandatory move.

EM leadership has stated that cadre members are valuable employees with critical skills required to assist in the "closing sites" mission of EM and with other specific projects at non-closure sites. The Panel agrees that the cadre can serve an important role as additional EM sites move toward closure. But its usefulness will be marginalized unless these resources are managed effectively. The Panel believes that regardless of the fact that employees signed mobility agreements, EM management needs to address the additional hardships that a cadre lifestyle creates. For example, some cadre members accepted assignments but did not relocate their families. Although a personal decision, the reality is that cadre membership can present economic and personal downsides. According to EM leadership, the organization recognizes the financial and emotional hardship that these decisions may cause and, through the Federal Occupational Health Employee Assistance Program, EM provides free services of professional and licensed staffs who can help families work through the issues that separations can create. EM officials also indicated that home buyout/relocation/retention bonuses and performance awards are strategically used to recruit and retain cadre members. Some cadre members commented that in some instances, these incentives might be persuasive in influencing them to accept alternative assignments.

Despite the programs in place to assist cadre members, some cadre members indicated that cadre members are not treated equitably. According to those individuals, some cadre members were required to move while others were not; some received training opportunities while others did not; and some received retention allowances while others did not. One individual said, "The majority of the people I know in the cadre will cease to be part of the cadre as soon as they can." Recently, EM announced that a new COO will assume that position. Academy staff were informed that the COO designee is committed to conducting a comprehensive review of the EMCBC, including the size and skill mix of the cadre. The Panel suggests that the COO's review of the EMCBC also attempt to identify and address the reasons for some cadre members' perception of inequitable treatment.

SENIOR EXECUTIVE SERVICE PERFORMANCE RECOGNITION

Interviews conducted during site visits revealed that field staff perceive that headquarters executives' performance and accomplishments receive more favorable cash recognition than do their peers in the field. Academy staff also learned that the COO does not rate the two senior EM executives who work at facilities where EM is not the landlord—Oak Ridge, which is an

Office of Science site, and the Idaho Operations Office, which is a Nuclear Energy site. Rather, the heads of the Oak Ridge and Idaho offices rate them with EM input, as requested. Further, the EM site managers at Oak Ridge and Idaho are in the SES performance recognition pools of Science and Nuclear Energy, respectively, and not EM's pool.

Academy staff interviewed the DOE staff associated with the SES performance process and reviewed EM's SES performance recognition data.[150] EM's performance and cash award distribution practices for SES executives have varied in recent years. Examination of the various forms of recognition given for the FY 2004 to FY 2006 performance cycle confirmed that the field's perception that headquarters executives receive greater recognition than field executives might be correct. Although the percentage of SES executives receiving performance awards did not suggest an EM headquarters advantage, the dollar amount of EM headquarters performance awards, on average, exceeded all field awards each year. The Panel found the disparity between performance awards received by SES executives at non EM-owned sites versus executives in EM headquarters and EM-owned sites particularly troublesome. The value of performance awards differed by as much as $6,000. The Panel also found that, in addition to performance awards, some SES executives also received individual and/or group cash awards during this timeframe. This practice suggests that these awards were being used to augment SES performance awards, which is not an appropriate application of cash award polices and procedures.

In its January 2007 Observations Paper, the Panel proposed that EM conduct an internal validation of its SES performance award and cash award practices to ensure the integrity of the actions taken. The Panel further proposed that EM assess whether the current practices for appraising and awarding executives at non-EM sites were equitable with respect to EM's practices, and coordinate changes with the Offices of Science and Nuclear Energy as appropriate. Finally, the Panel proposed that in future years, EM review its SES recognition practices to ensure that distributions do not inadvertently penalize recipients based on the location of their employment/reporting relationships.

In November 2006, EM established an SES award review group that reviewed all proposed distributions of awards by location for the FY 2006 performance cycle. The group reported that the issues identified in the Academy staff's review had been rectified. EM plans to use the same procedure for the FY 2007 performance cycle. The Panel urges that EM continue to be diligent in monitoring SES performance recognition to ensure equity between all EM SES members regardless of employment location.

WORKFORCE ENVIRONMENT AND DIVERSITY

In addition to the hundreds of interviews conducted throughout the complex, Academy staff also examined the results of OPM's 2006 Federal Human Capital Survey (FHCS) to gain insights into

[150] Details of the analysis are provided in Appendix D, Section VII, "SES Performance Recognition Issues." The Academy staff's analysis was not an audit of EM management decisions relative to executive appraisal and recognition. Rather, the purpose of the analysis was to identify systemic issues that merit EM consideration.

EM staff perceptions about their work environment.[151] The review of EM FHCS results confirm many of the Academy staff's observations derived from the many interviews conducted during the course of this study. The survey revealed some strengths in the organization.

- Over 80 percent of EM employees believed their work is important and know how their work relates to EM's goals and priorities.
- Over 70 percent of EM employees believed their workforce has the knowledge and skills to get the work done. This response rate is consistent with the responses to questions Academy staff asked about staff competencies throughout this study.[152]
- Almost 82 percent of EM employees know how their work relates to the agency's goals and priorities.

Survey responses also pinpointed areas of weakness within EM.

- Almost 75 percent of EM employees believed performance differences are not distinguished in a meaningful way.
- Over 80 percent of EM employees did not see a link between performance and pay raises or that management will take steps to address poor performance.
- Less than one-third of the EM staff expressed a feeling of empowerment.

Historical factors, such as reorganizations resulting from diverse management philosophies, A-76 efforts, and downsizing, may account for some of the negative responses on the FHCS. However, the Panel believes that there may be some leadership and management issues that also might contribute to EM staff perceptions. The 2006 FHCS revealed shortcomings in the Leadership and Knowledge Management Index, which indicates the extent employees hold their leadership in high regard, both overall and on specific facets of leadership. Academy staff's research supported the survey results. A consistent problem mentioned by staff was that supervisors often were promoted into their positions based on their technical ability and that they lacked adequate training to supervise people. The Panel believes that this is a byproduct of EM's historical lack of attention to the selection, training, and development of its supervisors, which would enable them to become effective leaders of people. **In its August 2007 Observations Paper, the Panel proposed that EM conduct its own in-depth assessment to determine the root causes of the EM-wide and site-specific negative employee perceptions identified in the 2006 FHCS and this study, and develop and implement appropriate strategies to address these issues. The Panel also proposed that the EM HC staff examine the selection processes used to ensure that due consideration is given to candidates' possession of**

[151] EM staff responses to the FHCS are included in Appendix D, Section VIII, "Workforce Environment."

[152] For the January 2007 Observations Paper, Academy staff calculated EM staff responses to competency/training-based questions posed to supervisors and non-supervisory staff using a scale of one to five, with five being the highest rating. Responders included staff from Savannah River, the Carlsbad Field Office, and headquarters staff located in both the Forrestal and Cloverleaf locations. The questions and findings are found in Appendix D, Section V, "EM Competency Assessment." Academy staff continued to ask these questions during the remaining site visits. Although not officially tabulated, the responses at those sites were consistent with the earlier sites visited.

supervisory/managerial competencies, and that EM develop a leadership training program to provide its current and future supervisors/managers with needed competencies.

To address the weaknesses identified in the FHCS and the Panel's proposals, EM:

- conducted focus groups and working groups to identify concerns and challenges
- discussed employee issues at recent conferences of its senior leadership, and shared success stories to identify EM best practices
- started enrolling new supervisors in the new DOE "Supervisor Survivor Skill" course
- evaluated the supervisory/managerial selection process to ensure due consideration of supervisory/management competencies in the hiring process
- is establishing a Leadership Excellence Program to provide its current and future leaders/managers training to improve needed competencies

Diversity and Representation

Recent statistics reflect EM's workforce to be 61 percent male and 75.5 percent non-minority. Table 10 provides a breakdown of the EM workforce compared to the government-wide and overall civilian labor force (CLF).

Table 10: Gender, Race, & National Origin Composition of the EM Workforce Compared to the Government-wide and Overall Civilian Labor Force

Workforce	American Indian	Asian	Black	Hispanic	White	Male	Female	Disabled
EM-wide	2.0%	4.8%	12.30%	**5.4%**	75.5%	61%	**39%**	6.9%
Government-wide	1.9%	4.9%	17.4%	7.3%	68.5%	56%	44%	8.0%
Civilian Labor Force	0.8%	4.0%	10.1%	12.6%	71.4%	54.5%	45.5%	Not reported

Source: Federal Civilian Workforce Statistics, *The Fact Book*, 2005 Edition & August 2007 draft EM HCMP.

The numbers highlighted in yellow are the areas where the EM workforce is underrepresented when compared to the CLF. EM's workforce has less than half the Hispanic representation of the CLF, 5.4 percent versus 12.6 percent. EM's representation of females (39 percent) also is below the CLF mark of 45.5 percent.

As noted in the Introduction of this report, in late 2006, EM leadership established an Embracing Diversity Working Group, which consists of 13 senior EM managers from headquarters and the field. The group's charter is to address specific workforce diversity-related issues within EM and to develop innovative strategies necessary to recruit and retain diverse entry-level, mid-level, and senior-level staff. To date, the group has reviewed existing recruitment and retention strategies; benchmarked practices of other agencies; and conducted an EM employee survey on recruitment and recruitment strategies. In June, the group presented two pilot training classes on

the cultural awareness and value of diversity. One course was designed for supervisors and managers and the other for employees. The eight-hour course is now mandatory for all supervisors and managers.

In addition to the Working Group's efforts, EM also issued its HCMP, which affirms diversity as an organizational operating principle. As noted earlier in this chapter, it also developed the EM Career Intern Program, which offers EM an opportunity to change the representational composition of its workforce. EM has hired its first 25 interns, and they have a 60 percent minority and 56 percent female representation.[153]

The Panel was very pleased to see EM bring these new employees into the organization and their diverse representation. But it also was concerned, based on the 2006 FHCS and Academy staff interviews with EM employees, that some of the interns' "water cooler" discussions with their coworkers, where they share perceptions about their work environment, could be toxic to the interns' perceptions of EM and to their retention. As noted above, EM has taken steps to address negative employee perceptions. Until a more favorable organizational climate is demonstrated, however, the Panel believed that EM needed to be candid with its interns and other new staff members regarding the work environment that they were entering. **In its August 2007 Observations Paper, the Panel proposed that EM's interns and new staff member orientation programs include information on the challenges EM is overcoming and the impact they have had on the staff, and how the new members of the workforce are part of the solution. Intern supervisors, trainers, mentors, and coaches also should be well prepared to address these issues.** EM has developed an intern orientation program that addresses the Panel's concerns. It also is including as part of its orientation for all employees, one-on-one sessions between the new employees and their supervisors that include a discussion of EM's work environment and employee attitudes, and the new employees' role to help transform the organization.

The Panel applauds EM's initiatives to improve its work environment; the selection and quality of its leadership; and representation and diversity issues. To ensure that these efforts achieve the desired results, the Panel believes that EM will need a mechanism to monitor and evaluate them.

> **The Panel recommends that EM develop evaluation methodologies that will periodically assess the status of its initiatives to improve EM's workforce environment and diversity against stated objectives in order to ensure progress is being made.**

[153] Additional information on the composition of the first intern class is contained in Appendix D, Section VIII, "Workforce Environment."

ATTACHMENTS

ATTACHMENT 1: Actions to Implement Academy Proposals

ATTACHMENT 2: Panel and Staff

ATTACHMENT 3: Individuals Interviewed or Contacted

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
OM-1—Plan to Implement the Reorganization The Panel proposes that EM develop a plan that identifies the actions needed to fully implement the reorganization, including the completion of the functional analysis of its operations; the creation of standard operating procedures and program plans; and a review of delegations of authority. The plan should include timeframes to complete all actions and identify individuals responsible for each action item.	EM established a working group consisting of senior EM executives to lead this effort. The approach has been to conduct a fundamental analysis of the roles, responsibilities, authorities, and accountabilities (R2A2) of the current EM organization. EM also is in the process of completing flow sheets for standard operating procedures and issuing updated delegation letters to office directors.	EM's actions to date have been very useful. The Panel recommends that EM institutionalize a management action planning process to guide its management improvement activities.
OM-2—Management Office The Panel proposes that the Assistant Secretary establish an office reporting to him that is responsible for management analysis activities and other management functions such as policy issuance.	EM has agreed to implement, and has appointed a director and detailed staff to the office, and hired support contractors.	The new office will have responsibility for action planning.
OM-3—Chief Business Officer The Panel proposes that the Assistant Secretary use one of EM's senior executive service slots to create a Chief Business Officer position, filled with a term appointment, to lead and oversee EM's mission support DAS offices. Once EM has fully implemented the reorganization, including completing a functional analysis of all offices, developing standard operating procedures, and delegating authorities down through the organization, the Assistant Secretary should determine whether to retain the position as a term appointment, make it permanent, or abolish it. The Panel further proposes that if the Assistant Secretary creates this position, that the management analysis office recommended above report to the Chief Business Officer.	EM is choosing not to implement.	The Panel is no longer pursuing this proposal. Changes in senior staff have altered the basic circumstances, and the temporary position may no longer be necessary.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
OM-4—EMCBC		
The Panel proposes that the Assistant Secretary announce immediately his intention to create a long-term vision for the EMCBC and that the EMCBC report to the Chief Business Officer. The Panel further proposes that the Assistant Secretary launch a collaborative effort involving staff from the EMCBC and other affected headquarters and field offices to determine how mission support services should be provided throughout the complex. Once EM senior leadership decides how best to provide mission support services, the Assistant Secretary should designate a responsible officer to develop an action plan to achieve that vision and oversee its implementation.	EM is implementing except the change in reporting. It is addressing proposals OM-4 and HC-2 together.	This is proceeding well.
OM-5—Transfer of Regulatory Compliance and Engineering and Technology to the COO		
The Panel proposes that the Assistant Secretary realign the offices of Regulatory Compliance and Engineering and Technology to report to the Chief Operations Office.	EM is choosing not to implement.	The Panel is no longer pursuing in order to avoid another major reorganization. However, EM is enhancing the staff resources reporting to the COO, which was one of the underlying purposes of the original Panel proposal.
OM-6—Roles of the PDAS and COO		
The Panel proposes that the Assistant Secretary, working with the PDAS and COO, define the roles and responsibilities for his top leadership team and take the appropriate steps to ensure that his expectations are being met.	EM agrees. The new PDAS and COO designees are developing on a cooperative basis the roles and responsibilities of those offices. The COO has been tasked with defining work in that office. Within one month after that, EM will define how those functions relate to the PDAS.	The Assistant Secretary will need to ensure that the roles and responsibilities for the PDAS and COO being developed are consistent with his vision of the organization.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
OM-7—Field Request Tracking System The Panel proposes that the COO develop a tracking system that enables her office to manage requests for information/action made to field sites.	The tracking system was implemented, but was not working well, especially at Hanford. EM now plans to discuss with field sites where the new system is not functioning well. EM also has decided that the Senior Program Manager, not the task requestor, will assess the amount of time required for task completion.	The report also raises the issue of non-EM offices that also task the field, and recommends tracking those requests as well.
OM-8—Revival of Efforts to Define Roles of PDAS and COO The Panel proposes that the Assistant Secretary revive his efforts to define the roles and responsibilities of the PDAS and COO in accordance with his vision of how the organization should operate, establish clear expectations for their performance, and hold them accountable for meeting those expectations.	EM believes this has now been addressed by virtue of the new leadership and actions taken on OM-6.	The Panel supports the efforts to develop a cooperative relationship between the new PDAS and COO. Nevertheless, the Panel believes that the new agreements should be documented and approved by the Assistant Secretary.
OM-9—R2A2 Working Group The Panel proposes that the Assistant Secretary ensure that the work of the R2A2 Working Group is consistent with his organizational model of how EM should function within the existing structure.	EM has transferred responsibility for this from the R2A2 working group to the new management office which will incorporate new roles now being put in place.	The report recommends that until the new office is properly staffed to handle this responsibility, that it use the expertise of the original working group to assist in the effort.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
OM-10—Analysis of COO's Office The Panel proposes that the COO, in consultation with the Assistant Secretary and PDAS, define the work the COO's office must perform; determine the staff capacity needed to perform that work; assess the capabilities of the current COO staff to perform the work; and address any skill gaps through training and developing existing staff or adding additional resources to the office. The type and duration of the COO's staff field experience should depend on each staff member's job responsibilities. This analysis also should include a review of staff location and assignments versus efficiency.	The COO's office has developed a new plan for organizing and staffing that organization and presented it to Academy staff.	The plan addresses the Panel's concerns and should be implemented as quickly as possible.
OM-11—Role Definition for the Office of Project Recovery The Panel proposes that EM clearly define the Office of Project Recovery's roles and responsibilities vis-à-vis site management; develop standard operating procedures for how that office works with site management; and develop criteria for when that office is brought in to assist a project and when its assistance is no longer required.	This is now being done as part of the analysis of the COO's office.	
OM-12— Realignment of the Office of Project Recovery The Panel proposes that EM realign the Office of Project Recovery under the COO to better utilize those resources for all of EM's troubled projects.	EM agrees. However, the office will remain a separate entity within the COO's office.	The Panel concurs.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
OM-13—Consolidation of Two Hanford Offices EM should develop a plan to consolidate the soils and groundwater activities at the Hanford Site. It also should examine the organizational alignment of its subject matter experts (facility representatives, safety, quality assurance, etc.) at the site to determine whether centralizing those functions into a single office serving both site offices would provide more efficient and effective services. Finally, EM should begin to develop a long-range plan to combine the operations of the two Hanford site offices.	EM agrees with the consolidation of soil and groundwater proposal and the COO will work with the field to accomplish this.	EM still needs to address the other consolidation issues raised by the Panel. A specific recommendation to that end is included in the report
OM-14—HQ Interaction with Hanford Site The Panel proposes that the COO work with the Hanford site offices' leadership to gain a full understanding of headquarters interactions with those offices and the impact headquarters' requests/requirements are having on the site offices' ability to manage their work, and to develop a proposal to address the issues identified.	EM agrees and will work with the Hanford site offices on this issue.	The Panel believes that the COO should examine the headquarters' interaction throughout the complex and rethink the entire procedure as described in OM-7.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-1—Hiring Control Change The Panel proposes that EM's hiring controls program be modified to provide EM leadership necessary oversight but delegate authority to headquarters and field managers to hire and manage their workforces within a delegated resource level.	The proposal has been implemented. EM promulgated a revised human capital policy that restores to managers in headquarters and the field many of the authorities for hiring and managing workforces, but retains headquarters oversight and certain hiring controls.	This was the first Academy proposal implemented by EM. EM reports, however, that the hiring lag has not yet been significantly diminished. Part of the delay in closing the gap can be attributed to the fact that some of the initial vacancies are filled internally, which results in domino effect vacancies. Another contributor to the delay is that selecting officials (many of whom are in acting capacities) are so engrossed in work that they are having difficulty finding the time to complete the hiring process. Another major factor is the lack of EM-wide HR servicing metrics to ensure efficiency and accountability.
HC-2—Internal Advisory Group on the Cadre The Panel proposes that EM convene an internal advisory group of managers, project directors, and financial and human capital/human resources (HC/HR) professionals to identify the role and future vision for the cadre and make proposals on its appropriate size, skills mix, and operating procedures.	EM is implementing in conjunction with proposal OM-4 on defining the future of the EMCBC. The new COO has committed to conducting a comprehensive review, including the size and skill mix of the cadre. At a Human Capital Steering Committee (HCSC) meeting on Nov. 7, 2007, EMCBC and the COO office were assigned the responsibility to develop a charter for the cadre.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-3—Human Capital Steering Committee The Panel proposes that EM convene an HCSC that includes senior managers from headquarters and the field and financial and HC professionals. This Steering Committee should convene periodically throughout the year to monitor and advise the DAS for HC and Business Services on all HC initiatives, assist in implementing and revising the Human Capital Management Plan (HCMP) as needed, and communicate HC strategies and initiatives throughout the complex. The Assistant Secretary or PDAS should actively participate with the Steering Committee to ensure that EM's leadership embraces HC planning and implementation as a managerial responsibility.	The EM HCSC has been established and is actively conducting business. It has met four times and is addressing a variety of human capital issues including the development of a corporate human capital framework; the role and vision for EMCBC; competency assessment and resource planning; and diversity. The Committee approved a new framework for EM's human capital management on July 23, 2007. The role of the PDAS has been clarified. The PDAS will attend each EM HCSC meeting.	
HC-4—Working with DOE HR Office The Panel proposes that EM and DOE headquarters work together to develop and implement an HR strategy that addresses all of EM's current and anticipated personnel needs and HCMP initiatives. They also should continue regular dialogues to resolve all issues related to EM's personnel actions until such time as DOE headquarters develops and implements HR service level standards. The Panel further proposes that EM consider the use of an impartial third party to facilitate this effort.	EM and DOE HR have established a process to utilize the EMCBC for some personnel processing actions. The DOE HR Deputy Human Capital Officer and the EM Deputy Assistant Secretary for Human Capital are holding regular, periodic meetings to monitor these issues. EM does not believe the involvement of a third-party participant is necessary to facilitate remedial actions.	This is unlikely to be completely implemented without a review of DOE-level activities. However, the Panel still believes that it is critical for EM and DOE HR to agree on the long-term HR role of the EMCBC. Otherwise, this will continue to be a contentious issue that unduly consumes the time of EM and DOE HR staffs.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-5—HC Planning Office The Panel proposes that EM reconsider its plan for expanding/staffing the HC Planning Office and that it (1) develop a plan that considers alternative means to meet its short-term HC planning needs, such as using contract support, and focuses on efficient delivery of services in terms of numbers/occupational specialties of positions dedicated to the function, and that it (2) ensure that staff within this unit have a substantial core of HR/HC competencies.	EM recently hired an SES-level Director for Human Capital Planning. EM is in the process of acquiring other human capital skills and competencies through new hires. There will be three FTEs hired with HR/HC backgrounds. EM is acquiring contractor support for its HR operations. EM has reorganized its human resources and human capital staffs under the leadership of the new SES director to create synergies and improve planning and execution efficiencies.	EM has taken steps to improve its HC/HR capacities. EM, having had one engineer transferred from another office into the HC office, has no plans to add additional engineers to the staff.
HC-6—Workload Forecasting System The Panel proposes that EM develop a workload forecasting system for the complex so that workforce resource planning can be calibrated to its mission requirements.	EM agrees and has hired a support services contractor to assist in this effort.	Academy staff have met with the contractor to explain the Panel's views.
HC-7—SES Performance Awards The Panel proposes that EM conduct an internal validation of its SES performance award and cash award practices to ensure the integrity of the actions taken. The Panel also proposes that EM assess whether the current practices for appraising and awarding executives at non-EM sites are equitable with respect to EM's practices, and coordinate changes with the Offices of Science and Nuclear Energy as appropriate. Finally, the Panel proposes that EM review its SES recognition practice in future years to ensure that distributions do not inadvertently penalize recipients based on the location of their employment/reporting relationships.	EM has established an SES award review group, including both field and headquarters officials, which reviewed all proposed distributions of awards by location for the FY 2006 performance cycle. EM plans to use the same procedure for the FY 2007 cycle. For SES at non-EM owned sites, EM is providing input to the appropriate Lead Program Office officials.	The Panel has recommended that EM continue to monitor the SES performance recognition program to ensure equity between all EM SES members, regardless of location.

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-8—EMCBC Support for EM Staff at NNSA Sites The Panel suggests that EM assess the feasibility of having the EMCBC provide HR servicing to EM staff at NNSA sites.	The EMCBC assumed responsibility for HR servicing of the EM staff at NNSA's Oakland and SPRU sites after the Oakland Operations Office closed. EM and NNSA have not yet negotiated a change in the servicing agreement for EM employees at the remaining NNSA sites.	The Panel urges EM to continue pursuing this matter.
HC-9—GS-201 Staff The Panel suggests that EM develop a proposal for DOE HR's consideration that provides a basis for allowing EM to hire staff in the GS-201, Personnel Management series.	EM disagrees. It believes that it should hire people in the 300 series with 201 experience. It is looking for human capital strategists rather than technical human resources experts.	The basis of the proposal for using the 201 series was to increase EM's human capital competence. EM agrees with this premise, and is seeking applicants with a strong HC/HR background. The new HC director and DAS for HC have made persuasive arguments for classification in the 300 series based on their description of the work to be performed. The Panel has deferred to their judgment.
HC-10—HR Servicing Metrics The Panel proposes that EM develop a strategic vision for EM HR service delivery that establishes EM-wide HR servicing metrics and measures of efficiency, and identifies how the EM site HR offices, the EMCBC HR office, and contract HR service providers should be optimally used to meet ongoing and surge HR workload.	EM has started to build a database to capture the needed information to support the strategic vision. EM will work through the HCSC to develop an approach and conduct research on suitable metrics with an anticipated completion for approach and research of 12/31/07.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-11—Headquarters HR Servicing The Panel proposes that DOE HR and EM bring to closure as soon as possible all issues and questions related to long-term HR servicing for EM headquarters so future objectives and work requirements are clear to all parties and staff time does not continue to be consumed on this matter.	EM and DOE headquarter are working together on this. They have agreed to have the EMCBC process some EM headquarters actions.	See HC-4.
HC-12—Staff Planning Methodology The Panel proposes that before EM expands to the rest of the complex the staff planning methodology used in headquarters, that it add more rigor to the existing process.	EM agrees and has hired a contractor to assist in this effort.	This is similar to HC-6. Academy staff have met with the contractor to explain the Panel's views.
HC-13—Long-Term & Yearly Workload The Panel proposes that once EM has established a rigorous staff requirements methodology, it should develop long-term staff estimates for its projects as well as staff estimates for the immediate budget year.	EM agrees and will adopt this as a "next step." EM will use the Human Capital Steering Committee to tie to project management procedures. EM has included the DAS for Acquisition and Project Management to the HCSC. It also is incorporating project management, including the Best-in-Class initiative, as a key component of its human capital planning.	To be completed in conjunction with HC-6 and -12.
HC-14—Organization and Position Design The Panel proposes that EM include an organization-wide analysis of its occupational distribution, pay plan utilization, and supervisory ratios as part of its overall workload planning initiative.	This will be done as part of the workload forecasting effort.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
HC-15—Workforce Environment Assessment The Panel proposes that EM conduct its own in-depth assessment to determine the root causes of the EM-wide and site-specific negative employee perceptions identified in the 2006 Federal Human Capital Survey and this study, and develop and implement appropriate strategies to address these issues. These strategies should include action plans and evaluation methodologies to ensure that improvements in the workplace environment are being accomplished throughout the EM complex.	EM is adopting a two-pronged strategy, with approaches for both EM headquarters and the sites. A focus group approach used in the field is being adopted for EM headquarters. All EM sites and headquarters are developing corrective action plans. EM also plans to utilize periodic leadership and organizational assessment at headquarters and site offices to address issues related to the workforce environment.	
HC-16—Leadership Training The Panel proposes that the EM HC staff examine the selection processes now used to ensure that due consideration is given to candidates' possession of supervisory/managerial competencies, and that EM develop a leadership training program similar in scope to its Project Management Training Program as a means to provide its current and future supervisors/managers with needed competencies.	EM has enthusiastically adopted this proposal and is developing a Leadership Excellence Program.	
HC-17—Guidance for Interns The Panel proposes that EM's intern and new staff member orientation programs include information on the challenges EM is overcoming and the impact they have had on the staff, and how the new members of the workforce are part of the solution. Intern supervisors, trainers, mentors, and coaches also should be well prepared to address these issues.	EM has now developed an intern orientation program. One session has been conducted at Richland, WA. A memo to mentors also has been issued. In addition, orientation for all new employees includes one-on-one sessions between the supervisor and employee that includes a discussion of EM's changing work environment, employee attitudes, and the employee's role to help transform them.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-1—Guidance for Appropriate Contract Types		
The Panel proposes that EM, in consultation with the DOE headquarters Office of Procurement and Assistance Management (OPAM) and the Office of General Counsel, develop detailed guidance for determining the appropriate contract types for EM acquisitions. The guidance should be included in subsequent Executive Leadership Program workshops.	A guidance memorandum to field managers was released on May 27, 2007. Further guidance was provided to EM field managers in July 2007.	
A/PM-2—Business Clearance Process		
The Panel proposes that EM work collaboratively with OPAM and the Office of General Counsel to do an engineering analysis of the DOE business clearance review process, including flowcharts, to identify the causes for the current delays, and to reengineer the process to incorporate servicing metrics and the shared commitment among the offices to produce a more efficient, effective, and timely review of documents generated during the course of an EM acquisition.	EM has done as much as it can to update the process chart. DOE headquarters has undertaken an effort to reengineer its business clearance review process. OPAM released a briefing on planned actions on October 18, 2007 and the reengineering team's final report on November 14, 2007. OPAM is developing an implementation plan.	The Panel is encouraged by the reengineering team's recommendations and urges their prompt adoption.
A/PM-3—Dealing with the Contractor		
The Panel proposes that EM leadership develop guidance for EM staff that clarifies the staff's role in dealing with the contractor. The guidance should distinguish technical direction responsibilities, which may be limited in a performance-based environment, from actions to proactively monitor contractor performance and address detected performance problems and issues. This guidance should be on the agenda of subsequent Executive Leadership Program workshops.	Guidance to the field was released May 31, 2007. In addition, the West Valley and Moab sites are participating in a "Partnership for Public Service Innovation Pilot."	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-4—Acquisition Center The Panel proposed that EM revise its plans for the Acquisition Center to locate the contract placement function at the EMCBC.	Accepted and implemented. Procurement directors have been briefed and staff has been hired at the EMCBC to implement.	The first new procurement under these procedures is the Portsmouth gaseous diffusion plant decontamination and decommissioning.
A/PM-5—NAVFAC Review The Panel proposes that, in addition to the review of National Aeronautics and Space Administration and Naval Air Systems Command models, the DAS for Acquisition and Project Management include an examination of the acquisition planning policies and practices of the Naval Facilities Engineering Command (NAVFAC) as part of an action plan to improve EM's acquisition planning and execution. In addition, the action plan should include a comparison of other agencies' models with EM in terms of workload and the skills, knowledge, and abilities of the respective staffs.	EM acquisition staff visited NAVFAC on June 5, 2007 and issued a report on July 27. EM believes there is much at NAVFAC that EM could adopt.	
A/PM-6—Plan for Assuming HCA The Panel proposes that the DAS for Acquisition and Project Management develop and execute an implementation plan for assuming EM Head of Contracting Activity (HCA) responsibilities.	The HCA Plan was submitted to OPAM on August 31, 2007. The Director of OPAM issued the delegation on November 15, 2007. Implementation will proceed immediately.	
A/PM-7—1102 Staffing The Panel proposes that the Assistant Secretary develop a staffing request for necessary GS-1102 procurement analysts and submit it to DOE headquarters for approval. The request should contain a specific acknowledgement that these positions will not be used to perform operational contract placement or administration work.	This proposal has been implemented at the direction of the Deputy Secretary. Approval was received in February. EM has filled 10 of its vacant GS-1102 positions (6 at the EMCBC and 4 at EM headquarters). The announcement for the final position closed on October 30, 2007.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-8—Acquisition Oversight The Panel proposes that the DAS for Acquisition and Project Management submit to DOE headquarters a detailed proposal for improving the current acquisition oversight program. The proposal should revise the business clearance process as follows: • Sites annually submit their lists of projected acquisitions over $5 million to the EM HCA and Office of Procurement and Assistance Management. • EM acquisition sites approve all actions $20 million or under. • All actions from $20 million to $100 million are subject to review by the EM HCA and DOE General Counsel. • Actions over $100 million are subject to the existing business clearance process. The proposal also should include an acquisition management review program.	OPAM has raised slightly EM's business clearance levels. OPAM also has initiated a review of the business clearance process. (See A/PM-2.) Procurement reviews have been included in the HCA plan and they will be a feature of the EM Acquisition Center.	Implementation awaits OPAM actions. The report stresses the Panel's support for a $100 million threshold for business clearance reviews of EM transactions.
A/PM-9—Financial Assistance Consolidation The Panel proposes that the DAS for Acquisition and Project Management develop a plan for centralizing the award and administration of all EM financial assistance instruments at the EMCBC.	EM accepted this action. A memo to the field was issued on June 1, 2007. EM is now reviewing comments from the field and plans to implement by the end of FY08.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-10—EMCBC Cost and Price Support The Panel proposes that the DAS for Acquisition and Project Management and the EMCBC director arrange for the EMCBC to provide cost and price analysis support to all EM sites. The EMCBC also should work with sites to help them develop local acquisition guidance and templates.	EM notes that they began this effort in October of 2006. Their goal now is to establish the policy, understand the need, and put a plan together to resource it correctly. Draft implementation plan was issued and comments received from EM field sites. Analysis of comments completed on 9/30/07. Final step is to issue a memorandum prior to 12/30/08 announcing roles and phased implementation approach.	
A/PM-11—PBA Initiative The Panel proposes that the DAS for Acquisition and Project Management develop and implement a Performance-Based Acquisition (PBA) initiative, including processes for ensuring that PBA contracts conform to regulatory guidance before recording them as a PBA action in the Federal Procurement Data System.	EM believes that it has implemented a robust, performance-based acquisitions program, but that more training is necessary. Employees in EM's Office of Procurement Planning have completed a basic PBA course. In August 2007, an EM-50 task order included up to three just-in-time PBA training courses for EM integrated project teams. The memo on contractor guidance referred to in A/PM-3 also includes guidance on managing performance-based contracts.	
A/PM-12—IPABS Modification The Panel proposes that EM modify the Integrated Planning Activity and Budgeting System (IPABS) to enable it to compare Earned Value Management System (EVMS) cost and performance information with budget data, and that the results of this analysis are included in future Quarterly Project Review (QPR) reports and other project status documents.	EM included limited budget data in the August/September/October 2007 round of QPRs. EM is still reviewing its ability to provide a full budget comparison. The IPABS Steering Committee also is working on overall replacement/modification of IPABS. EM looking to February 2008 for completion to use in March QPRs.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-13—Technology Maturity Levels The Panel proposes that EM implement Technology Maturity Levels (TML), and institute a formalized process for assigning TML ratings to proposed technological solutions.	EM has piloted a TML framework (known as Technology Readiness Assessments) on selected facilities at the Office of River Protection, Richland, and Savannah River. EM is developing guidance based on lessons learned from the pilots to guide the implementation of TML on other EM projects.	GAO has made the same proposal. As a result, the Department, through OECM, also is attempting to develop this. EM is likely to be the lead office.
A/PM-14—Internal Cost Estimating Capacity The Panel proposes that EM develop an internal cost-estimating capacity in EM headquarters as well as at EM's field sites. EM should expand the work scope of its existing cost-estimating contractors to have them develop training and mentoring programs for EM's workforce.	EM-50 is in discussions with EMCBC to centralize EM cost estimating capability at the EMCBC. Currently, Project Management Oversight staff have the cost estimating responsibility. EM also is working to identify resource needs as well as a corporate strategy as part of the Best-in-Class initiative.	
A/PM-15—EVMS Standard Cost Reports The Panel proposes that EM require its contractors to produce EVMS' five standard Cost Performance Report reporting formats. Further, the Panel proposes that EM develop a mechanism to monitor contractors' EVMS in order to ensure the integrity of the data produced.	DOE is working on 19 guides to implement DOE Order 413. EM is participating in the drafting of the EVMS guide and is determining types of reports to be required. A tasking was issued on 7/6/07. This will be a requirement for contracts. A July 6, 2007 memorandum directed sites to develop their own EV Surveillance Plans by October 1, 2007 and to provide results of reviews upon completion (some reviews may not begin until early 2008 following baseline validations). All sites have provided the status of their plans. These are now being analyzed and a summary will be developed by December 30, 2007.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-16—Project Management Training The Panel proposes that EM modify its project management training to include an increased focus on the capabilities and limitations of its tracking and reporting systems—EVMS, IPABS, and Project Assessment Reporting System. EM also should develop a mentoring program where seasoned federal project directors (FPDs) work with less-experienced FPDs in the use of these systems. EM should include this mentorship as a standard in FPDs performance appraisals.	EM concurs and is working with its contractor to develop a training program in connection with new IPABS capability. EM also will remind FPDs in the upcoming FPD policy memo of the requirement to have mentoring plans in place. EM currently has no plan to include mentoring as a separate element in FPDs' performance plans. EM will decide by the end of the year whether this will be a standard in performance appraisals.	Panel concurred in the EM approach.
A/PM-17—Acquisition Processes Review The Panel proposes that the DAS for Acquisition and Project Management review all EM processes for reviewing and approving acquisition transactions at EM headquarters. The review should encompass any transactional review requirements generated by the reengineered business clearance process as well as those generated by the Acquisition Center or new HCA authority. The review should focus on streamlining existing or proposed processes and eliminating those requirements that add little value and/or would impose unacceptable delays in processing acquisition actions.	EM will begin on this one month after the OPAM business clearance initiatives are released.	
A/PM-18—Delegation Level Pilot The Panel suggests that EM draft a proposal to OPAM to pilot test the review thresholds contained in the Panel's second Observations Paper at a single EM site, such as the EMCBC. The proposal should provide a description of the site's capability and processes for ensuring adequate review of actions below the elevated thresholds.	EM will submit a proposal for a "higher" level pilot six months after receiving HCA authority.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-19—WTP Lessons Learned The Panel proposes that the Assistant Secretary prepare and issue a document that summarizes the basic factual circumstances related to the cost growth and schedule slippage on the Waste Treatment and Immobilization Plant project and identifies the lessons that could be applied to other EM acquisition situations.	EM has agreed to prepare a short document as requested. This is expected by April 2008.	
A/PM-20—Project Management Standardization The Panel proposes that EM standardize and integrate project performance management tools across the complex, particularly those that supplement or are integrated with the Earned Value Management System. EM should conduct a complex-wide assessment to ascertain what tools FPDs are now using to manage project performance on a day-to-day basis. The results of this assessment should form the basis for developing a standardized project management "toolbox."	EM agrees and will use the Best-in-Class review results to identify. Full implementation is expected during 2008.	
A/PM-21—Color Assessment Scheme The Panel proposes that EM examine its procedures for responding to, and holding field personnel accountable for, the color assessments of projects. These procedures should address, but need not be limited to, concrete definitions for the "meaning" of each assessment color.	EM is working now with OECM to separate 'red' and 'yellow' projects in the Deputy Secretary's report. Regardless of what happens with that report, however, EM will change internal procedure a month after completion of OECM's assessment.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-22—Project-Specific Success Metrics The Panel proposes that the DAS for Acquisition and Project Management work with each field office to produce project-specific success metrics. These metrics should take into account the type of work being performed and the specific facilities involved and technologies deployed, and should ideally be devised in collaboration with relevant contractors. These metrics should be reported on a quarterly basis as part of the EM QPR presentation format.	EM is now developing a template. This also will be part of the Best-in Class effort. Reports are hoped for in early in 2008. Some of the information will flow into the QPRs.	
A/PM-23—Further IPABS Modification The Panel proposes that the EM IPABS Steering Committee produce a formal requirements document that defines the functional requirements for replacing or modifying IPABS.	EM agrees and will have the document by Dec. 2008.	
A/PM-24—General Assessment of QA The Panel proposes that the DAS for Safety Management and Operations build upon EM's current assessment of Quality Assurance (QA) at construction sites, and perform a general assessment of QA. This assessment should focus on: translating QA guidance into a functional QA regime at the site level in a way that accounts for existing staffing levels and organizational structure; assessing staffing requirements needed to perform QA functions at an optimal level; clearly identifying a well-qualified focal point for QA at EM field sites; and providing the QA focal point with direct lines of access to top managers at the site level.	The COO is in the process of establishing a team for this purpose. A QA manager is being designated and staff is being added.	

Actions to Implement Academy Proposals

PROPOSAL	Actions Taken by EM	Academy Panel Remarks
A/PM-25—Unfunded Contingency The Panel proposes that EM undertake a study to determine whether, historically, the funds identified as "unfunded contingency" have been balanced between overruns and surpluses, as well as whether the practice has prompted an excessive need for project time extensions or reprogramming requests to Congress. EM should consider making the results of this study the foundation for a systematic reexamination of whether 50 percent is the appropriate confidence level to fund its operating and cleanup projects.	In response, EM agreed to initiate a three step effort: 1. Complete by January 2008 an historical review of EM's use of unfunded contingency (particularly as it relates to requiring reprogramming requests, operating plan funding adjustments, or project schedule extensions). 2. Analyze the results of this review and identify alternative approaches by March 2008. 3. Evaluate current confidence levels for operating projects by June 2008.	
A/PM-26—EM-Specific FPD Standards The Panel proposes that EM undertake a study of the appropriateness of the DOE FPD certification standards to the unique operating and cleanup projects that characterize its project portfolio, and use the results as a basis to tailor a version of those standards specifically for EM FPDs.	The OECM protocol for required FPD levels for EM cleanup projects is based on an assessment of the five-year project cost rather than the entire project cost (used for line item projects). EM will review requirements and likely propose additional EM specific training for its FPDs. The estimated completion date is January 30, 2008. The House EWD Appropriations Subcommittee has expressed some preliminary support for EM to hire additional staff.	

PANEL AND STAFF

PANEL

Howard Messner,* *Chair*—Former President, National Academy of Public Administration; Executive Vice President and Chief Operating Officer, American Consulting Engineers Council; Assistant Administrator for Administration and Resources Management, U.S. Environmental Protection Agency; Comptroller, U.S. Department of Energy; Assistant Director for Management Improvement and Evaluation, U.S. Office of Management and Budget.

Jonathan Breul*— Executive Director, IBM Center for The Business of Government and Partner, IBM Global Business Services; Former positions with U.S. Office of Management and Budget: Senior Advisor to the Deputy Director for Management; Chief, Evaluation and Planning Branch, General Management Division; Senior Management Analyst. Former Senior Grants Policy Specialist, Office of the Assistant Secretary for Management and Budget, U.S. Department of Health and Human Services.

Lloyd Duscha—Engineering and Management Consultant to private and government organizations; Member, various National Research Council committees. Former positions with U.S. Army Corps of Engineers: Deputy Director, Engineering and Construction Directorate; Chief, Engineering Division, Civil Works Directorate at Headquarters; Chief, Engineering Division positions at Division and District offices; Member, National Academy of Engineering.

Dwight Ink*—President Emeritus and former President, Institute of Public Administration. Former Assistant Administrator, Bureau for Latin America and the Caribbean, U.S. Agency for International Development; Acting Administrator, U.S. General Services Administration; Director, U.S. Community Services Administration; Assistant Director for Executive Management, U.S. Office of Management and Budget; Assistant General Manager, U.S. Atomic Energy Commission; Assistant Secretary for Administration, U.S. Department of Housing and Urban Development; Director, College of Public Affairs, Office of Continuing Education and Research, The American University; Director of several Presidential Commissions and Vice President of two government corporations.

Steven Kelman*—Weatherhead Professor of Public Management, JFK School of Government, Harvard University; Editor, International Public Management Journal. Former Administrator for Federal Procurement Policy, U.S. Office of Management and Budget; Former Associate Director for Management Planning, Bureau of Consumer Protection, Federal Trade Commission.

Janice Lachance*—Chief Executive Officer, Special Libraries Association (SLA); Strategic Planning and Organizational Development Consultant, Analytica. Former positions with U.S. Office of Personnel Management: Director, Deputy Director, Chief of Staff, Director of Communications and Policy. Former Director of Communications, Congressional and Political

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* *Academy Fellow*

Affairs, American Federation of Government Employees, AFL-CIO; Communications Director, Congressman Tom Daschle; Director and Counsel, Subcommittee on Antitrust and Restraint of Trade, Committee on Small Business, U.S. House of Representatives; Legislative Assistant, Congressman Jim Mattox; Administrative Assistant, Congresswoman Katie Hall. Current Member of the Board of Directors of the National Academy of Public Administration and The Center for Association Leadership.

Peter Marshall*—Rear Admiral (retired), U.S. Navy Civil Engineer Corps. Former Deputy Chief of Civil Engineers, U.S. Navy; Senior Vice President, Parsons Brinckerhoff Construction Services Corporation; Vice President of Operations, Burns and Roe Services Corporation; Vice President, Dewberry; Fellow, Society of American Military Engineers; Licensed Professional Engineer, Virginia and California.

STAFF

J. William Gadsby,* *Vice President for Academy Studies*—Vice President for Academy Studies, National Academy of Public Administration; Responsible Academy Officer on all Academy management studies; Former Senior Executive Service: Director, Government Business Operations Issues, Federal Management Issues and Intergovernmental Issues, U.S. General Accounting Office.

Alethea Long-Green, *Program Area Director*—Director for Human Resources Studies, National Academy of Public Administration. Former Director of Human Capital Planning and Management, U.S. Department of Commerce; Director of Human Resources, Chief of the Workforce Effectiveness Division, U.S. Patent and Trademark Office; President, Strategic Technical Resources, Inc.; Vice President, Tech International, Inc.; Consultant to Department of Defense contractors.

Albert J. Kliman, *Project Director*—Senior Consultant, National Academy of Public Administration; Consultant in government organization, budgeting, and financial management. Former Senior Executive Service: Budget Officer, U.S. Department of Housing and Urban Development; Past President, American Association for Budget and Program Analysis; "From the Field" Editor, *Journal of Public Budgeting and Finance*.

Rebecca J. Wallace, *Deputy Project Director*—Management Consultant; Former Director of Logistics Management, U.S. Customs Service; positions with U.S. General Accounting Office: Deputy Director, Office of Administrative and Publishing Services; Organization Development Consultant; Program Evaluator.

Allan Burman,* *Senior Consultant*—President, Jefferson Solutions. Former positions with U.S. Office of Management and Budget: Administrator for Federal Procurement Policy; Acting Administrator, Office of Federal Procurement Policy; Deputy Administrator, Office of Federal Procurement Policy; Chief, Air Force Branch; Coordinator for Research and Development

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* *Academy Fellow*

Programs, Air Force Branch. Former Federal Executive Fellow, Brookings Institution; Special Assistant to the Director of Defense Education, Office of the Secretary of Defense, U.S. Department of Defense.

Craig Durkin, *Senior Consultant*—Vice President, Jefferson Solutions. Former Director, Office of Procurement Contracts and other operations, policy and management positions within that office; Department of Housing and Urban Development; Contract Administrator, Defense Supply Agency.

Karen O'Brien, *Senior Consultant*—Director, Jefferson Solutions. Former Attorney-at-Law, McCarthy, Sweeney & Harkaway, PC; Positions with CCH Publishing, ESI International. Former positions with U.S. Army: Legal Advisor to the Principal Assistant Responsible for Contracting and Head of Contracting Activity in Southwest Asia.

Pamela Creek, *Senior Consultant*—Human Resources Management and Leadership Development Consultant; Senior Consultant, National Academy of Public Administration. Former Executive Director of Human Resources, Defense Logistics Agency; Associate Deputy Assistant Secretary for Human Resources, Department of Veterans Affairs; Director of Human Resources Regionalization and Director, Leadership and Program Development, Department of the Army; various leadership and operational human resources positions within Department of the Army.

Kenneth Hunter, *Senior Consultant*—President, KSH Associates; Senior Consultant and former Deputy Director, Center for Human Resources Management, National Academy of Public Administration. Former Business Development Executive, Oracle Services Inc.; Deputy Assistant Secretary of State for Passport Services; Executive Director, Foreign Service Institute; Deputy Assistant Secretary of State for Human Resources; Office Director, U.S. Department of State; Director of Personnel, Deputy Director, Director of EEO, Employee Relations Specialist, Federal Trade Commission.

Ronald A. Milner, *Senior Consultant*—Senior Consultant, National Academy of Public Administration. Former Member, Senior Executive Service. Former positions with Civilian Radioactive Waste Management Program, U.S. Department of Energy: Chief Operating Officer; Deputy Director; Branch Chief; Division Director; Office Director. Former Project Manager, Strategic Petroleum Reserve Program, U.S. Department of Energy. Former positions with U.S. Navy: Project Manager, U.S. Naval Facilities Engineering Command; Resident Engineer in Charge of Construction, Minneapolis; Naval Officer, Civil Engineer Corps.

Kathryn Littlefield, *Consultant*—Assistant to Allan Burman, Jefferson Solutions. Former Outreach Specialist, Office of Technology Transfer, Goddard Space Flight Center, NASA; Researcher, Monitoring and Evaluation for the Africa Bureau Education Division Program, Africa Bureau Education Division, U.S. Agency for International Development; Program Officer, International Development Center; National Council of Negro Women.

Jennifer Palazzolo, *Consultant*—Director, Jefferson Solutions with expertise in organizational change management, acquisition reform, competitive sourcing. Researcher and Analyst on prior projects for the Departments of Defense, Navy, Veterans Affairs, Energy and Commerce, as well as U.S. Agency for International Development, Federal Aviation Administration, General Services Administration, Small Business Administration.

Carrie Spudich, *Consultant*—Coordinates resources, planning, and logistics for Jefferson Solutions team, conducts research, and assists in the preparation of deliverables. Former Sales Associate of Corporate Executive Board with responsibility for market research, client outreach, and liaising with senior executives.

Alison C. Brown, *Senior Analyst*—Senior Analyst, National Academy of Public Administration. Project Staff on prior Academy studies of Corporation for National and Community Service, National Institute of Standards and Technology, U.S. Agency for International Development, U.S. Department of Housing and Urban Development.

Morgan Clark, *Research Associate*—Research Associate, National Academy of Public Administration. Former Focus Group Research Assistant, Peter D. Hart Research Associates

Daniel A. Munz, *Research Associat*e—Research Associate, National Academy of Public Administration. Project Staff on Academy study of Federal Bureau of Investigation. Former Director of Online Operations, Norman Siegel for Public Advocate; Politics and Elections Aide, Citizens Union Foundation; Political Aide, Joe Lieberman for President, Inc.

Nathan Winstead, *Research Associate*—Research Associate, National Academy of Public Administration. Project Staff on prior Academy studies of Centers for Disease Control and Prevention, U.S. Office of Personnel Management, Immigration and Customs Enforcement.

Martha S. Ditmeyer, *Senior Administrative Specialist*—Staff for a wide range of Academy studies. Former staff positions at the Massachusetts Institute of Technology, Cambridge, MA and the Communication Satellite Corporation, Washington D. C. and Geneva, Switzerland.

INDIVIDUALS INTERVIEWED OR CONTACTED

(Titles and locations listed are as of the time of the Academy's contact.)

DEPARTMENT OF ENERGY

Office of the Under Secretary of Energy

David Garman,* Under Secretary
John Sullivan,* Associate Under Secretary
Richard Moorer, Associate Under Secretary
Bud Danielson, General Engineer, Office of the Chief of Nuclear Safety
Chip Lagdon, Chief of Nuclear Safety
John Rampe, Field Management Coordinator
Doug Schwartz, Senior Policy Advisor

National Nuclear Security Administration

Alice Williams, Director, Office of Environmental Projects and Operations
Paul Detwiler, Deputy General Counsel

NNSA Service Center

Ray Corey, Associate Director, Office of Technical Services
Vicky Davis, Human Resources Specialist
Karen Frisby, Technical Qualification Program Specialist
Sandy Merrill, Human Resources Specialist

Office of Civil Rights and Diversity

Poli A. Marmolejos, Director

Office of General Counsel

Eric Fygi, Deputy General Counsel
Susan Beard, Assistant General Counsel for General Law, Office of General Counsel for Energy Policy
Gena Cadieux, Associate General Counsel for Source Selection and Bid Protest Litigation
Bruce Diamond, Assistant General Counsel for Environment
Mary Egger, Deputy General Counsel for Technology Transfer and Procurement,

* No longer in this positon.

Office of Energy Efficiency and Renewable Energy

Steve Lee, Director, Office of Program Execution
Daniel Sze, Project Management Team Leader, Office of Business Administration
Barbara Mandley, Program Analyst, Office of Business Administration

Office of Engineering and Construction Management

Paul Bosco, Director
Robert McMullan,* Director
Michael Donnelly, Senior Project Engineer
Melvin Frank, Program Analyst, Project Assessment Team
Rosalie Jordan, Deputy Director for Facilities Management and Professional Development
Suneel Kapur, Team Leader/Program Analyst, Project Assessment Team
Catherine Santana, Deputy Director for Project Management Systems and Assessments

Office of Health, Safety and Security

Patty Bubar, Director of Corporate Safety Analysis
Chuck Lewis, Director of Corporate Safety Programs, Office of Corporate Safety Analysis
Rollie Sigler, Analyst, Office of Corporate Safety Analysis
Thomas Staker, Acting Director of Environment, Safety and Health Evaluations, Office of Independent Oversight
Mark Whitaker, U.S. Department of Energy Representative to the Defense Nuclear Facilities Safety Board

Office of Human Capital Management

Jeff Pon, Chief Human Capital Officer
Claudia Cross, Deputy Chief Human Capital Officer
Sarah Bonilla, Director, Headquarters & Executive Personnel Services

Office of Inspector General

Fredrick G. Pieper, Director, Energy, Science and Environmental Audits Division
George Collard, Assistant Inspector General for Performance Audits
James Franco, Auditor, Denver Audit Group
Mark Michelson, Accounting Officer, Denver Audit Group
Robert O'Keefe, Team Leader, Richland Audit Group

Office of Legacy Management

David Geiser, Deputy Director

---

* No longer in this position.

Office of Management

Ingrid Kolb, Director

Office of Procurement Assistance and Management

Edward Simpson, Director
John R. Bashista, Deputy Director
Francis Spampinato, Chief Acquisitions Officer
Jim Tower, Supervisory Procurement Analyst

OFFICE OF ENVIRONMENTAL MANAGEMENT

Office of the Assistant Secretary

James Rispoli, Assistant Secretary
Charles Anderson,[*] Principal Deputy Assistant Secretary
Bobby G. Carr Jr., Senior Communications Advisor
Steven J. Cuevas, Senior Policy Advisor
Justin R. Fleshman, Special Assistant
Dennis D. Hosaflook, Environmental Program Planning Specialist
William Levitan, Executive Officer
James Owendoff,[154] Director, Office of Project Recovery

Regulatory Compliance

Frank Marcinowski, Deputy Assistant Secretary

Office of Compliance

Karen Guevara, Director
Matthew Duchesne, Environmental Compliance Advisor
Steve Frank, Environmental Protection Specialist
Martin Letourneau, Environmental Protection Specialist
Joseph (Jerry) Payer, Environmental Protection Specialist

Office of Disposal Operations

Christine Gelles, Acting Director
Alton Harris, General Engineer
Howard Huie, General Engineer
Lynne Smith, General Engineer
Douglas Tonkay, General Engineer

---

[*] No longer in this position.
[154] Reassigned to be the EM COO.

Office of Public and Intergovernmental Accountability

Melissa Nielson, Director,
Terri Lamb, Public Participation Specialist (Environmental Management Advisory Board Executive Director)

Engineering & Technology

Mark Gilbertson, Deputy Assistant Secretary

Office of Waste Processing

Randy Kalreider, Director
Kurt Gerdes, Physical Scientist
Linda Suttora, Physical Scientist

Office of Groundwater and Soil Remediation

Larry Bailey,[*] Director

Office of Decontamination and Decommissioning and Facility Engineering

Sandra Waisley,[155] Director
Shirley Frush, Physical Scientist
Ray Greenberg, Physical Scientist
Charles Nalezny, General Engineer
Andrew Szilagyi, Environmental Scientist
Alexander Williams, Health Physicist
Ray Won, General Engineer

Program Planning & Budget

Mark Frei, Deputy Assistant Secretary

Office of Budget

Cindy Rheaume, Director
Barry Gaffney,[*] Acting Director

[*] No longer in this position.
[155] Reassigned to be the Director of EM's Office of Quality and Standards Assurance.

Office of Contract and Project Execution

Barry Smith, Director
Melanie Holt, Management Analyst

Office of Project Management Oversight

Jay Rhoderick, Director
Jitendra Desai, Program Manager
Ram Lahoti, Program Manager
Pramod Mallick, Program Manager
Leonard Mucciaro, Program Analyst
Richard Nace, Program Analyst
John Neave, Project Management Certification and Training Manager
Autar Rampertaap, Program Manager
Bryan Skokan, Program Manger/General Engineer
Paul Strider, Program Analyst

Office of the Chief Operations Officer

Ines Triay,[157] Chief Operations Officer
Sandra Johnson,[*] Deputy Chief Operations Officer
Chuan Fu Wu,[158] Chief Safety Officer
Anita Iacaruso, Program Analyst

Safety Management & Operations

Dae Chung, Deputy Assistant Secretary

Dennis Ashworth, Director, Office of Transportation
Robert Goldsmith, Director, Office of Operations Oversight
Ashok Kapoor, Safety Engineer, Office of Transportation
Bob Murray, Safety and Occupational Health Manager

Office of Site Support & Small Projects

Cynthia Anderson,[159] Director

Phil Altomare, General Engineer
Thomas Crandall, Physical Scientist
Percy Fountain, General Engineer

---

[157] Reassigned to be the EM PDAS.
[*] No longer in this position.
[158] Reassigned to be the Director of EM's Office of Safety Management.
[159] Reassigned to be the EM Deputy COO.

Office of Strategic Planning and Analysis

Merle Sykes, Director
Matthew Zenkowich,[*] Acting Director
Steve Trischman, Program Analyst

Office of Program Integration

Gary Deleon, Acting Director

Human Capital & Business Services

Barbara Male, Deputy Assistant Secretary
James Fiore,[156] Deputy Assistant Secretary

Office of Human Capital Planning

Pamela Perrine, Director
Claudia Gleicher, Deputy Director
Diane Cochran, Director, Former Office of Strategic Imperatives
Gwendolyn Jones, Management Analyst
Jaffer Mohiuddin, Management Analyst

Office of Headquarters Personnel & Information Technology

Jeanne Beard, Director
Joni Boone, Program Analyst

Office of Business Services

Ronald Smith, Director

Acquisition & Project Management

John (Jack) Surash, Deputy Assistant Secretary
Sheri Bone, Senior Policy Advisor
Brenda K. Wnukoski, Program Analyst

Office of Procurement Planning

Mark Senderling, Acting Director

---

[*] No longer in this position.
[156] Reassigned to be the Director of EM's Office of Management Analysis and Process Management.

Stephanie Jennings, Senior Site Liaison
Jeff McMillan, General Engineer
Michael Moore, Senior Site Liaison
Sunil Patel, Program Analyst
Lisa Treichel, Environmental Protection Specialist
Stan Wolf, Physical Scientist/Site Liaison

Office of Safeguards & Security/Emergency Management

Maurice Daugherty, Director

EM FIELD SITES

IDAHO

Idaho Closure Project/Idaho Operations Office

Elizabeth Sellers, Manager, Idaho Operations Office
Richard Provencher, Deputy Manager, Idaho Cleanup Project
Michael Adams, Director, Contract Management Division
Brian Anderson, Lead Nuclear Engineer, Office of Waste Disposition
Wendy Bauer, Contracting Specialist, Contract Management Division
Geoffrey L. Beausoleil, Assistant Manager, Operational Support
Barbara Beller, General Engineer, Office of Facility and Material Disposition
Richard Cullison, Program Manager, Office of Nuclear and Safety Performance
E.E. Dahl, Lead Contract Specialist for Procurement Services
Bradley Davis, Facility Representative, Office of Facility and Material Disposition
D.W. Desautel, Team Leader, Office of Human Resources
Brian Edgerton, Lead General Engineer, Office of Waste Disposition
Kathleen Hain, Lead Physical Scientist, Office of Facility and Material Disposition
William Harker, General Engineer, Office of Facility and Material Disposition
Nolan Jensen, Lead Regulatory Liaison, Office of Facility and Material Disposition
Paul Keele, Assistant Manager for Administrative Support
William Leake, Assistant Manager, Contract & Government Furnished Services or Items Delivery
Dary Newbry, Facility Representative Program Manager
Chris Ott, Deputy Manager for Operations Support, CFO/COO, Idaho Operations Office
Teresa Perkins, Director, Environmental Technical Support Division, Operational Support
Mark Shaw, Environmental Engineer
Roderick Taft, Assistant Manager, Office of Nuclear and Safety Performance
Scott Van Camp, Assistant Manager/Federal Project Director, Office of Facility and Material Disposition
Midge Vivian, Director, Business Management Division
Edward Ziemianski, Assistant Manager, Office of Waste Disposition

Idaho Contractors, Stakeholders, Regulators, and Native Americans

Beatrice Brailsford, Program Director, Snake River Alliance
D.H. (Doc) DeTonancour, Idaho National Lab Citizens Advisory Board
Lila Gold, Idaho National Lab Citizens Advisory Board
John Grossenbacher, President and Director, Idaho National Laboratory Batelle Energy Alliance
Bob Iotti, President/CEO, CH2M*WG, LLC
Linda Milam, Ex-Mayor, Idaho Falls
Willie Preacher, Tribal/DOE Program Director, Shoshone/Bannock Tribes
Frank Russo, President, Bechtel BWXT Idaho, LLC
Kathleen Trever, Idaho National Laboratory Oversight, State of Idaho, Department of Environmental Quality

KENTUCKY/OHIO

Portsmouth-Paducah Project Office

Bill Murphie, Site Manager
Rachel Blumenfeld, Acting Deputy Manager
Greg Bazzell, Facility Representative
R.J. Bell, Contracting Officer
Rich Bonczek, Risk Analyst
Dina Brown, Secretary
Dave Dollins, Project Manager
Margie Dulatt, Contract Specialist
James Gambrell, Infrastructure Project Manager
Deborah Kerner, Program Analyst
James Klein, Program Analyst
Reinhard Knerr, Federal Project Director, Paducah Gaseous Diffusion Plant
David Kozlowski, Acting Supervisory General Engineer, Operations Oversight Group
Laura Roenker, General Attorney
John Saluke, Facility Representative
David Senderling, Contract Specialist
John Sheppard, Federal Project Director
Jeff Snook, Infrastructure Engineer
Pamela Thompson, Contracting Officer
Cid Voth, Decontamination and Decommissioning Engineer
Cristy Webb, Secretary
Jack Zimmerman, Federal Project Director, DUF6 Project

Portsmouth/Paducah Contractors, Stakeholders, and Regulators

Brian Blair, Environmental Supervisor, Division of Emergency and Remedial Response, Southeast District Office, Ohio Environmental Protection Agency
Russ Boyd, Site Manager, Environmental Remediation Project, Paducah Remediation Services, LLC

Sandy Childers, Public Affairs Manager, LATA/Parallax
Judy Clayton, Member, Paducah Citizens Advisory Board
Pete Coutts, Deputy Site Manager, Environmental Remediation Project, Gaseous Diffusion Plant, Paducah Remediation Services, LLC
Maria Galanti, Site Coordinator, Division of Emergency and Remedial Response, Southeast District Office, Ohio Environmental Protection Agency
Tony Hatton, Assistant Director, Division of Waste Management, Kentucky Environmental and Public Protection Cabinet
R. Wray Jordan, General Manager, United States Enrichment Corporation Inc.
Paul Kreitz, Project Manager, LATA/Parallax
Glen Mowbray, DUF6 Project Support, Haselwood, Inc.
Steve Polston, President, Uranium Disposition Services
Jim Smart, Member, Paducah Citizens Advisory Board Environmental and Public Protection Cabinet
Melody Stewart, Environmental Specialist, Division of Hazardous Waste Management, Southeast District Office, Ohio Environmental Protection Agency
Stephen Wells, Environmental Specialist, Division of Surface Water, Southeast District Office, Ohio Environmental Protection Agency
Dave Williams, Staff, Kentucky/Tennessee Remedial Section, U.S. Environmental Protection Agency

NEVADA

Nevada Site Office

Stephen Mellington, Assistant Manager for Environmental Management
Janet Appenzeller-Wing, Deputy Assistant Manager for Environmental Management
Bob Bangerter, Assistant Manager for Site Operations
Kevin Cabble, Acting Federal Project Director, Environmental Restoration Project; Acting Federal Sub-Project Director, Soils Sub-Project
Sabine Curtis, General Engineer, Industrial Sites Sub-Project
E. Frank DiSanza, Federal Project Director, Waste Management Project
Ken Hoar, Acting Deputy Assistant Manager for Safety Programs
John Jones, General Engineer, Industrial Sites Sub-Project
Cindy Lockwood, Program Support Group Leader
Gary Pyles, Acting Federal Sub-Project Director, Transuranic Sub-Project
Janis Romo, Physical Scientist, Waste Management Project
Pete Sanders, Acting Federal Sub-Project Director, Industrial Sites Sub-Project
Bruce Stolte, Civil Engineer, Program Support Group
Bill Wilborn, Federal Sub-Project Director, Underground Test Area Sub-Project

Nevada Contractor

Teri Browdy, Deputy Manager, National Security Technologies, LLC

NEW MEXICO

Albuquerque Service Center

Donald Garcia, Supervisory Contract Specialist, M&O Support Department
Harriet Garcia, Supervisory Human Resources Specialist
Rita Garcia, Supervisory Human Resources Specialist
John Jackson, Program Analyst
Roger Liddle, Physical Scientist, Office of Technical Services
Arlene Sambrana, Human Resources Manager
Richard Sena, Supervisory General Engineer, Office of Technical Services

Carlsbad Field Office

David C. Moody, Site Manager
Lloyd Piper,* Deputy Site Manager
George Basabilvazo, Director, Office of Site Operations
Norma Castaneda, Chief Transuranic Waste Certification Manager, Office of the National Transuranic Waste Program
Stanley Colt, Contract Specialist, Office of Business
Courtland Fesmire, General Engineer, Office of the National Transuranic Waste Program
Donald Galbraith, Mining Operations Program Manager and Facilities Representative, Office of Site Operations
Ava Holland,* Director, Office of Quality Assurance
Freida Huckeba, Director, Office of Business
Dennis Hurtt, Lead Public Affairs Specialist, Office of Business
Marc Italiano, Transportation Certification Specialist, Office of the National Transuranic Waste Program
Harold Johnson, National Environmental Policy Act Compliance Manager, Office of the National Transuranic Waste Program
Mike Rose, Chief Counsel
Diane Snow, Administrative Contract Specialist, Office of Business
Art Welton, Senior Contract Specialist, Office of Business

Carlsbad Contractors, Stakeholders, and Regulators

Richard D. Raaz, President and General Manager, Washington TRU Solutions
James Bearzi, Chief Hazardous Waste Department, New Mexico Environment Department
Nick Stone, Waste Isolation Pilot Plant Coordinator, Region 6, U.S. Environmental Protection Agency

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* No longer in this position.

Los Alamos Site Office

Janet Chavez-Wilcynski, Deputy Site Manager
George Rael, Assistant Manager for Environmental Operations
Fred Bell, Safety Engineering Team
Roger Corman, Chief Counsel
Lisa Cummings, Counsel
John Fredlund, Team Leader, Safety Basis Team
Maureen Gallen, Director, Business and Assessment Division
Dan Glen, Deputy Site Manager
David Gregory, Federal Project Director
Brandon Gutierrez, Environmental Operations Intern
Irene Lucero, Management & Program Analyst, Business and Assessment Division
Dave Stewart, Team Leader, Technical Area-54 Integrated Operations Team
Cheryl Thompson, Contracting Officer
Joe Vozella, Assistant Manager for Safety Operations
Andrew Worker, Environmental Operations Intern

Los Alamos National Laboratory

Carolyn Mangeng, Deputy Associate Director
Tina Andres, Program Director, Water Stewardship
Allan Calloupka, Project Director, Technical Area-21 Closure Project
Alison Darnes, Division Leader, Environment & Remediation Support Services
Gordon Dover, Program Director, Corrective Action
Gabriela Lopez Escobedo, Deputy Manager, Strategy and Long Range Planning
Gerald O'Leary, Program Manager, Transuranic Waste Disposition
Jay Snyder, Manager, Strategy and Long Range Planning
Danell Weaver, Project Controls Engineer, Strategy and Long Range Planning

Los Alamos Contractors, Stakeholders, Regulators, and Native Americans

J.D. Campbell, Chair, Northern New Mexico Citizens Advisory Board
Greg Kaufman, Environmental Scientist, Department of Resource Protection, Jemez Pueblo
Charles Keilers, Site Representative, Defense Nuclear Facilities Safety Board
Laurie King, Chief, Federal Facilities Division, Multi-Planning and Permitting Division, U.S. Environmental Protection Agency
Rich Mayer, Technical Project Manager for Los Alamos National Laboratory, Multi-Planning and Permitting Division, U.S. Environmental Protection Agency
Anthony J. Mortillaro, Assistant County Administrator, Los Alamos County
Jacob Pecos, Director, Department of Natural Resources, Cochiti Pueblo
Neil Weber, Environmental and Cultural Resources Department, San Ildelfonso Pueblo

NEW YORK

Brookhaven Site Office

Frank Crescenzo, Deputy Site Manager
Lloyd Nelson, Lead Federal Project Director, Environmental Management Program
John Carter, Community Affairs Director
Bob Desmarais, Director, Operations Management Division; Acting Director, Project Management Division
Jack George, Facility Representative
Robert Gordon, Business Management Division Director, Office of Science
Terri Kneitel, Federal Project Director, Environmental Management Program
Evelyn Landini, Contracts Specialist
Kim Nekulak, Program Analyst
Mark Parsons, Physical Scientist
Gail Penny, General Engineer

Brookhaven Contractors, Stakeholders, and Regulators

Judy Badal, Project Controls Specialist, SPAAN Tech, Inc.
Frank D'Agostino, Senior Project Controls Specialist, SPAAN Tech, Inc.
Tom Daniels, Decontamination and Decommissioning Operations Manager, Brookhaven Science Associates
Adrienne Esposito, Member, Brookhaven Community Advisory Council
Michael Giacomaro, Member, Brookhaven Community Advisory Council
Chek Ng, New York State Department of Ecology
Doug Pocze, Administrator, Region 2, U.S. Environmental Protection Agency
Andy Rapiejko, Suffolk County Soil and Water Conservation District
Thomas Talbot, Member, Brookhaven Community Advisory Council
Martin Trent, Suffolk County Soil and Water Conservation District

OHIO

Environmental Management Consolidated Business Center

Jack Craig, Director
Karen Bahan, Lead Procurement Analyst, Office of Contracting
Ward Best, Assistant Director, Office of Information Resource Management
Robert Everson, Assistant Director, Office of Technical Services
Bartley A. Fain, Assistant Director, Office of Civil Rights and Diversity
Derrick Franklin, Lead Contract Specialist, Office of Contracting
Glenn Griffiths, Assistant Director, Office of Logistics Management
David Hess, Lead Contract Specialist, Office of Contracting
Ralph E. Holland, Assistant Director, Office of Contracting
Barbara Powers, Lead Contract Specialist, Office of Contracting
Mell Roy, Assistant Director, Chief Counsel, Office of Legal Services

John Sattler, Team Leader, Office of Logistics Management
C. Lance Schlag, Assistant Director, Office of Financial Management
Helene Taylor, Acting Assistant Director, Office of Human Resources

Fernald Closure Project

Johnny Reising, Fernald Facility Manager
Gordon Brown, Facility Representative
Joseph Desormeau, Facility Representative

Ohio Field Office

William Taylor, Manager
Donald Pfister, Miamisburg Facility Manager
Gary Stegner, Public Affairs Officer

Ohio Contractors, Stakeholders, and Regulators

Donna J. Bohannon, Ohio Environmental Protection Agency
Dennis Carr, Project Director, Fluor
Lisa Crawford, President, Fernald Residents for Environmental Safety & Health
Vicky Dastillung, Vice President, Fernald Residents for Environmental Safety & Health
Cornelius Murphy, Closure Project Director, Fluor
Rex Norton, Contracts and Acquisitions, Fluor
Jeff Wagner, Public Affairs Director, Fluor
Gene Willeke, Member, Fernald Citizens Advisory Board
Ellen Yardy, Ross Trustee

SOUTH CAROLINA

Savannah River Site

Jeff Allison, Site Manager
William Spader, Deputy Manager for Cleanup
Eric Adams, Employee Concerns Specialist, Office of Civil Rights
Karen M. Adams, Environmental Scientist, Soils and Groundwater Project
Renee Alvis, Director, Finance Division
J. Craig Armstrong, Supervisory Contract Specialist, Office of Contracts Management
Alejandro Baez, Budget Analyst, Budget Division
Steven Baker, Lead Budget Analyst, Budget Division
Ron Bartholomew, Assistant Manager, Office of Safeguards, Security and Emergency Services
Helen Belencan, Acting Director, Office of the Assistant Manager for Closure Project
Sarah Blanding, Financial Manager, Office of Field Chief Financial Officer
Patrick Burke, Utility and Maintenance Team Leader, Office of Site Services
Donnie Campbell, Team Leader, Office of Contracts Management

Randall Clendenning, Acting Director, Office of Environmental Safety & Health
Yvette Collazo, Assistant Manager, Office of the Assistant Manager for the Closure Project
Christine Corbin, Contract Specialist, Office of Contracts Management
Becky Craft, Director, Office of External Affairs
Robert Edwards, Supervisory General Engineer, Nuclear Materials Operations Division
Jim Folk, Team Leader, Contractor Human Resources and Organizational Evaluation Team
James Giusti, Public Affairs Officer, Office of External Affairs
Sandee Greene, Lead Human Resources Specialist, Human Resources Management and Development Division
David Hepner, Community Affairs Program Manager, Office of Contracts Management
Karen Hooker, Supervisory Physical Scientist, Office of Environment, Safety and Health
Lucy Knowles, Chief Counsel, Office of the Chief Counsel
Lawrence Ling, Director, Salt Processing Division
James Lovett, Contract Specialist, Office of Contracts Management
Parodio Maith, Industrial Relations Specialist, Contractor Human Resources and Organizational Evaluation Team
Daniel McCusker, Team Leader, Office of Contracts Management
Alice Mercer, Acting Assistant Manager, Office of Civil Rights
Terry Montgomery, Lead Nuclear Engineer, Waste Disposition Engineering Division
Tony Polk, Physical Scientist, Waste Disposition Programs Division
Philip Prater, Physical Scientist, Soils and Groundwater Project
Rodrigo Rimando, Federal Project Director
Mike Sellers, Supervisory Project Management Analyst, Office of Cleanup Projects Management
Jonathan Michael Simmons, General Engineer, Waste Disposition Programs Division
Charlene Smith, Contract Specialist, Office of Contracts Management
Kevin Smith, Assistant Manger, Nuclear Material Stabilization Project
Larry Snyder, Director, Office of Site Services
Terrell Spears, Assistant Manager/Federal Project Director, Office of the Assistant Manager for Waste Disposition Project
Rita Stubblefield, Environmental Engineer, Soils and Groundwater Project
Clyde Terrell, Supervisory Nuclear Engineer, Nuclear Material Engineering Division
Jane Terrell, Team Leader, Nuclear Safeguards Team
Shirley Ann Thomas, Team Leader, Projects & Review Team, Office of Safeguards and Security and Emergency Services
Wade Whitaker, Soils and Groundwater Project Director, Office of the Assistant Manager for the Closure Project
Frank Wright, Chief Human Capital Officer, Office of Human Capital Management

Savannah River Contractors, Stakeholders, and Regulators

Robert B. Harris, Contract Manager, Washington Savannah River Company
Ken Feely, Acting Project Manager, U.S. Environmental Protection Agency
Bill Lawless, Member, Savannah River Citizens Advisory Board

Joseph Ortaldo, Member, Savannah River Citizens Advisory Board
Karen Patterson, Member, Savannah River Citizens Advisory Board
Robert Pope, Senior Remedial Project Manager, U.S. Environmental Protection Agency
Mark Sautman, Site Representative, Defense Nuclear Facilities Safety Board
Shelley Sherritt, Federal Facility Liaison, South Carolina Department of Health and Environmental Control
Paul Whittingham, Contracts Manager, Parsons

TENNESSEE

Oak Ridge Office

Gerald Boyd, Manager
Robert Brown, Deputy Manager
Steve McCracken, Assistant Manager for Environmental Management
Andrea (Cissy) Perkins, Deputy Assistant Manager for Environmental Management
Vince Adams, Federal Project Director, Melton Valley Closure Project
Dave Adler, Team Leader, Internal Waste Disposition Planning and External Interface Team
Debra Beets, Program Analyst, Business Management Division
Wendy Cain, General Engineer, East Tennessee Technology Park Closure Project
Jason Darby, Environmental Scientist, Balance of Reservation Closure Project
Ken Dziedzic, Program Analyst, Business Management Division
Dan Emch, Physical Scientist, Technical Support & Assessment Division
Rick Farr, General Engineer, Technical Support & Assessment Division
Jerry Harness, General Engineer, Technical Support & Assessment Division
Art Haugh, Director, Business Management
Brenda Hawks, General Engineer, Office of the Assistant Manager
Jack Howard, Federal Project Director, K25/K27 D&D Project
Pat Howse-Smith, Director, Human Resources Division
David Hutchins, General Engineer, East Tennessee Technology Park Closure Project
Dale Jackson, Director, Technical Support and Assessment, Oak Ridge Office
Jonathon Julius, Physical Scientist, Melton Valley Closure Project
Karen Kadas, Environmental Engineer, Technical Support & Assessment Division
Larry Kelly, Assistant Manager for Environment, Safety & Health
Jim Kopotic, Lead Environmental Scientist, East Tennessee Technology Park Closure Project
Mildred Lopez-Ferre, Federal Project Director, Balance of Reservation Closure Project
Jay Mullis, Supervisory General Engineer, Technical Support & Assessment Division
Tim Noe, Lead General Engineer, Technical Support & Assessment Division
Ron Ooten, Federal Project Director, Uranium-233 Project
Judy Penry, Assistant Manager for Financial Management
Donna Perez, Federal Project Director, East Tennessee Technology Park Closure Project
Elizabeth Phillips, Physical Scientist, Balance of Reservation Closure Project
Karen Shears, Contract Specialist, Environmental Acquisition Branch
Ralph Skinner, General Engineer, Melton Valley Closure Project
Rufus Smith, Diversity Programs and Employee Concerns Manager
Don Thress, Chief Counsel

Jim Vosburg, Team Leader, Training and Developing Group
Don Wierwille, General Engineer
Dan Wilken, Assistant Manager for Administration
Judy Wilson, Director, Office of Procurement and Contracts

Oak Ridge Contractors, Stakeholders, and Regulators

Leonard A. Abbatiello, Chair, Oak Ridge Reservation Local Oversight Committee; Council Member, City of Oak Ridge
Anthony Buhl, Executive Vice President and General Manager, Foster Wheeler Environmental Corporation
Todd Butz, Project Manager, Isotek
Paul Clay, Deputy General Manager, Bechtel Jacobs
Jeff Crane, Project Manger, Department of Energy Section, Federal Facilities Branch, Region 4, U.S. Environmental Protection Agency
R. Todd Davis, Oak Ridge Site Representative, Defense Nuclear Facilities Safety Board
Susan L. Gawarecki, Executive Director, Oak Ridge Reservation Local Oversight Committee
Doug McCoy, Federal Facility Agreement Project Manager, DOE Oversight Division, Tennessee Department of Environment and Conservation
Lance Mezga, Chair, Oak Ridge Site Specific Advisory Board
Diane Miller, Technical Analyst/Coordinator, Visionary Solutions, LLC
Norman Mulvenon, Citizens Advisory Panel Chair, Oak Ridge Reservation Local Oversight Committee; Vice Chair, Oak Ridge Site Specific Advisory Board
Don Owen, Oak Ridge Site Representative, Defense Nuclear Facilities Safety Board
Dale Rector, Assistant Director, DOE Oversight Division, Tennessee Department of Environment and Conservation
Harold Taylor, Chief, DOE Section—Federal Facilities Branch, Region 4, U.S. Environmental Projection Agency

UTAH/COLORADO

Moab Uranium Mill Tailings Remedial Action Project

Don Metzler, Project Director
Joel Berwick, Engineering and Construction Manager/Team Leader and Senior Facility Representative
Gail Majors, Financial Management Specialist
Theresa Nash, Environmental Compliance and Quality Assurance Specialist
Jeff Parkin, Facility Representative

Moab Contractors, Stakeholders, and Regulators

Joette Langianese, Member, Grand County Council
Connie Nakahara, Environmental Engineer, Utah Department of Environmental Quality
Steve Ogden, Maintenance Engineer, Utah Department of Transportation
Daren Rasmussen, Stream Alteration Specialist, Utah Department of Natural Resources

Joe Ritchey, Senior Program Manager, S&K Aerospace, Inc.
Dale Stapley, District 4 Encroachment Officer, Utah Department of Transportation
Jeff Stevens, Chief Operating Officer for Federal Services, Energy Solutions LLC

WASHINGTON

Richland Operations Office

Keith Klein,* Site Manager
Mike Weis, Deputy Manager
Rod Almquist, Project Controls Specialist, River Corridor
Dennis Anderson, Engineer, Safety and Quality Team
Clifford Ashley, Electrical Engineer
Kevin Bazzell, Federal Project Director, River Corridor Closure Project
Steve Bertness, Industrial Hygienist, Safety and Quality Team
Elizabeth Bowers, General Engineer, Office of Organizational Effectiveness and Communications
GiGi Branch, Contracting Officer, Procurement Division
Dave Brockman,** Assistant Manager, K-Basin Closure Project
John Cavanaugh, Occupational Safety Engineer, Safety and Quality Team
Stacy Charboneau, Federal Project Director, Plutonium Finishing Plant
Clifford Clark, Physical Scientist
Jenise Connerly, Contract Specialist
Ronnie Dawson, Lead Contract Specialist
Leif Erickson, Assistant Manager and Federal Project Director, River Corridor Project
Oliver Farabee, Federal Project Director, Fast Flux Test Facility
Bryan Foley, Physical Scientist, Groundwater Project, Central Plateau
Elizabeth Forgione, Human Resources Assistant, Human Resources Management Division
Mark French, Federal Project Director
Jeff Frey, Manager, Office of Project Performance and Regulatory Integration
Pete Garcia, Director, Safety and Engineering Division
Wayne Glines, Senior Technical Advisor for Radiological Controls, Safety and Quality Team
Leo Guillen, General Engineer, Project Integration and Control Division
Robert Hastings, Director, Operations Oversight Division
Al Hawkins, Program Manager, Organizational Effectiveness and Communications
Burton Hill, Engineering Team Leader
Betty Hollowell, Chief Counsel
Richard Holten, Deputy Assistant Manger for Central Plateau
Alan Hopko, Contracting Officer, Procurement Division
Emily Irwin, Budget Analyst, Financial Management Division

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* No longer in this position.
** Mr. Brockman is now the site manager for the Richland Operations Office.

Mark Jackson, Team Lead, Authorization Basis Team
Linda Jarnagin, Contracting Officer, Procurement Division
Ken Kapsi, General Engineer, Project Integration and Control Division
Glenn Konzek, Safeguard Engineer, Security and Emergency Services Division
Randall Krekel, General Engineer, Site Infrastructure Team, River Corridor
Bob Long, General Engineer, Waste Management Project, Central Plateau
Tony Lorenz, Director of Procurement
Vicki Melling, Contracting Officer, Procurement Division
Tony McKarns, Physical Scientist
Jan Osso, Contract Specialist
Paul Pak, Federal Project Director, K-Basin Closure Project
Jon Peschong, Leader, Project Integration and Control Division, Office of Project Performance and Regulatory Integration
Larry Romine, Federal Project Director, 200 Area Remediation Project
Jean Schwier, Assistant Manager for Administration
Stacie Sedgwick, Contracting Officer, River Corridor Closure Contract
Doug Shoop, Assistant Manager for Safety and Engineering
Sally Sieracki, Team Leader, Contract Specialist
Gail Splett, Records Management Specialist, Business Operations Division
Richard Stimmel, Contract Specialist
Dave Stromberg, Contracting Officer, Procurement Division
Dana Ward, Environmental Scientist, River Corridor
Richard Wible, General Engineer, Office of Organizational Effectiveness and Communications
Andrew Wirkkala, Lead Contract Specialist, Procurement Division

Office of River Protection

Roy Schepens,* Site Manager, Office of River Protection
Shirley Olinger, Acting Site Manager, Office of River Protection
Zack Smith, Acting Deputy Site Manager
Don Alexander, Physical Scientist
Kim Ballinger, Public Affairs Specialist
Mike Barrett, Director, Acquisition Management Division
Dennis Bowser, Physical Scientist, Environmental Division
Jeff Bruggeman, Facility Representative
Mary Burandt, Engineer
Lisa Copeland, Acting Director, Project Administration Division
David Garcia, Contract Specialist
Richard Gonzales, Attorney, Office of the General Counsel
Bob Griffith, Acting Director, Engineering Division, Waste Treatment and Immobilization Plant
John Eschenberg, Project Manager, Waste Treatment and Immobilization Plant
Brian Harkins, Facility Representative

* No longer in this position.

Lori Huffman, General Engineer, Environmental Division
Cathy Louie, Program Manager
Billie Mauss, Technical Program Manager
Lewis Miller, Team Lead, Authorization Basis Team, Waste Treatment and Immobilization Plant Safety
Delmar Noyes, Acting Project Manager, Tank Farms
Erik Olds, Media Specialist
Steve Pfaff, Facility Representative
Joseph Poniatowski, Contract Officer
Michael Royack, Engineer
Clo Reid, Contracting Officer, Small Business & Tank Farms Project
Woody Russell, National Environmental Policy Act Compliance Officer, Environmental Division
Walter Scott, Acting Director, Engineering Division, Tank Farms
Scott Stubblebine, Attorney, Office of the General Counsel
Bill Taylor, Assistant Manager for Environmental Safety and Quality
Steve Wiegman, Senior Technical Advisor, Acquisition Management Division

Washington Contractors, Stakeholders, Regulators, and Native Americans

Pam Brown-Larsen, Director, Hanford Communities
Carl Adrian, President and CEO, Tri-City Development Council
Kristie Baptiste, Environmental Policy Analyst, Nez Perce Tribe
Beth Bilson, Vice-President for Regulatory Compliance, Fluor Hanford
Nick Ceto, Hanford Project Manager, Region 10, U.S. Environmental Protection Agency
John C. Darrington, City Manager, City of Richland, WA
Bill Elkins, Project Director, Bechtel National
Mike Fox, Director of Project Integration, Washington Closure Hanford
Barbara Harper, Toxicologist and Risk Assessor, Department of Science and Engineering, Umatilla Tribe
Russell Jim, Program Manager, Environmental Restoration and Waste Management Program, Yakama Nation
Harry Lacher, Director, Human Resources, Fluor Hanford
Susan Leckband, Vice-Chair, Hanford Citizens Advisory Board
Bill Linzau, Hanford Site Representative, Defense Nuclear Facilities Safety Board
Todd Martin, Chair, Hanford Citizens Advisory Board
James McConnaughey, Ecologist, Environmental Restoration Waste Management, Yakama Nation
Gary Petersen, Vice-President for Hanford Programs, Tri-City Development Council
Robert Quirk, Hanford Site Representative, Defense Nuclear Facilities Safety Board
Wade Riggsbee, Hydrogeologist, Environmental Restoration Waste Management, Yakama Nation
Ron Skinnarland, Waste Management Section Manager, Nuclear Waste Program, Washington Department of Ecology
Anthony Smith, Hanford Cultural Resources Representative, Nez Perce Tribe
Mark Spears, President and CEO, CH2M Hill—Hanford Group
Chuck Spencer, President, Washington Closure Hanford

LEGISLATIVE BRANCH

Congressional Committee Representatives

Dixon Butler, Majority Staff Assistant, Energy and Water, Appropriations Subcommittee, House Appropriations Committee
Douglas Clapp, Majority Clerk, Senate Appropriations Subcommittee on Energy and Water Development
Kevin Cook, Minority Staff Assistant, House Appropriations Subcommittee on Energy and Water Development
Michelle E. Dallafior, Professional Staff Member, House Science and Technology Subcommittee on Energy and Environment
Christopher J. King, Professional Staff Member, House Science and Technology Subcommittee on Energy and Environment
Scott O'Malia, Minority Clerk, Senate Appropriations Subcommittee on Energy and Water Development
Adam L. Rosenberg, Professional Staff Member, House Science and Technology Subcommittee on Energy and Environment
Elizabeth Stack, Senior Policy Advisor, Office of Representative Ralph M. Hall
Terry Tyborowski, Majority Staff Assistant, House Appropriations Subcommittee on Energy and Water Development

Government Accountability Office

Natural Resources and Environment

Gene Aloise, Director
Chris Abraham, Senior Analyst
Carole Blackwell, Senior Analyst
Ryan Coles, Senior Nuclear Analyst
James Espinoza, Senior Analyst
Daniel J. Feehan, Assistant Director
Janet Frisch, Assistant Director
Nancy Kintner-Meyer, Senior Analyst
Jeff Larson, Senior Analyst
Christopher Pacheco, Senior Analyst
Tom Perry, Senior Analyst
Jeff Rueckhouse, Senior Analyst
Bill Swick, Assistant Director
Virginia Vanerline, Senior Analyst

OTHER FEDERAL AGENCIES

Army Corp of Engineers

Julian Chu, Team Leader for Policy and Planning, Formerly Used Defense Sites Program
Wendell Greenwald, Project Engineer, Walla Walla District Office
Moon Han, Engineer, Northwestern Division
Stacey Hirata, Military Programs Deputy, Southwestern Division Regional Integration Team
Kristine Kingery, Environmental Staff Officer, Cleanup Division
Mark McKitrick, Team Leader for Allocations and Documentation, Manpower and Force Analysis Division

Defense Nuclear Facilities Safety Board

A.J. Eggenberger, Board Chairman
Timothy J. Dwyer, Deputy Technical Director
John Edward (Jack) Mansfield, Board Member

Naval Facilities Engineering Command

Thomas F. Bersson, P.E., Captain Civil Engineer Corps, U.S. Navy, Vice Commander
David Curfman, Environmental Staff
Bernard J. Deneke, P.E., Engineering and Design Product Manager
Larry Douchand, Director, Environmental Division
Robert M. Griffin, JR., Assistant Commander for Acquisition
Brian Harrison, Director, Environmental Cleanup Division
Martha Midgette, Director, Resource Management Division
Frank Peters, Director, Environmental Compliance and Environmental Planning Division
Paul Rakowski, Supervisor, Environmental Engineering
Kim Ribaudo, Head of Contracting
James S. Wocester, R.A., Captain Civil Engineer Corps, Operations Officer
Ted Zagrobelny, Deputy Director, Environmental Division

Nuclear Regulatory Commission

Mary Ellen Beach, Deputy Director, Office of Human Resources
Michael Culpepper, Human Capital Program Manager, Office of Human Resources
Reginald Mitchell, Director, Program Management Policy Development & Planning Staff, Office of Nuclear Reactor Regulation
Michael Weber, Deputy Director, Office of Nuclear Reactor Regulation

Office of Management and Budget

Donovan Robinson, Program Examiner
Cynthia Vallina, Budget Examiner

OTHER ORGANIZATIONS

Environmental Management Advisory Board

James Ajello, Chairman
Dennis Ferrigno, Board Member

Project Time & Cost, Inc.

Gene Brooks, Chairman and Founder
J. Mike Devine, Western Operations Manager
Bob Rasmussen, Richland Operations Manager

Technology & Management Services, Inc.

R. Keller Staley, President
Stephen H. Zukor, Vice President
Rick Brown, Senior Associate
John C. Franke, Senior Manager
C. Patrick Malone, Senior Associate

Others

Barry Clark, Chapter 228 Vice President, The National Treasury Employees Union
Kara Colton, Program Director, National Governors Association
Paula Cotter, Project Director, National Association of Attorneys General
Woody Cunningham, Consultant
Carolyn Hanson, Project Manager, Environmental Council of the States
Seth Kirshenberg, Executive Director, Energy Communities Alliance
Barth Loney, Senior Vice President, High Bridge Associates, Inc.
Paula Penn-Nabrit, President, Penn-Nabrit & Associates
Joe Nolter, President, Project Analysis & Evaluation, Inc
David Schoeberlein, Chapter 213 President, The National Treasury Employees Union
John Sullivan, Principal, Decker-Garman-Sullivan

IMAGE CREDITS

Trichloroethylene or TCE recovered from the six-phase heating treatability study conducted at the C-400 chemical cleaning facility, ready for shipment and disposal, Paducah Gaseous Diffusion Plant, Paducah, KY (2003). Photo courtesy of the U.S. Department of Energy

Workers test the dimensions of each drum, verify the proper labeling and place them on the template that is used to align the drums on the lifting pallet, Brookhaven National Laboratory, Upton, NY (2005). Photo courtesy of the U.S. Department of Energy

Workers at the sludge retrieval and disposition project connect hoses to ports in the top of large diameter containers that will hold sludge from the north loadout pit in the K East Basin, until it can be grouted later this year, Hanford Site, Richland, WA (2004). Photo courtesy of the U.S. Department of Energy

Savannah River Site workers carefully maneuver a spent fuel cask, Savannah River Site, Aiken, SC (2005). Photo courtesy of the U.S. Department of Energy

NATIONAL ACADEMY OF PUBLIC ADMINISTRATION®

1100 New York Avenue, NW
Suite 1090 East
Washington, DC 20005
Phone: (202) 347-3190
Fax: (202) 393-0993
Web: www.napawash.org