ENVIRONMENTAL MANAGEMENT ADVISORY BOARD
to the
U.S. DEPARTMENT OF ENERGY

PUBLIC MEETING MINUTES

La Fonda on the Plaza
100 East San Francisco Street • Santa Fe, NM 87501

September 15, 2010

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ENVIRONMENTAL MANAGEMENT ADVISORY BOARD
SUMMARY OF MEETING

The Environmental Management Advisory Board was convened at 9:00 a.m. MDT on Wednesday, September 15, 2010, at the La Fonda on the Plaza in Santa Fe, New Mexico. Chairman James Ajello introduced the Board members for this meeting.

In accordance with the provisions of Public Law 92-463, the meeting was open to the public.

Board members present:

- Mr. James Ajello, Hawaiian Electric Industries, Inc.
- Mr. A. James Barnes, Indiana University (via teleconference)
- Mr. Paul Dabbar, J.P. Morgan, Inc.
- Mr. G. Brian Estes, Consultant
- Dr. Dennis Ferrigno, CAF & Associates, LLC
- Mr. Keith Klein, Consultant
- Mr. John A. Owsley, Tennessee Department of Environment and Conservation
- Dr. Lawrence Papay, PQR, LLC
- Mr. Willie Preacher, NCSL State and Tribal Government Working Group
- Ms. Lessie Price, Aiken City Council
- Ms. Jennifer Salisbury, Attorney-at-Law
- Mr. David Swindle, Federal Services/URS Corporation
- Mr. Robert Thompson, Energy Communities Alliance

Subcommittee members present:

- Dr. Steve Agnew, EMAB Tank Waste Subcommittee (via teleconference)
- Dr. Kevin Brown, EMAB Tank Waste Subcommittee
- Dr. Frank Coffman, EMAB Acquisition and Project Management Subcommittee (via teleconference)
- Dr. Alan Leviton, EMAB Tank Waste Subcommittee (via teleconference)
- Dr. Bernard Meyers, EMAB Tank Waste Subcommittee (via teleconference)
- Dr. James Stevens, EMAB Tank Waste Subcommittee
- Dr. Herb Sutter, EMAB Tank Waste Subcommittee (via teleconference)

EMAB Designated Federal Officer:

- Ms. Terri Lamb

EMAB Deputy Designated Federal Officer:

- Dr. Pamela Logan

Others present for all or part of the meeting:

- Mr. David Adler, DOE Office of Environmental Management
- Ms. Catherine Alexander Brennan, DOE Office of Environmental Management
- Ms. Cynthia Anderson, Director, EM Recovery Act Program
- Mr. James Antizzo, Office of D&D and Facility Engineering
- Ms. Joni Arends, Concerned Citizens for Nuclear Safety
- Ms. Shelley Cimon, Hanford Advisory Board
- Ms. Allison Clark, DOE Office of Environmental Management
- Mr. Johnny Clayton, Private Citizen

- Ms. Judy Clayton, Paducah EM SSAB
- Mr. John Eschenberg, DOE Office of Environmental Management
- Ms. Roberta Estes, Private Citizen
- Ms. Chris Ferrigno, Private Citizen
- Mr. Michael Howard, Director, Office of Acquisition and Contract Management
- Mr. Reggie James, Acting Director, Office of Contract Assistance
- Mr. Dale Knutson, Federal Project Director, Waste Treatment Plant
- Ms. Susan Leckband, Hanford Advisory Board
- Mr. Frank Marcinowski, Deputy Assistant Secretary for Technical and Regulatory Support
- Ms. Pamela McCann, DOE Office of Environmental Management
- Mr. David McCoy, Citizen Action New Mexico
- Mr. John Mocknick, DOE Office of Environmental Management
- Ms. Shirley Olinger, Principal Deputy for Corporate Operations, Office of Environmental Management
- Mr. Ken Picha, DOE Office of Environmental Management
- Mr. Gary Riner, Acting Deputy Assistant Secretary for Project Management
- Ms. Leslie Rodriguez, e-Management
- Ms. Jennifer Schaefer, PRC
- Ms. Elizabeth Schmitt, e-Management
- Mr. Jack Surash, Deputy Assistant Secretary for Acquisition and Contract Management
- Mr. Robert Suyama, Hanford Advisory Board
- Dr. Inés Triay, Assistant Secretary for Environmental Management
- Mr. Ralph Young, Paducah EM SSAB

LIST OF ACRONYMS

ANA – Alliance for Nuclear Accountability

ARRA – American Recovery and Reinvestment Act

APMS – Acquisition and Project Management Subcommittee

BRAC – Defense Base Closure and Realignment Commission

CBC – Consolidated Business Center

CD – Critical Decision

CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

CFO – Chief Financial Officer

CGD – Commercial Grade Dedication

CNNS – Concerned Citizens for Nuclear Safety

CO – Contracting Officer

COO – Chief Operating Officer

CPR – Construction Project Review

D&D – Decontamination & Decommissioning

DAS – Deputy Assistant Secretary

DFO – Designated Federal Officer

DNFSB – Defense Nuclear Facility Safety Board

DOE – Department of Energy

DoD – Department of Defense

DWPF – Defense Waste Processing Facility

ECA – Energy Communities Alliance

EFRT – External Flowsheet Review Team

EIR – External Independent Review

EIS – Environmental Impact Statement

EM – Office of Environmental Management

EM-1 – Assistant Secretary for the Office of Environmental Management

EM-2 – Principal Deputy Assistant Secretary for the Office of Environmental Management

EM-3 – Chief Technical Officer for the Office of Environmental Management

EM-3.1 – EM Recovery Act Program

EM-4 – Chief Business Officer for the Office of Environmental Management

EM-4.1 – Office of Management and Systems Analysis

EM-5 – Office of Communications and External Affairs

EM-10 – Office of Project Management

EM-20 – Office of Safety and Security Programs

EM-30 – Office of Technology Innovation and Development

EM-40 – Office of Technical and Regulatory Support

EM-50 – Office of Program and Site Support

EM-60 – Office of Program Planning and Budget

EM-70 – Office of Human Capital and Corporate Services

EM-80 Office of Acquisition and Contract Management

EMAB – Environmental Management Advisory Board

EM SSAB – Environmental Management Site-Specific Advisory Board

EPA – Environmental Protection Agency

EPC – Engineering, Procurement, and Construction

EPI – Energy Parks Initiative

ETTP – East Tennessee Technology Park

FACA – Federal Advisory Committee Act

FHCS – Federal Human Capital Survey

FPD – Federal Project Director

FTE – Full-Time Equivalent

FY – Fiscal Year

GAO – Government Accountability Office

GC – General Counsel

GO/GO – Government-Owned/Government-Operated

HEU – Highly Enriched Uranium

HCA – Head of Contract Activity

HLW – High-Level Waste

HR – Human Resources

HQ – Headquarters

IDF – Integrated Disposal Facility

IDIQ – Indefinite Delivery, Indefinite Quantity

ICE – Independent Cost Estimate

INL – Idaho National Laboratory

IPABS – Integrated Planning, Accountability & Budget System

IPT – Integrated Project Team

ISMS – Integrated Safety Management System

LAW – Low Activity Waste

LEU – Low Enriched Uranium

LM – Office of Legacy Management

LTS – Long-Term Stewardship

MA – Office of Management

M&I – Management and Integration

M&O – Management and Operating

MAA – Material Access Area

MDA – Material Disposal Area

MLLW – Mixed Low-Level Waste

NAPA – National Academy of Public Administration

NAS – National Academy of Sciences

NGA – National Governors Association

NE – Office of Nuclear Energy

NEPA – National Environmental Policy Act

NNSA – National Nuclear Security Administration

NRC – Nuclear Regulatory Commission

OECM – Office of Engineering and Construction Management

OMB – Office of Management and Budget

OPM – Office of Personnel Management

ORP – Office of River Protection

OSHA – Occupational Safety & Health Administration

PARS – Project Assessment Reporting System

PBS – Project Baseline Summary

PDC – Professional Development Corps

PT – Pretreatment

QA – Quality Assurance

QPR – Quarterly Project Review

R&D – Research and Development

RCRA – Resource Conservation and Recovery Act

REA – Request for Equitable Adjustment

RFP – Request for Proposal

ROD – Record of Decision

SC – Office of Science

SEB – Source Evaluation Board

SES – Senior Executive Service

SRS – Savannah River Site

TEG – Technical Expert Group

TSCA – Toxic Substance Control Act

TPA – Tri-Party Agreement

TRU – Transuranic Waste

TWS – Tank Waste Subcommittee

USACE – United States Army Corps of Engineers

WIPP – Waste Isolation Pilot Plant

WTP – Waste Treatment Plant

MEETING MINUTES

Opening Remarks

Mr. James Ajello, Chair of the U.S. Department of Energy's (DOE) Environmental Management Advisory Board (EMAB or Board), called the meeting to order at 9:00 a.m. MDT. He welcomed members of the Board and public to the proceedings and noted that member A. James Barnes was scheduled to participate via teleconference along with several technical consultants from the EMAB subcommittees.

Mr. Ajello referred individuals interested in more information on EM and EMAB to their respective websites: www.em.doe.gov and www.em.doe.gov/emab.

EM Program Update

Dr. Inés Triay, Assistant Secretary for the Office of Environmental Management (EM), provided the Board with an update on the EM program. A copy of her presentation is available online at http://www.em.doe.gov/pdfs/emab/EM%20Update%20Presentation.Final.pdf.

Dr. Triay summarized a number of programmatic updates that had occurred since EMAB's last meeting in March 2010. Most notably, EM is developing a roadmap document for the Journey to Excellence that will lay out the goals and strategies for realizing the program's full potential. The roadmap will serve as a blueprint for how EM does business and should transcend changes in political leadership by providing a solid, enduring foundation from which future Assistant Secretaries can launch their initiatives. EMAB was encouraged to provide feedback and assistance in the development and implementation of the Journey to Excellence Roadmap.

Dr. Triay briefly reviewed EM's mission statement and Secretary Chu's key guiding management principles for the Department. In particular, Dr. Triay highlighted the need to treat EM's people as the program's greatest asset. Focus on this management principle will play an important role in the Journey to Excellence Roadmap.

EM strives to maintain a safe, secure, and compliant posture throughout the complex. Its greater programmatic priorities are based on risk, which is determined by the amount of radioactivity per unit volume; activities that present the greatest risk are at the top of the list. Radioactivity-based priorities are unquestionably very important, but there are other factors to take into account when identifying program priorities as well. EM recognizes the need to develop a more holistic approach to prioritization that balances radioactivity risks with other factors such as regulatory compliance and business case scenarios, in order to optimize use of the program's resources. EMAB's input on the issue of prioritization is welcomed.

EM's Journey to Excellence features four program goals:

1. Timely completion of tank waste treatment facilities
2. Reduction of lifecycle costs and accelerated cleanup of the Cold War legacy
3. Disposition of 90% legacy transuranic (TRU) waste by 2015
4. Reduction of the EM footprint by 40% in 2011, leading to 90% by 2015

The first two goals are closely intertwined because EM's lifecycle costs are largely controlled by tank waste cleanup; it is imperative that EM tackle this challenge. EMAB, and specifically the Board's Tank Waste Subcommittee (TWS), can help EM attain these first two goals by identifying transformative strategies and solutions that will help reduce lifecycle costs and accelerate cleanup.

EM's programmatic success depends on the achievement of three critical management goals:

1. Improve safety performance
2. Improve project and contract management
3. Demonstrate excellence in management and leadership

Dr. Triay noted that in addition to the work of the Acquisition and Project Management Subcommittee (APMS) on the second goal, EMAB's assistance with the third goal would be very useful, especially with regard to determining the types of talent that EM needs to recruit and retain, and how the program can become an employer of choice, an organization that people want to be a part of.

Dr. Triay concluded her presentation with a review of the focus areas that EMAB will pursue in Fiscal Year (FY) 2011: Tank Waste, Project and Contract Management, and Human Capital.

Discussion

Mr. Ajello asked for direction regarding how EMAB should proceed with its work on the Journey to Excellence Roadmap.

Dr. Triay stated that the Roadmap is significant enough to warrant a subcommittee. In particular, the subcommittee should focus on the management goals, the "how-to" framework, outlined in the Roadmap.

Dr. Triay also revisited how EM's goals of completing tank waste treatment facilities and reducing lifecycle costs go hand in hand, a connection that links the efforts of the TWS to EMAB's focus on the Roadmap. EM needs to make some difficult decisions regarding its resources and funding for research and development (R&D). One development that Secretary Chu has shared is the possibility of mounting an R&D effort of $200 million annually for EM; this effort will likely be reflected in the upcoming DOE Strategic Plan. Tank waste technologies and strategies are one of several areas that the R&D program could address.

Investment in tank waste technologies can have significant impact on lifecycle costs and schedules, as demonstrated by modeling exercises for the Tank-48 project at Savannah River Site (SRS) and in-tank treatment options for Hanford. For example, a $271 million investment in steam reforming and in-tank treatment systems at SRS could potentially save $3 billion dollars and accelerate cleanup by six years. Much work needs to be done before EM can move in transformational directions, but that is why an R&D program is needed; the Secretary will only sign on to new solutions if they can be proven through R&D.

Dr. Dennis Ferrigno suggested two sub-topics that could be added under EMAB's continued focus on project and contract management: (1) consistency of lifecycle cost analyses across EM's sites and projects, and (2) project management and control (i.e. change management and configuration management). Basing project control changes on historical data versus forecasted data may help EM manage current projects and add greater consistency to lifecycle cost analyses and forecasting models.

Dr. Triay responded that she looks forward to working with EMAB on those issues.

Mr. Paul Dabbar stated that through the successful execution of the Recovery Act Program, EM has acquired a number of new tools for defending its projects and budget requests on financial and strategic planning grounds. A lot of good data was generated throughout the course of the Recovery Act Program that can be used to analyze alternative funding scenarios and make compelling arguments for increased funding going forward.

Mr. Robert Thompson addressed the issue of EM's footprint reduction goals. From a local community perspective, stakeholders have an interest in aggressively reducing EM's footprint. However, there is still uncertainty regarding whether the assets freed up by footprint reduction will be made available for local use or stay under the control of DOE.

Dr. Triay stated that DOE is extremely supportive of reutilizing assets. She also suggested that EMAB engage the EM Site-Specific Advisory Board (SSAB) on this issue going forward, because local communities are the ones that need to develop joint visions for the future of the sites and asset reutilization. EM will continue to pursue its cleanup mission and free up assets for reuse, and DOE will retain institutional controls where appropriate. Footprint reduction provides local communities with an opportunity to collectively decide a path forward.

Mr. Keith Klein noted that EM and DOE need to first develop and explain the tools and processes whereby DOE will decide who gets to use the land and assets being freed up by footprint reduction and for what purposes. Once those components are in place, the users will find a way to optimize them and implement the asset reutilization initiative.

EMAB Tank Waste Subcommittee Report

Dr. Ferrigno and Dr. Papay, co-chairs of the EMAB Tank Waste Subcommittee (TWS), provided an overview of the subcommittee's report, entitled *Findings, Conclusions, and Recommendations Concerning the Waste Treatment and Immobilization Project at Hanford*. A copy of the subcommittee's presentation is available online at http://www.em.doe.gov/pdfs/emab/EM-TWS-WTP%20Report%20Presentation%20Sept%2015-%20FINAL.pdf. The subcommittee's full report is available online at http://www.em.doe.gov/pdfs/Final%204-Oct-10%20-%20EMAB%20Tank%20Waste%20Subcommittee%20Full%20Report.pdf.

In addition to Dr. Ferrigno and Dr. Papay, members of the TWS include Dr. Kevin Brown, Dr. Edward Lahoda, Dr. Alan Leviton, Dr. Bernard Meyers, Dr. David Shuh, and Dr. James Stevens; biographies for the TWS members are available online at http://www.em.doe.gov/stakepages/emabsubcommittees.aspx. The subcommittee was assisted by Dr. Pamela Logan, the EMAB Deputy-Designated Federal Officer for the TWS; Dr. Barry Naft, Dr. Herb Sutter, and Dr. Steven Agnew, who provided technical support; and Ms. Elaine Merchant, who performed technical editing.

Dr. Papay summarized the TWS mission, which is to provide independent technical reviews of EM's tank waste cleanup programs at Hanford, SRS, and the Idaho National Laboratory. The subcommittee's initial task and the subject matter of its first report focused on three charges at the Hanford site: verification of closure of the Waste Treatment and Immobilization Plant (WTP) External Flowsheet Review Team (EFRT) Issues; WTP Technical Design Review; and WTP Potential Improvements.

After the TWS received its charge in May 2010, the subcommittee held numerous conference calls and three formal meetings at the Hanford site and in Washington DC. Dr. Papay noted that the subcommittee was able to meet in closed sessions while still complying with the provisions of the Federal Advisory Committee Act (FACA). The closed sessions were necessary in order for the subcommittee to complete its work in such a short timeframe. Additionally, the subcommittee and technical staff collected and reviewed over 1,000 documents in the course of this intense effort to develop a consensus report for EMAB's consideration.

Dr. Ferrigno provided a brief overview of the WTP's background, and explained that it is a highly complex, first of a kind plant comprised of four integrated facilities and additional support infrastructure. One underlying theme of particular interest to the TWS was that the WTP is both a nuclear facility and a

chemical treatment plant. The WTP will receive an estimated 53 million gallons of waste from 177 tanks for treatment. The breadth of the waste's chemical content and estimated 175,000 curies of radioactive material is staggering.

Following this overview, Dr. Ferrigno spoke to a number of diagrams depicting waste treatment process flow and the Pretreatment (PT), High-Level Waste (HLW), Low-Activity Waste (LAW), and Analytical Laboratory (Lab) facilities. He noted that, given the complexity of the materials, sequencing, and components of the facilities, it is important to maintain the flexibility needed to deal with the various types of chemicals and radioisotopes. Other notable examples that Dr. Ferrigno cited with regard to the WTP's complexity included the hot cells, melters and associated piping and valves, and walls that are necessary for both structure and the containment of radioactivity. He also noted that at the time of the TWS's review, the Lab was mechanically complete and was awaiting the receipt of some additional laboratory equipment, which had since been delivered.

The WTP project is in its tenth year of development. Engineering is more than 81% complete and construction is more than 50% complete. Hot commissioning is planned for 2019, but there are plans underway to explore opportunities for accelerating that schedule. The WTP mission will be complete in 2047, but there are various plans under review that may shorten this schedule as well.

Dr. Ferrigno reviewed a summary of major milestones and noted that in the subcommittee's assessment, the WTP project will be able to meet its commitments. However, as plans are developed and schedules shortened, further review will be needed to ensure that project milestones are met. Dr. Ferrigno then summarized the subcommittee's findings.

Charge 1: Verification of EFRT Issue Closure

The TWS reviewed the 28 areas of concern identified by the EFRT and concluded that they are adequately closed and that engineering, procurement, and construction (EPC) activities should continue. Specific attention was drawn to the recently closed EFRT issue M3, which pertains to the design readiness of pulse-jet mixers for five WTP non-Newtonian vessels.

The subcommittee's recommendations for its first charge correspond with various EFRT issues; a summary of the recommendations is included in the table below.

	EFRT Issue	**Significant Recommendation(s)**
Recommendation 2010-02	M1	Analyze to identify high-risk lines for plugging, reanalyze current transfer line design to ensure acceptable risk of plugging, consider physical processes for reducing or removing plugs in long lines and transfer lines, consider redundancy in high-risk lines.
Recommendation 2010-03	M3	Document the formal cost-benefit analyses to evaluate potential benefits of additional testing; clearly document the basis for the final vessel assessment closure, and, if high-risk, confirm the technical basis for scaling and ensure access to the vessel if changes are needed; evaluate the safety basis assumptions and methods and test vessel clearing methods.
Recommendation 2010-04	M5	Develop integrated prequalification protocols and "facility;" develop detailed technical basis for waste feed prequalification and use to confirm adequate laboratory capability.
Recommendation 2010-05	M8	Develop plans and possible training mock-up to address

		remotability concerns.
Recommendation 2010-06	M10	Provide additional documentation regarding the criteria used for best value selection; evaluate single supplier for IX resin seed.
Recommendation 2010-07	M14	Extended testing to confirm ion exchange capacity and resin physical stability/lifetime at this temperature; conduct hazards and operability study.
Recommendation 2010-08	M15	Update OR model more frequently (evaluate Reliability, Availability, Maintainability, and Quality Control.
Recommendation 2010-09	P1	Continue to review the impact of foaming; review simulants.
Recommendation 2010-10	P4	Assess impact of changes to prevent recently observed gelation/precipitation.
Recommendation 2010-11	P5	Ensure the availability of RF resin seeds for WTP operations.

Charge 2: WTP Technical Design

Based on its review of the design processes and systems being employed, the TWS concluded that independent of the EFRT issues previously discussed, (1) no substantial risk to compliance with contract functional specifications was identified, and (2) the design appears to be sufficiently mature to proceed with completion of EPC. Overall, the TWS was pleased with its findings for this charge.

The TWS recognized that the WTP has reached a pivotal point; although the project is not complete, EM and its contractors need to begin thinking as owner-operators and focus on start-up and commissioning.

Dr. Ferrigno summarized observations regarding the WTP technical design that are discussed in the subcommittee's report. In particular, he noted that while the design is adequate for the WTP mission and in compliance with contract specifications, the WTP is constrained in terms of space and system capacity. He also reviewed the TWS proposed recommendations for this charge:

Recommendation 2010-12: The EPC process should proceed to completion.

Recommendation 2010-13: Given WTP's size and complexity, some future level of nonconformance could evolve; diligence should be maintained in conducting regular and redundant audits to identify and mitigate potential impacts.

Recommendation 2010-14: With the project at its current advanced state of maturation and given the full closure of outstanding EFRT concerns, the focus of attention should shift from EPC to EPCC. This focus requires a coordinated effort by a single owner-operator representative in marrying WTP and tank farm activities.

Recommendation 2010-15: DOE, as the project owner-operator, should take near-term action to create a resource base that is concerned with operability and integration of operability concerns and commissioning activities with the tank farm and WTP.

Recommendation 2010-16: To support this new resource base, DOE should take action to obtain an integrated tank farm/WTP plant operator as soon as practicable.

Charge 3: WTP Potential Improvements

Dr. Ferrigno reported that the TWS developed a number of recommendations regarding reduction of the tank waste cleanup's lifecycle costs and schedule.

Recommendation 2010-17: Unify the mission with single-point authority and oversight. The TWS believes that the Office of River Protection's (ORP) mission should be run as a single program that incorporates the WTP and tank farms. When it comes to commissioning, having a single-line of authority

could prove very beneficial for making priority choices among project contracts, programs, and future plans.

Recommendation 2010-18: Create a strong owner/operator group.

Recommendation 2010-19: Alter current contractual startup plans to conform with chemical industry best practices. Dr. Ferrigno cited the example of formal hazardous operations reviews in particular.

Recommendation 2010-20: Begin development of operator training plans and tools.

Recommendation 2010-21: Evaluate options for improving availability.

Dr. Ferrigno discussed some of the subcommittee's observations regarding its third charge. The TWS did not feel that the WTP and tank farm missions were well-integrated. As EM heads toward the process plan for WTP, stronger mission alignment and integration are needed. DOE, as the owner-operator, needs to bring the resources and organizations of both missions together into a single focus for the commissioning of the plant.

The TWS also found that DOE has been heavily focused on the design and construction of WTP, but it is reaching a pivotal point and needs to begin focusing on commissioning. It appears that the earliest possible execution of an operator contract is two years away. Successful chemical and nuclear industry projects have generally incorporated a strong owner-operator presence from the very beginning, a practice that would help DOE essentially advance the team, which would be particularly helpful if it decides to accelerate commissioning. Dr. Ferrigno cited past Government-Owned/Government-Operated (GO/GO) examples from DOE, such as the Fossil Program, the national laboratories with their M&O structures, and the Manhattan Project, in support of the subcommittee's observations.

Plant performance testing and contractual acceptance should not take priority over the early demonstration of plant systems based on easier-to-process feed streams. It is important for the operators to learn how to use the plant, and to confirm that everything is properly sequenced. The TWS will ask for a review of the sequence of processing for the benefit and security of the plant.

Once operational, the WTP will be a chemical plant that processes radioactive matter, a specialized chemical industry. Dr. Ferrigno added that the TWS also discussed improving the plant's availability. Suggested options for improving availability include: establishing an integrated commissioning plan; reviewing the prequalification sampling capability criteria and plan; reviewing the adequacy of sampling to comply with current and future needs; developing integrated WTP/tank farm cost-benefit models; and considering a chemistry-oriented model to aid in operational control and confirmation of instrument and control logic, and developing inputs to that model.

Dr. Ferrigno described the TWS's vision for the owner-operator group's (recommendation 2010-18) task in greater depth. The subcommittee believes that assessing the risk of delaying certain design decisions based on forward commissioning activities and inspection may be difficult and costly. The bottom line is that EM may want a full-scale model. The owner-operator group should complete a commissioning readiness analysis, preferably sooner rather than later.

Dr. Papay reviewed two diagrams depicting the subcommittee's suggestions for how ORP could organize the resources needed to accomplish owner-operator commissioning. The proposed organization would bring together people from both the tank farm and WTP contracts, as well as experts from outside organizations to assist in commissioning. Dr. Papay noted that this organization needs to come together as quickly as possible.

The TWS also observed that ORP has three different federal project directors (FPDs) for the tank farms, WTP, and commission planning and operations. However, if ORP is going to proceed with an integrated project, these functions need to be centralized under a single head, an ORP FPD; somebody needs to be on top of the organization that has ownership for the integration of the facility.

Discussion

Mr. Ajello noted that Mr. Klein had recused himself from discussion of the TWS report.

Mr. John Owsley asked if there were opportunities to apply the lessons learned and general project management principles recommended for the WTP to other EM projects.

Dr. Papay responded in the affirmative. DOE will need to determine how to package those lessons learned and disseminate them to other sites.

Mr. David Swindle asked if the TWS identified any other technology risk areas beyond those discussed in the report that require further attention.

Dr. Ferrigno indicated that there were some areas identified during the technical reviews, and cited the gelation concern as an example. The TWS believes that DOE should start trying to establish simulants for understanding the feed processes, and should perform programmatic HAZOP reviews. The TWS also feels that modeling for radiochemistry projections is needed. With regard to technology, no specific or urgent technology needs were identified. The TWS believes that the technological basis for the WTP is sound. Dr. Ferrigno added that outside the WTP project, and therefore outside the scope of the subcommittee's review, DOE is looking at steam reforming and early LAW processing to meet mission requirements. In the future, the TWS may recommend that its review be expanded to include the tank farms and early LAW processing.

Mr. Swindle asked whether the TWS observed any scalability issues.

Dr. Ferrigno stated that the TWS is concerned about scalability, which is why it recommends that DOE seriously consider higher-level scaling and potentially full-scale modeling. Large-scale models could serve as tools to help the operator learn how to use the plant and understand how mixing will occur. Some members of the TWS came to a strong consensus that the pulse jet mixer should be subjected to higher-scaled modeling.

Mr. Ajello asked if the risks of proceeding without a model of greater dimension were unacceptable.

Dr. Ferrigno responded that the TWS believes DOE's understanding of the entire process is sufficient for completing construction. However, there are a number of issues that have been pushed to the commissioning phase; essentially, the questions have been postponed. The TWS members believe that, in preparation for commissioning the pulse jet mixer area, a higher-scaled physical model would be very beneficial for the operator.

Mr. Willie Preacher commented that there should be an opportunity for the WTP operator to share its experiences and technologies with other facilities throughout the complex, and also utilize those other operators in developing a chain program.

Dr. Ferrigno applauded Mr. Preacher's comment and reiterated the importance of sharing expertise from an operations perspective.

Ms. Jennifer Salisbury asked Dr. Ferrigno and Dr. Papay to comment on the implications of EM not adopting a single-point authority model sooner rather than later.

Dr. Papay commented that communication is necessary if there are multiple points of contact. But there may be differences in priorities among the different FPDs. A common point of authority is needed in order to determine which priorities come first and how resources should be allocated. Otherwise, the synergy could get lost in debate.

Dr. Ferrigno concurred with Dr. Papay's response that the WTP needs one master, not a committee of three. This single point of authority becomes particularly important as the project enters commissioning in order to effectively integrate the various needs, compliance criteria, schedules, and missions.

Dr. James Stevens opined that the Environmental Protection Agency (EPA) appears to have a better idea for how these types of projects should be structured that is based on its experience with hazardous waste treatment facilities, which are very similar. He suggested that to get started right away, he would first draft something like a permit. EPA's hazardous waste treatment plants may provide a good organizational model to start with since they relate to both nuclear and chemical issues.

Mr. Dale Knutson, the WTP FPD, confirmed that the EFRT M3 closure package contains a path forward for larger-scale testing, and that ORP will certainly consider the issues associated with integrating the tank farms as it moves forward with the organizational construction of WTP commissioning. He commented that it is daunting to look at the way the complexities of the WTP project are characterized in the TWS report. ORP has a very qualified team in place, but obviously reinforcement is needed. He asked Dr. Ferrigno and Dr. Papay to comment on the two-year timeframe referenced in the subcommittee's proposed organizational approach, and whether that information was based on an understanding of the existing tank operating contract or some other constraint.

Dr. Ferrigno explained that the two-year timeframe refers to time it takes to progress through the acquisition process and award a contract. However, it was the subcommittee's consensus that DOE take on that initiative as a GO/GO in the meantime in order to get things started in that direction.

Mr. Knutson stated that DOE would certainly look into the GO/GO concept.

Mr. Ken Picha, EM Headquarters (HQ) sponsor for WTP, asked whether the sampling that Dr. Ferrigno alluded to was discussed in greater detail in the TWS report.

Dr. Ferrigno confirmed that it is discussed in the report and relates to one of the EFRT issues regarding the Lab and Lab capacity.

Dr. Kevin Brown added that it also calls for prequalification.

Dr. Ferrigno explained that prequalification is referenced in the report's appendix. The TWS members think that the Lab's capacity may be suspect and that additional backups may be needed for other reasons.

Dr. Triay summarized the subcommittee's position, by stating that acquisition experts told the TWS that it takes approximately two years between acquisition planning and the time of award. Based on that information, the TWS suggested that ORP should use those two years to form a team of experts to cover the gap until the contract for an operator is officially awarded.

Dr. Triay asked if there were any parallels between Hanford and SRS with regard to tank waste. At SRS, EM has one contractor that operates the tank farms and facilities that are already in place, while another

contractor is tasked with building the Salt Waste Processing Facility. She inquired as to whether there was anything that could be adopted from the SRS situation, or whether the WTP at Hanford was sufficiently unique.

Dr. Ferrigno suggested that the uniqueness of WTP had to do with the system's complexity, size, and number of tanks. He asked whether the TWS could address Dr. Triay's question after it begins its review at SRS.

Dr. Triay approved Dr. Ferrigno's suggestion. She also asked if the TWS engaged in any dialogue regarding the acceleration of the WTP design and wondered whether the subcommittee developed any opinions regarding that possibility.

Dr. Ferrigno noted that in reviewing the design schedule, the TWS identified an approximately six month positive float, although that is a contingency. Positive float is a good thing. The subcommittee members did have some thoughts regarding areas that stall, but were not prepared to comment on them at the time of the public meeting. The TWS would need to review the WTP schedule and activity charts in greater detail in order to form an opinion as to whether the design could definitely be accelerated. However, it does believe that the positive float is real and that the WTP can comply with meeting the deadlines currently established for the planned operation.

Mr. Ajello called for the approval of the Subcommittee's proposed report and recommendations, whereupon the recommendations were unanimously approved.

Acquisition and Project Management Panel

Project Management

Mr. Gary Riner, Acting Deputy Assistant Secretary for Project Management, provided an overview of EM's project management efforts. A copy of Mr. Riner's presentation is available online at http://www.em.doe.gov/pdfs/emab/Riner%20Project%20Management%20PresentationFINAL.pdf

Mr. Riner stated that great deal of effort is underway, including recommendations from EMAB, toward making EM one of the federal government's best-managed programs and removing it from Government Accountability Office's (GAO) High-Risk List.

EM has restructured its portfolio, moving away from a project-oriented, privatized approach that resulted in underfunded projects and back into operations activities and cleanup projects. Additionally, EM is moving some CD-2/3 projects back to CD-0/1. When funds are available, and the design and the technical risk are sufficiently controlled or monitored, EM will take these projects back through the CD-2 process and perform external independent reviews. Unfortunately, the DOE Office of Engineering and Construction Management (OECM) is pressuring EM to consider these as failed projects at the project baseline summary level.

Mr. Riner discussed EM's project management partnership with the US Army Corps of Engineers (USACE). Originally, USACE focused on cost engineering and project control support; more recently, its focus is on construction management, quality assurance (QA), engineering, and technical services. In many cases there are insufficient numbers of FTEs working on projects. Additionally, EM is making use of the Technical Expert Group (TEG), which is comprised of scientists from the national laboratories, to obtain advice and conduct technology assessments. Mr. Riner suggested that EM needs to make greater use of the TEG, even on smaller projects.

Regarding construction project reviews (CPRs), EM is using the Office of Science's (SC) model and the Secretary has confidence in the process. The key is to conduct follow-up CPRs to ensure that previous recommendations have been implemented. EM is also implementing the Project Assessment and Reporting System (PARS) II, which will provide timely, accurate and auditable project information. There is a push to have all projects reporting in PARS-II by September 30, 2010. EM has achieved approximately 80% completion for this goal.

Mr. Riner discussed lessons learned and pointed out that DOE recently published Project Management Lessons Learned (DOE Guide 413.3-11). Mr. Riner is exploring the formation of an EM lessons learned team and database to share information across projects.

In terms of EM's portfolio success metric, this year EM will achieve 100% success on its seven completed projects. Next year, EM will have 39 projects, 32 of which are driven by the American Recovery and Reinvestment Act (ARRA) and will deliver 92% of those projects. In 2012, EM will have nine projects, five from the base program, and four from ARRA, and will deliver a success rate of 89%. These high percentages indicate that EM has practiced successful project management. In addition, EM has reduced its numbers of red and yellow projects. Realistically, some projects are going to fail, when measured against their original baselines; Mr. Riner cited the WTP as one of those projects. Others will be considered as failed projects because EM re-baselined them at some point during their lifecycle. EM's goal is to re-baseline while keeping projects in the green by showing OECM that today's project management practices will be effective going forward.

Mr. Riner noted that the EM program is making progress with regard to certified Earned Value Management Systems (EVMS). EM needs to be certified within the dollar level that has been assigned to projects. EM is also making substantial progress in certifying its Federal Project Directors (FPDs).

In summary, Mr. Riner reaffirmed that EM is committed to continuous project management improvement and removal from the GAO High-Risk List. Its objective is to deliver results. EM will continue to improve its strategies and success metrics.

Acquisition and Contract Management

Mr. Jack Surash, Deputy Assistant Secretary for the Office of Acquisition and Contract Management, briefed the Board on recent contract awards, upcoming procurements, and ongoing initiatives, with the assistance of Mr. Reggie James, Acting Director for the Office of Contract Assistance, and Mr. Mike Howard, Director for the Office of Procurement Planning. A copy of Mr. Surash's presentation is available online at http://www.em.doe.gov/pdfs/emab/Surash%20Acquisition%20and%20Contract%20Management%20PresentationFINAL.pdf.

Mr. Surash reviewed a number of major contracts that had been awarded since March 2010. Among the awards discussed, the contract for the Oak Ridge K-33 facility decontamination and decommissioning (D&D) work was highlighted because it is the first fixed-price prime contract that EM has awarded in a long time. Mr. Surash also singled out the Portsmouth D&D contract awarded in August 2010, as it is the first large procurement that EM completed by employing the EM Acquisition Center concept.

Following the review of recent contract awards, Mr. Surash provided the Board with an overview of upcoming procurements, including contracts for the Depleted Uranium Hexafluoride project at Portsmouth and Paducah; multiple award IDIQ unrestricted contract for nationwide environmental services; East Tennessee Technology Park (ETTP) at Oak Ridge; West Valley demonstration project;

Moab remedial actions; Idaho cleanup project; Carlsbad carrier services and operations; and the Hanford occupational medical services.

EM has continued to make progress in its work with small businesses; small business contracts comprise 20% of the program's total contract portfolio. Furthermore, small business prime contracts account for 8-9%, or $600 million, of all EM's prime contract funding for FY 2010, surpassing EM's original FY 2010 goal of 5%.

In early 2010, EM undertook a Procurement and Contract Management Initiative in order to improve the way contracts are selected and administered. Implementation of the initiative consisted of an EM-wide survey for identifying specific contract management issues, and targeted workshops for key contractor executives and federal contract managers. The results of these activities were used to develop three consensus recommendations for EM to address throughout the remainder of FY 2010.

The first recommendation states: "In collaboration with industry, streamline, standardize, and inculcate across the EM community a streamlined Request for Proposal (RFP) process." EM piloted the concepts and procedures alluded to in the recommendation during the RFP process for the Oak Ridge ETTP project. Mr. Howard provided the Board with an overview of some of the strategies and processes that EM employed during the ETTP procurement that will be included in future RFPs, such as using lessons learned from similar procurements; standardizing clauses and criteria; reducing the level of required cost detail; increasing communication with industry and incorporating feedback into the RFP; developing more specific claim structures; increasing contracting opportunities by clearly communicating expectations for subcontractor and small business involvement; instituting a partnering clause as part of the contract requirements; and working with industry to develop performance-based incentives.

The second recommendation is for EM to "develop guidelines for 'partnering' with industry for mutual success." EM plans to develop Partnering Agreements at the site level that are modeled after those used by other federal agencies. Successful partnerships require open communication and an agreement to work together toward solutions; EM-1 released a policy statement to this effect in June 2010. A framework for partnering is currently with the sites for review. Additionally, a clause will be included in future RFPs, such as the Portsmouth D&D contract, to provide for the option of a partnering relationship.

The final recommendation directs EM to "revisit, revamp, and clarify the true-up phase of the post-award process." During the passage of time between when RFPs are issued and contracts are actually awarded, conditions and needs on the ground may differ from those outlined in the original Statement of Work, requiring that the contract be "trued-up" with reality. EM has started addressing this recommendation by meeting with the teams responsible for the program's four largest contracts in two-day sessions to discuss issues such as lessons learned, contract change control processes, EVMS certification, etc. A similar effort will be applied to the upcoming Portsmouth D&D contract. The sessions have helped management identify some areas that need to be addressed in order to improve the post-award process. Additionally EM is working with various contractor representatives to ensure that there is continued corporate engagement throughout the post-award phase to support contract transition.

Discussion

Mr. G. Brian Estes asked Mr. Riner whether EM had the funding to overcome the staffing shortages referenced in the USACE report.

Mr. Riner stated that USACE has not issued its final report and that EM has not yet addressed this issue.

Dr. Triay expressed some uncertainty concerning the stated need for additional FTEs. She asked the Board to provide advice on what private industry has done to get back on track when it comes to construction projects.

Mr. Owsley asked what will happen to operations activities funded under ARRA once the Recovery Act Program comes to an end.

Ms. Cynthia Anderson, Director for the EM Recovery Act Program, responded that once the Recovery Act concludes, EM will have completed all of the ARRA capital asset projects, and the remaining operational work will be folded back into the base program. The Recovery Act Program is working hand-in-hand with the base EM program to transfer lessons learned. Currently, the only difference between the Recovery Act and the base programs is the number of project reviews. Both programs track performance metrics, but the ARRA program is more open and transparent. The desire is to have the base program follow the same procedure and approaches as the ARRA program. After the Recovery Act Program is complete, there will only be a base EM program, albeit one with some improvements and lessons learned taken from the ARRA projects.

Mr. Owsley commented that it would be a good idea to share the CPRs with regulators, especially when those reviews result in a baseline restructuring that impacts compliance schedules. He also commented that if a CERCLA project has difficulty and is associated with DOE Orders that were established as applicable and/or relevant to that project, then there would need to be a three-party decision as to whether or not the substantive requirements of that Order were being met. He noted that for the State of Tennessee, in its Federal Facilities Agreement, the definition of whether a substantive requirement is being met, and whether it is an administrative requirement, is fairly simple. If it is a piece of paper that is required, then it is administrative, but if the safety requirements were the PPE, the containment, then the substantive requirement of that Order was being met, and the project would not stop.

Dr. Triay commented that she and Ms. Anderson agree that if EM had stayed with the CERCLA framework rather than trying to layer a DOE Order 413 framework on top of CERCLA, EM would have been more successful in managing its portfolio.

Mr. Owsley noted that it is not just DOE deciding whether the substantive requirements of its Orders are being met; the decision also involves the States and the EPA.

Dr. Ferrigno commented that in the past, some contracts were bid at unrealistically low levels, and the Department paid a price for that unrealistic pricing. To ensure that projects do not end up on the GAO High-Risk List, EM needs to focus on its initial baseline submissions as well as the tools and project execution. In most cases, when jobs go sour on the cost side, it's because the estimates that provided the foundation for the contract award were not realistic. Dr. Ferrigno advised EM to be rigorous in its fees, but cautioned the program not to set the price too low in order to avoid having GAO cite EM for overrunning the budget.

Mr. Riner agreed with Dr. Ferrigno's comments, and noted that the independent government estimate is going to be the baseline and EM's contingency. This is what EM signs on to with GAO. The contractor's accountability on cost-plus contracts needs to be reflected in its fee.

Mr. Surash gave an example of a contract award based on best value. The contract estimated cost and award is what the winning proposer proposes; it is not the Government's estimate. EM needs to assess the risks for executing that project. The contractor should own whatever risks are in the contract; DOE owns the risks that are not are not in the contract. If the contractor's bid was low-balled, there needs to be an amount built into DOE's contingency, whatever EM thinks it should be. EM then gets graded on the

federal baseline that the DOE executive approved. This baseline includes the funding needed by the Contractor, to include the post-management baseline and management reserve and fee, and also an amount determined by DOE based on various risk analyses. EM will pay costs on a cost-plus contract, but the contractor will receive lower fees and receive bad scores for cost control.

Mr. Ajello commended Mr. Surash on EM's progress in small business contracting and asked him about prospects for future small business involvement in the EM program.

Mr. Surash responded that in the future, EM will try to balance prime small business work at the site level. Currently, certain EM sites have significant amounts of small business prime contractors while other sites have very little. He further noted that the ARRA program aimed at a voluntarily goal of 5% small business participation.

EMAB Acquisition and Project Management Subcommittee Report

Mr. Estes and Mr. Swindle, co-chairs of the EMAB Acquisition and Project Management Subcommittee (APMS), provided an overview of the subcommittee's report, entitled *Removal of EM Projects from the GAO High Risk List: Strategies for Improving the Effectiveness of Project and Contract Management in the Office of Environmental Management*. A copy of the subcommittee's full report and recommendations is available online at http://www.em.doe.gov/pdfs/Final%20Report%20-%20Acquisition%20and%20Project%20Management.pdf.

Mr. Swindle reported that when EMAB last met on March 31, 2010, Dr. Triay asked the Board to provide her with observations and recommendations regarding EM's updated strategy for reducing project and contract risks, and removing EM projects from the GAO High Risk List. In response to Dr. Triay's request, the APMS undertook a highly intensive effort to collect information and develop a report and recommendations for the Board's consideration. In addition to Mr. Swindle and Mr. Estes, members of the APMS include Dr. Papay, Dr. Frank Coffman, Mr. Stan Genega, and Mr. Greg White. EM's High Risk List status has raised the visibility of the program's project management practices and attracted the personal interest of the Secretary and DOE senior management in addition to GAO. If EM were to remain on the High Risk List, the program's future funding availability and credibility with stakeholders could be impacted. Mr. Swindle clarified that the intent of the APMS was to provide the Assistant Secretary with recommendations and considerations for avoiding future High Risk List status, and in so doing, it would provide advice that could benefit current projects as well.

Regarding the subcommittee's methodology, Mr. Swindle reported that he and his fellow members undertook a number of fact-finding discussions and reviewed a variety of studies, reports and documents, internal and external to DOE. Meetings and teleconferences were held with representatives from GAO and USACE, and senior DOE staff from EM-HQ, EM-SRS, SC, National Nuclear Security Administration (NNSA), and OECM.

Mr. Swindle reviewed a few of the overarching issues that arose in many of the subcommittee's meetings. The APMS recognizes that EM's challenges are unique compared to other government programs; this is true technically, politically, and operationally. Additionally, the APMS observed that there is a certain amount of pressure and bias for action that comes from EM's stakeholders, which the subcommittee broadly defines to include Congress, regulators, the public, and entities such as the Defense Nuclear Facility Safety Board (DNFSB). In many cases, it appeared that EM responded to these pressures by making decisions to start activities and baseline projects before technology solutions were in hand and designs were mature. Another issue, going back over the past fifteen years, is that it appears that EM's funding profiles and the distribution of funding between multi-year capital projects and program direction is not properly aligned. Finally, the roles and responsibilities between EM-HQ, the field, contractors, and

stakeholders that have evolved over time still have their roots in the Management and Operating (M&O) contractor model, which is no longer applied in EM.

Before launching in to more detail on the APMS report, Mr. Swindle noted that in the meetings that the APMS held, it was very clear that every individual was committed to EM's project management success. The subcommittee also recognized that EM has clearly undertaken a number of actions to achieve that goal. The challenge will be institutionalizing those initiatives that have been started at the top and pushing them down through the rest of the organization so that they may be embraced and adopted by the whole complex.

Mr. Swindle noted that the APMS report is divided into five focus areas: Acquisition and Contract Management; Technical Depth and Breadth; Restructuring the EM Project Portfolio; EM Culture and Management of Risks; and the Government Accountability Office. He then summarized the APMS's findings as they pertain to each of these focus areas.

1. Acquisition and Contract Management

Mr. Swindle stated that EM relies heavily on acquisition and contract management processes and procedures, along with a variety of internal and external personnel resources to accomplish its mission. The APMS's findings regarding Acquisition and Contract Management focus area fell under seven sub-topics: Procedures and Tools; the Office of Science Model; Acquisition Planning; the US Army Corps of Engineers; Technology Readiness; Change Control; and Pre-Award Contract Management.

Procedures and Tools: In its report, the subcommittee argues that EM is adequately equipped with the tools, processes, and procedures needed to effectively administer and manage its portfolio. However, EM lacks consistency in management discipline, clear lines of accountability, responsibilities and authorities, and the effective utilization of available resources from the beginning of an acquisition plan through project delivery.

Office of Science Model: The subcommittee believes that SC differs from EM in how it approaches projects and manages expectations. For example, SC is able to reach out to the national laboratory M&O contractors to develop solutions for pre-project planning prior to creating baselines. There is also recognition in SC that post-contract award administration and oversight capabilities are being anticipated before awarding contracts. Mr. Swindle noted that the APMS report addressed other differences between EM and SC in greater detail as well, namely personnel stability, partnering, project planning, and stakeholder engagement. EM has more stakeholders who can say "no" than can say "yes." Partnering and early involvement of stakeholder organizations, like the DNFSB, that could otherwise have large impacts late in the process could help EM offset future cost and schedule overruns.

Acquisition and Planning: The APMS found in its discussions with individuals both inside and outside of EM that contract types are often changed whenever new leadership comes on board. It is important to note that in the case of EM, a contract model that works for one project may not be suitable for another; there is no one-size fits all solution. The flexibility to decide alternative contracting strategies on a project by project basis during the development of an acquisition strategy is critical. But with that flexibility must come the recognition that different contract solutions require different resource levels for administration and management post-award. The APMS acknowledges that EM has made progress on this issue, especially with regard to the new Procurement and Contract Management initiative discussed by Mr. Surash and Mr. Howard.

US Army Corps of Engineers: The APMS believes that the issue of EM's relationship with USACE warrants additional emphasis. A dialogue with USACE regarding the applicability of lessons learned and

similarities between EM's work and the Corps' $16 billion program to restore flood control systems in New Orleans following Hurricane Katrina would be particularly useful.

Technology Readiness: Incorporation of technology readiness assessments into the acquisition process is an area that needs improvement, but is being adopted. Concern over the need to include technology readiness as a recognized component of the acquisition process has come across in multiple reviews from GAO and OECM.

Change Control: Change control needs to be a much more disciplined process following the award of a contract. Mr. Swindle cited an example from the SRS Salt Waste Treatment Plant where 18 months had passed before any change controls were processed for the project, resulting in the need for a global change order; technical direction had been given at to the contractor throughout that 18 month period without thorough change order documentation.

Pre-Award Contract Management: The APMS commended the EM Consolidated Business Center (CBC), which provides tools and resources for planning acquisition strategy models. However, the subcommittee found that there is a lack of ownership in the field where the work is actually performed; projects are executed in the field, not at the CBC or HQ. There was concern regarding the field's level of engagement and ability to contribute to the development of acquisition strategies. In many cases, employees who participate in developing the acquisition strategies are not the ones responsible for administering or managing the contract.

2. Technical Depth and Breadth

The APMS concluded that EM's current approach to identifying and integrating technology readiness into acquisition strategies is inadequate. Unlike SC and NNSA, which have access to M&O contractors, EM lacks immediate options for obtaining independent technical advice and evaluations for mitigating technology risks. Mr. Swindle noted that EM has made a positive step by establishing the TEG that comprises representatives from the national laboratories to provide the high-caliber expertise needed for technology assessments. It was also noted that plans to involve the representatives in acquisition planning are being considered. In its meeting with the Principal Deputy Assistant Secretary for EM, the APMS also learned that there are efforts underway to baseline projects only after 90% of the design is achieved and technology solutions are in hand. This goal should be looked at carefully because again, there is no one-size fits all solution.

3. Restructuring the EM Project Portfolio

EM's project portfolio has historically varied in scope, complexity, contingency, and schedule. EM has made progress in managing its portfolio, with much of the credit for recent improvements attributable to the Recovery Act Program. The APMS believes that the successful management of EM's project portfolio directly relates to the effectiveness of FPDs and their ability to resource and manage their projects. By integrating multiple projects at a site under a single FPD, EM could facilitate more effective program management, control, and cost effectiveness. Furthermore, the roles and responsibilities of the FPDs need to be further strengthened and clarified.

Mr. Swindle shared some of the subcommittee's observations regarding SC and NNSA, which have M&O contractors that serve as the programs' owner's-representatives. NNSA's approach was particularly notable, wherein NNSA-HQ has taken the role of "eyes on, hands off" when it comes to defining and strengthening the roles of FPDs in the field. The APMS was surprised to find that the average tenure for EM's FPDs is 12-18 months; this needs to be further verified. Based on the members' experience, consistent, stable leadership is needed for multi-year projects.

4. EM Culture and Management of Risks

EM's project management culture is characterized by constantly changing scope, schedule, and cost. Mr. Swindle noted that there are a number of contributing factors that feed into this culture, but highlighted EM's inability to maintain and enforce disciplined project management and baseline control processes from the top down. Budget changes also influence EM's ability to follow through on decisions and initiatives. Additionally, EM comes from an M&O culture where much of that change was absorbed at the contractor level.

The lack of top-down discipline contributes to high personnel turnover and frustration; the terminology used in the APMS report is "personnel churn." FPDs and leadership change frequently. The subcommittee found that a rigid change control process and lack of empowerment likely contributes to these high turnover rates.

Lastly, the APMS observed that historically, EM has applied nuclear QA standards to the requirements for many of its projects, despite the fact that many of EM projects do not present nuclear risk hazards and should instead be subject to a graded approach. As a result, EM invokes different standards of oversight and attracts the attention of organizations such as the DNFSB.

5. Government Accountability Office

The APMS observed that GAO has two overarching concerns regarding EM's project management: (1) front-end planning, which should entail consideration for managing acquisitions post-award and engaging stakeholders, and (2) a failure to oversee contractors, which ties back to the acquisition planning process and properly resourcing contract administration. Part of these issues is connected to the way that EM's funding stream is configured. EM's program direction funding structure does not provide the degree of flexibility for supporting oversight as similar government organizations, such as USACE.

In the APMS's meeting with GAO, funding constraints were discussed. There may be an opportunity to address the imbalance between program direction and program execution funding by working with appropriators to realign EM's funding profiles.

In addition to the five focus areas, Mr. Swindle highlighted some of the general observations included in the subcommittee's report. Specifically:

- EM initiates new programs and initiatives without sufficient internalizing and applying lessons learned.
- There is insufficient partnering occurring between EM and stakeholders during acquisition strategy development and planning.
- With regard to the concept of the owner's representative, there are adequate skilled personnel elsewhere in the government and private industry (i.e. USACE) that can provide EM with the expertise and flexibility it needs to staff and execute projects.

Mr. Swindle concluded his presentation by proposing five recommendations for EMAB's consideration on behalf of the APMS:

Recommendation 2010-22: EM should undertake a review and realignment of its budgets to strike a balance between needed program direction and capital asset project funding.

Recommendation 2010-23: EM should undertake an assessment of all active EM projects to clearly identify those projects or portions of projects that are subject to the rigor of 10 CFR 830, and/or are subject to the graded approach in risk categorization for QA and safety standards. In addition, during the

acquisition strategy planning process for future EM projects, the risk categorization for QA and safety standards should be identified and baselined prior to finalizing the projects' acquisition plans.

Recommendation 2010-24: EM should consider adoption of an *owner's representative* project management support model to strengthen its project management and contract management in the field.

Recommendation 2010-25: EM should reexamine the roles, responsibilities, and authorities of FPDs to strengthen the FPD positions effectiveness in project management and contractor oversight, and improve stability by reducing the turnover of FPDs on critical EM projects.

Recommendation 2010-26: EM should examine its acquisition planning and development processes to ensure that prior to baselining a project's funding, scope and schedule, early involvement and engagement of all regulators and stakeholders internal and external to EM has occurred to the extent necessary to assure that any identified issues or risks are identified, resolved, and reflected in the project's plans.

Discussion

Mr. Owsley explained why a distinction between regulators and stakeholders needed to be drawn in recommendation 2010-26. EM's approach to project prioritization involves three criteria: risk, compliance, and the business case. Compliance is established by the law; there is no debate as to what the regulations require and EM's compliance responsibilities. For example, regarding CERCLA cleanup, there are provisions that require regulators to be present in the development of risk-based cleanup criteria. Mr. Owsley did not deny that regulators are not part of EM's current project management and lifecycle baseline challenges, but stated emphatically that they need to be part of the solution.

Dr. Triay thanked the subcommittee members for their report and asked why they did not recommend that EM return to the M&O model that it came from. According to the APMS report, it appears that many of EM's issues can be traced to the fact that EM comes from an M&O culture. On the other hand, SC and NNSA appear to use that M&O culture to their advantage; the result being that their projects are on time and on cost. She asked why the subcommittee would not recommend a return to M&Os instead of the course of action laid out in the report, which she noted, the federal employees may not be equipped to implement.

Mr. Swindle responded that the APMS did not undertake a specific debate and/or discussion regarding whether or not EM should return to using M&O contractors, but is prepared to explore that concept in more detail. He also noted that there are distinct differences between the long-term mission of EM and the production and/or science delivery missions of SC and NNSA. For example, SC has multi-year, ongoing operating requirements with projects that come and go.

Mr. Estes agreed with Mr. Swindle's comments and added that EM made a definite decision in the past to move away from M&O contractors. The APMS will certainly want to look at the details regarding why EM came to that decision. However, based on his experience, there is a potential for saving a great deal of money if EM's projects can be resourced appropriately, given its different type of mission.

Mr. Swindle further noted that both SC and NNSA acknowledge that they use M&Os as their owner's representatives. The M&Os provide the resource pool that SC and NNSA can use to throttle up and down, because they have parallel operations and missions. By contracting with M&Os for expertise rather than through direct federal acquisition, SC and NNSA are able to manage projects outside the baseline, which differs from EM.

Dr. Ferrigno concurred with Mr. Swindle and Mr. Estes' statements that the EM, SC, and NNSA missions are very different. He added that he hoped EM would not return to the M&O model because he does not think that it is appropriate for EM. Dr. Ferrigno also shared comments from EMAB's preparatory session, which noted that EM has spent the past few years developing a very effective toolbox for project management (i.e. tools, metrics, accountabilities, training, etc.). The tool box is working, but perhaps EM needs to focus more attention on the selection of FPDs, the longevity of the FPDs, and supporting the FPDs.

Dr. Triay stated that she would like to believe that EM has the tools and that success is just a matter of implementing them with discipline and vigor, but suspects that they may not be enough. There have been failures to deliver construction projects according to original baselines throughout the complex, at sites with different cultures and situations. With site-type M&Os comes the ability for programs to task contractors to go off and solve problems or deal with specific issues. SC and NNSA have the ability to do that, their FPDs have access to that expertise; EM does not.

Dr. Triay added that for projects that are shorter in duration, it may make sense to continue with the contracting strategies that EM is using now, very focused contracts where the contractors can make a lot of money if they deliver on time. But a different strategy may be needed for those projects that extend decades into the future.

Mr. Swindle stated that the APMS recognizes that EM does not have an M&O model, and explained that the owner's-representative model is an alternative to using an M&O. He reiterated that SC and NNSA use their M&Os as owner's representatives.

Mr. John Eschenberg, a DOE manager who previously served as the FPD for the WTP, agreed with the notion that EM has two different missions: a long-term tank waste mission that is on a critical path for cleanup, and operational work like D&D that can be scoped very clearly and would be more amenable to fixed pricing. The fixed price projects are very predictable, as demonstrated by those executed under the ARRA. EM is very successful when it comes to those types of cleanup projects; other examples include the work at Mound, Rocky Flats, and Fernald. The area that EM struggles with is the long-term integration of the operating mission with the large capital construction mission, the projects that will take decades to complete. Mr. Eschenberg suggested that EM may need different models for the two missions.

One of the EM speakers noted that, based on their experience at SRS, they would go back to the M&O model. Having the M&O contract in place at SRS allowed EM to reach out to the Savannah River National Laboratory to find the expertise needed for technical difficulties with D&D, groundwater and soil contamination, and help explain technical issues to the regulators in order to stay on course with compliance milestones.

Another speaker added that fixed price contracts could likely be used for projects with shorter durations of five or ten years like those at Rocky Flats, Fernald, etc. That does not suggest that those projects would be any more successful if they were given to a company like CH2M Hill, etc. Those companies will put success on the table. There are also some small businesses that are very successful when it comes to delivering very specific jobs on time and on cost.

Dr. Triay noted that the problems EM experiences do not have to do with those areas. The challenges that concern the Secretary and GAO are the long-term projects; those are the projects that keep EM on the High Risk List. Now that the APMS has performed such excellent work, Dr. Triay asked the members to go forth and address more specific questions and issues.

Ms. Anderson added that EM has relied on the technical expertise of M&Os to bring D&D, groundwater, TRU, and even the sites up to a point where fixed-price contracts are possible. EM now has work defined for five, ten years into the future. M&O expertise could help bring EM's construction projects up to that same level; SC and NNSA are successful because they have access to expertise and don't need to go out and find it.

Mr. Ajello called for the approval of the Subcommittee's proposed report and recommendations, whereupon the recommendations were unanimously approved.

Public Comment Period

Mr. David McCoy, Executive Director of Citizen Action New Mexico, expressed concerns about the operation and management of facilities at Sandia National Laboratories. His concerns included buildings that are not safe from earthquakes, facilities operating without safety design, lack of cleanup of radioactive and hazardous waste, facilities not being placed on the Federal Facilities Compliance Act List, and lack of an effective monitoring network for the mixed-waste landfill.

Mr. McCoy also called for Sandia to stop open burning and open detonation, while noting that Sandia does not effectively engage the public. He further noted that there has been no Environmental Impact Statement (EIS) since 1991, that the Consent Order for corrective action has not been completed, and that there has been no independent audit of environmental management systems such as groundwater monitoring networks. He called on Sandia and Los Alamos to stop all practices that damage the environment and to meet with the public and discuss these issues openly.

Ms. Joni Arends of the Concerned Citizens for Nuclear Safety (CNNS) in Santa Fe, NM, which is part of the Alliance for Nuclear Accountability (ANA), spoke in favor of ANA having a "seat" on EMAB. She noted that her organization has provided significant stakeholder impact on the DNFSB and other organizations. She further noted that public access to information has decreased, which jeopardizes effective stakeholder involvement. She called for improved dissemination of information. Ms. Arends also called for more oversight by DOE over its contractors and a greater emphasis on partnering with communities and tribes.

Subcommittee Status Updates

Human Capital Subcommittee

Ms. Lessie Price noted that the subcommittee's work plan is being implemented successfully. The subcommittee asked for updates on the exit strategy for employees currently working under the Recovery Act Program, succession planning and staffing development, morale and workforce stability, and the high turnover of staff in EM, especially among employees with specific skill sets. Mr. Desi Crouther, Director for the Office of Human Capital (EM-71), provided the subcommittee with answers to these issues.

Concerning staff hired under ARRA, the plan is to absorb staff into the workplace. Due to the poor economy, many people are rethinking retirement, which is changing manpower projections. Another concern is having enough FTEs to maintain the workload, especially in skill sets where industry can offer higher compensation. The most recent EM Professional Development Corps (EM PDC) class graduated 19 new employees. There is still great concern about maintaining the services of long-term workers.

Ms. Price concluded by talking about the importance of employee recognition, including the use of service awards.

ARRA Implementation and Oversight Subcommittee

Mr. Ajello provided a brief update, noting that the ARRA program has yielded dramatic year-over-year results and progress. He noted that funding for the program is very close to the finish line of $6 billion in obligations. In terms of expenditures, approximately $2.6 billion of the $6 billion has been spent on accelerated activities. EM is on track for 90% by 2011. ARRA is headed toward 24,000 jobs in terms of lives touched and other related metrics.

In addition, ARRA has provided a significant boost to small-business contracting, with $1.6 billion allocated to small-business contractors, including $600 million to primes and $1 billion to subcontractors. The program is on track to achieve eighty-five square miles of footprint reduction, with 40%of that by 2011. In terms of compliance, 23 out of 46 milestones have been accelerated; the program is on track to accelerate all 46.

Mr. Ajello commended the ARRA program for its progress and its energy, noting the enhanced interaction and collaboration between the sites and HQ. He noted that the combination of a crash project, significant funding, and a national priority has created an energy that could be applied to the base program.

Mr. Swindle noted that in the APMS report, there was a number of Recovery Act lessons learned that are being applied to the base EM program.

Ms. Price stated that the additional ARRA funding has served as a benefit to many communities as EM focused on disadvantaged areas and education, and most of all the next generation of workers, because EM provided funding to augment that pipeline.

Mr. Owsley pointed out that all of the 2009 recommendations made by EMAB were either met by or are ongoing at EM. He further stated that EM has built a very good business case for additional funding for those projects that have known technologies, such as D&D and soil and groundwater remediation. There is still cleanup that remains to be done and trained workers in place; therefore, a case should be made for additional funding for this type of work to reach EM's goals of reducing lifecycle costs and accelerating cleanup.

Mr. Ajello noted that three or four years ago, the Board discussed a net present value for accelerating cleanup and footprint reduction. There is now an economic crisis and a public policy through ARRA to stimulate the economy while at the same time achieving EM's goals. He recommended that as EM considers its budget priorities this year and justifications for the next budget, that this kind of review should be considered in the decisions.

Ms. Salisbury commented that there is currently excellent work being accomplished on the ground to reduce risk. She agreed that there was value in trying to get higher baseline funding to continue the ARRA approach.

Mr. Dabbar emphasized the value of going back and benchmarking and using key studies to learn, then using the results to accelerate certain areas and make the case for more funding

Mr. Ajello noted that the performance metrics for ARRA work are really clear, transparent, and current.

Energy Parks Initiative Subcommittee

Mr. Ajello began the discussion by noting that the Board's work on the Energy Parks Initiative (EPI) was coming to a conclusion.

Dr. Ferrigno recused himself from the Energy Parks update discussion.

Mr. Dabbar provided a summary of the subcommittee's work on Energy Parks, noting that the most important factor in managing the EPI is to maintain a site-specific focus. He praised the Energy Communities Alliance (ECA) for its involvement and commented that a key part of EM's role is to let people know what assets are available for conversion to energy parks. With the ongoing footprint reduction across EM sites, there is likely to be significant land available between now and 2015. The subcommittee noted that recently held workshops have been especially helpful. There have also been discussions Department-wide about creating a task force to focus on the potential for energy parks at any particular site. Mr. Dabbar also suggested that the EM SSAB might play a larger role in outreach to communities concerning the potential of energy parks.

Dr. Triay commended EMAB for its early support for footprint reduction and the EPI. EMAB helped to clearly articulate the EPI concept and then supported the strategy that enabled EM to lay out a vision for footprint reduction and implement it through the Recovery Act Program. Dr. Triay also announced that the Undersecretary of Energy recently sent information concerning the establishment of a Departmental task force to Congress. She expressed hope that the other two Undersecretaries will concur.

Board Business

Approval of the March 31, 2010 Meeting Minutes

Mr. Ajello called for approval of the minutes from EMAB's March 31, 2010, meeting in Washington DC.

Mr. Swindle and Dr. Ferrigno motioned for approval, whereupon the minutes were approved by voice vote.

FY 2011 Public Meeting Schedule

Mr. Ajello announced that EMAB's next meeting is tentatively scheduled to be held on February 24, 2011, in Nevada. The second meeting for FY 2011 is tentatively scheduled for June 21, 2011, at the Hanford site.

Closing Remarks and Adjournment

Mr. Ajello thanked the Board members and staff for their hard work and contributions to the meeting's success. He then adjourned the meeting at 5:06 p.m. MDT.

I hereby certify that, to the best of my knowledge, the foregoing minutes are accurate and complete.

James A. Ajello
Chairman
Environmental Management Advisory Board

Terri Lamb
Designated Federal Officer
Environmental Management Advisory Board

These minutes will be formally considered by the Board at its next meeting, and any corrections or notations will be incorporated into the minutes of that meeting.

APPENDIX A

ENVIRONMENTAL MANAGEMENT ADVISORY BOARD

La Fonda on the Plaza • New Mexico Room

100 East San Francisco Street • Santa Fe, New Mexico 87501

September 15, 2010	
9:00 a.m.	**Welcome and Overview** • James Ajello, *EMAB Chair*
9:15 a.m.	**EM Update** • Inés Triay, *Assistant Secretary for Environmental Management* Roundtable Discussion • Discussion Leader: James Ajello, *EMAB Chair*
10:00 a.m.	**Break**
10:15 a.m.	**Tank Waste Subcommittee Report** • Dennis Ferrigno and Lawrence Papay, *Tank Waste Subcommittee Co-Chairs*
12:15 p.m.	**Lunch**
1:45 p.m.	**Acquisition and Project Management Panel** • Gary Riner, *Acting Deputy Assistant Secretary for Project Management* • Jack Surash, *Deputy Assistant Secretary for Acquisition and Contract Management* Roundtable Discussion • Discussion Leader: G. Brian Estes and David Swindle, *Acquisition and Project Management Subcommittee Co-Chairs*
2:30 p.m.	**Acquisition and Project Management Subcommittee Report** • G. Brian Estes and David Swindle, *Acquisition and Project Management Subcommittee Co-Chairs*
3:30 p.m.	**Public Comment Period**

September 15, 2010	
3:45 p.m.	**Break**
4:00 p.m.	**Subcommittee Status Updates** • Human Capital Subcommittee • ARRA Implementation and Oversight Subcommittee • Energy Park Initiative Subcommittee
4:45 p.m.	**Board Business** • Approval of the March 31, 2010 Meeting Minutes • Date for Next Meeting • New Business
5:00 p.m.	**Adjournment**

APPENDIX B

Environmental Management Advisory Board
U.S. Department of Energy

Advisory Board Charter

1. **Committee's Official Designation.** Environmental Management Advisory Board (the Board).

2. **Authority.** The Board is being established in accordance with the provisions of the Federal Advisory Committee Act, as amended, 5 U.S.C., App. This charter establishes the Environmental Management Advisory Board under the authority of the U.S. Department of Energy.

3. **Objectives and Scope of Activities.** The Board provides information, advice, and recommendations to the Assistant Secretary for Environmental Management (EM) concerning issues affecting the EM program.

4. **Description of Duties.** The duties of the Board are described below and are solely advisory in nature.

- Advise on corporate issues facing the EM program including, but not limited to, project management and oversight, cost/benefit analyses, program performance, human capital development, and contracts and acquisition strategies; and
- Issue reports and recommendations as necessary.

5. **Official to Whom the Committee Reports.** The Board reports to the Assistant Secretary for Environmental Management.

6. **Agency Responsible for Providing Necessary Support for this Committee.** The Department of Energy. Within the Department, primary support shall be furnished by the Office of Environmental Management.

7. **Estimated Annual Operating Costs in Dollars and Staff Years.** The estimated annual operating costs associated with supporting the Board are approximately $425,000 including 2.0 work years (FTE) of Federal employee support.

8. **Designated Federal Officer.** A full-time or permanent part-time Department of Energy employee, appointed in accordance with agency procedures, will serve as the Designated Federal Officer (DFO). The DFO (or designee) will call for or approve all of the Board's and subcommittees' meetings and agendas, attend all Board and subcommittee meetings, and adjourn any meeting if it is in the public interest.

9. **Estimated Number and Frequency of Meetings.** The Board will meet semi-annually, or as deemed appropriate by the Assistant Secretary for Environmental Management.

10. **Duration.** In view of the goals and purpose of the Board, it is expected to be continuing in nature.

11. **Termination Date (If less than Two Years from Date of Establishment or Renewal).** Continuing.

12. **Membership and Designation.** The Board will be comprised of up to 15 members, who will be appointed by the Secretary of Energy. Members shall be experts in their respective fields and appointed as special Government employees, or as representatives of entities including, among others, research facilities, academic institutions, regulatory entities, and stakeholder organizations, should the Board's tasks require such representation. The Chair and Vice Chair of the Board will be appointed by the Assistant Secretary for Environmental Management from among the Board members.

Members of the Board serve without compensation. However, members may be reimbursed in accordance with the Federal Travel Regulations for per diem and travel expenses incurred while attending Board meetings.

13. **Subcommittees.** To facilitate the functioning of the Board, subcommittees may be formed with the approval of the Department of Energy. The objectives of the subcommittees are to make recommendations to the Board with respect to a particular charge related to the responsibilities of the Board. Such subcommittees may not work independently of the chartered Board and must report their recommendations and advice to the full Board for deliberation and discussion.

14. **Recordkeeping.** The records of the Board shall be handled in accordance with General Records Schedule 26, Item 2 and Administrative Records Schedule 16, Item 8b (1.1), and approved agency records disposition schedules. These records shall be available for public inspection and copying, subject to the Freedom of Information Act, 5 U.S.C. 552.

15. **Filing Date.**

Date filed with Congress: JAN 23 2010

Carol A. Matthews
Acting Committee Management Officer