U.S. Department of Energy

REPORT TO THE ENVIRONMENTAL MANAGEMENT ADVISORY BOARD

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

Submitted by the EMAB Acquisition and Project Management Subcommittee

December 5, 2011

Introduction:

This report provides a comprehensive summary of the work performed by the Acquisition and Project Management Subcommittee (APMS) of the Environmental Management Advisory Board, since tasking in March 2010. In particular, this report includes the summary observations developed and recommendations previously approved by the EMAB on the Subcommittee's work and presented to the then Assistant Secretary of Environmental Management (EM). As the majority of the observations and recommendations remain valid and appropriate for the new Acting Assistant Secretary's consideration and/or awareness, these previous observations and recommendations have been included in their entirety in an Appendix to this report. Finally, observations and recommendations specific to the Subcommittee's work on examining the effective utilization of all contracting approaches available to EM to meet changing and complex task requirements, to include M&O or M&O like contract approaches, are included in this report.

Background:

On March 31, 2010, Dr. Inés Triay, Assistant Secretary for the U.S. Department of Energy's (DOE) Office of Environmental Management (EM), tasked the Environmental Management Advisory Board (EMAB or Board) to provide observations and recommendations regarding EM's updated strategy for reducing project and contract risks, and removing EM projects from the Government Accountability Office's (GAO) High Risk List. In response to this charge, members of the EMAB Acquisition and Project Management Subcommittee (APMS or Subcommittee) developed a Terms of Reference document outlining their specific tasks and the proposed actions needed to meet Dr. Triay's requirements. Dr. Triay approved the proposed Terms of Reference on June 4, 2010, as noted in a memorandum from Mr. Frank Marcinowski, Deputy Assistant Secretary for Technical and Regulatory Support. A report was approved by the EMAB on September 15, 2010 and submitted to Dr. Triay.

The Subcommittee was subsequently requested to undertake an assessment of how effectively EM is participating in actions being taken by various components of DOE in executing the project management Corrective Action Plan for GAO and the Office of Management and Budget (OMB), which has a goal of removing DOE EM projects from the GAO's "High Risk" projects

listing in the Federal Government. The Subcommittee was further requested to identify any additional strategies or tools which may be of value in achieving that goal.

As a subcommittee of the Environmental Management Advisory Board, the APMS was requested to review available information from sources internal and external to the DOE, considering past contract and project performance reviews in EM and lessons learned by the Office of Science as appropriate. In addition, the Subcommittee was requested to examine how stakeholder communications, expectations, and risks are identified and mitigated, as well as how projects evolve from concept through completion.

The Subcommittee was requested to provide its observations and recommendations to the EMAB for approval and forwarding to the Assistant Secretary for EM as input to EM's updated strategy for reducing project and contract risks, and for the removal of EM projects from the High Risk projects listing. Periodic progress briefs and discussions with the Assistant Secretary and designated EM leadership were requested on interim observations and findings. All elements of EM have provided ready access to information for the Subcommittee.

On November 1, 2010, Dr. Triay forwarded a response memorandum to the September 15 report. This response addressed each issue raised and each recommendation made, and listed actions being taken to improve project and contract management. On November 2, a very comprehensive report (124 pages) outlining continuous improvement actions in acquisition and project management was approved by Dr. Triay, and a conference call was held with EM senior management to discuss the response memorandum and to answer questions.

On November 8, 2010, Deputy Secretary Poneman forwarded a letter to the Acting Comptroller General at the GAO indicating how EM improvement initiatives are addressing shortcomings identified in previous GAO reports. On November 17, an EMAB public meeting was held via teleconference and the full Board approved a report of the Subcommittee concluding that the response was comprehensive and aligned with the September 15 recommendations.

Representatives of the Subcommittee participated in the December 1-2, 2010, DOE Contract and Project Management Summit convened by Deputy Secretary Poneman. This DOE-wide event brought together senior headquarters program managers and business management leadership, principal field office leadership, and outside perspectives from the Administrator of the Office of Federal Procurement Policy and Office of Management and Budget. Some 40 action items were identified. Previous work and recommendations of the Subcommittee complemented and reflected the majority of the focus areas identified for action in the Contract and Project Management Summit.

On February 24, 2011, the Board approved a report on interim findings and observations of the Subcommittee derived from meetings and conference calls with senior EM and DOE Office of Management representatives as well as the DOE Contract and Project Management Summit held in December 2010.

In February 2011, the GAO issued its updated High Risk List. Regarding EM projects, the GAO explained that EM remains on the high risk list because of the need for EM to meet the last two of five criteria for removal from the list. Specifically, EM must commit sufficient people and

resources to resolve its contract management problems. Further, EM must monitor and independently validate the effectiveness and sustainability of its corrective measures.

On March 31, 2011 Secretary Chu tasked the Director of Project Assessment in the Office of Science with conducting a Secretarial Review of selected EM projects to provide an understanding of EM's program and project organizations, project management processes and procedures, key program and project management roles and responsibilities, and aspects of EM culture that influence project outcomes. On September 9, 2011 Deputy Secretary Poneman distributed a report of that review[1]

On June 24, 2011 the Board approved a second report on interim findings and observations of the Subcommittee derived from further meetings and conference calls with senior EM and DOE Office of Management representatives.

On November 28 and 29, 2011 two members of the subcommittee met with current and former representatives of the Richland Operations Office, the Office of River Protection and leadership of major DOE contractors to gather information on the appropriateness of EM returning to an M&O or M&O-like acquisition contract approach if conditions warranted.

Discussion:

Acknowledging that improvement in contracting and project management is an ongoing endeavor and priority for EM leadership, the Subcommittee has continued its assessments of EM's progress toward achieving its improvement initiatives. Since approval of the Terms of Reference mentioned above, the Subcommittee focused on the following issues: (a) review of the lessons learned process; (b) advisability of returning to a Management and Operating (M&O) or M&O-like model for EM sites; and (c) EM's implementation of recommendations to improve acquisition and project management as presented by the Subcommittee on September 15, 2010, and addressed by Dr. Triay in the November 1, 2010, memorandum regarding planned actions to address the findings and recommendations.

Subcommittee members met and participated in conference calls with the directors of the DOE Office of Management and the DOE Office of Engineering and Construction Management, as well as with senior representatives of the EM Consolidated Business Center (CBC), EM headquarters, National Nuclear Security Administration (NNSA), U.S. Army Corps of Engineers (USACE), and the GAO. Discussions centered on the issues listed above. A visit to Hanford was made to gather information to address the appropriateness of EM returning to an M&O or M&O-like acquisition contract approach where warranted for EM projects and/or sites.

The Subcommittee has found that DOE, the GAO and other stakeholders acknowledge that EM is faced with balancing the requirements and demands of numerous external stakeholders. However, EM's performance is often not evaluated with full consideration of the challenges EM projects face beyond those of other federal projects. Nonetheless, other federal projects have managed to address and overcome such situations through effective acquisition and project

[1] Memorandum for Heads of Departmental Elements: "Secretarial Review of Environmental Management (EM) Programs and Projects", Deputy Secretary of Energy Daniel B. Poneman, US Department of Energy, September 9, 2011.

management. There are lessons learned in these cases that would be important for EM to understand. Examples are cited below, but none should be used to excuse ineffective project management:

- EM projects, by their nature, can have higher health, safety and environmental risks than most other federal projects. Most EM projects typically involve levels of radioactive and hazardous wastes that invite external scrutiny and require public input to include outside stakeholders and oversight groups such as the U.S. Environmental Protection Agency (EPA), Defense Nuclear Facilities Safety Board (DNFSB), States and the public.

- A non-EM project or program, such as a new research center, is usually welcomed for bringing new missions and jobs in communities, while an EM waste treatment / disposal project can be met with skepticism and concerns.

- EM project schedules are often driven by negotiated regulatory compliance milestones, and the regulators can use fines and penalties to drive budgeting support of the projects to maintain progress – this is not typical to NNSA, Fossil Energy, Science or other DOE projects. While all DOE projects are subject to the vicissitudes of uncertain annual budget appropriations, missing EM regulatory milestones due to a lack of funding places EM projects at higher risk.

- EM's environmental restoration program is consistently cited as one of DOE's highest priorities in testimony and multiple public statements. The Subcommittee believes that within DOE and DOE EM in particular, opportunities exist to reexamine and adjust priorities and mandates to better support and ensure predictable funding for the EM projects that can best accelerate cleanup or reduce risks for higher returns on investments. An example is the cleanup of the River Corridor at Hanford. As budgets are constrained in 2012 and beyond, the progress and cost savings achieved on this project to date and expected completion to meet the 2015 goals for the River Corridor are at risk if required funding profiles cannot be maintained. Similar situations exist across the DOE Complex.

The issue of EM returning to an M&O or M&O-like operation is a policy decision. GAO report GAO/RCED 92-244 of August 1992 addressed the DOE proposed use of Environmental Restoration Management Contractors (ERMC) to improve contractor performance, increase management controls, and lower costs. GAO was concerned that such an operation would require more and better trained DOE staff to achieve the desired results.

A Secretarial Review was conducted by a committee chaired by the Office of Science's Director of the Office of Project Assessment, Daniel Lehman, and staffed by eleven other individuals and two observers. The purpose of the review was to formulate a better understanding of EM's programs and project organizations, project management processes and procedures, key program and project management roles and responsibilities, and aspects of the EM culture that influence project outcomes. The review is documented in the August 2011 report entitled *Report on the Office of Environmental Management Program and Project Organizations.*

Findings and Observations:

The Subcommittee presents the following findings observations from its efforts to date:

1. **GAO focus.** GAO representatives indicate they consider human capital, institutionalizing improvements, cost estimating, project discipline, and premature decision-making to be top focus areas for EM in achieving further improvements in project and acquisition management.

2. **DOE top management interest.** A strong interest in improving and implementing changes where appropriate in acquisition and project management in the EM programs (as well as other DOE and National Nuclear Security Administration program operations) is evident at the very highest management levels of the Department and within EM. A continuation of such interest over the long run is needed to bring about positive and sustainable changes. Simply put, the tone and commitment is set at the top, and an unwavering commitment to making improvements is essential for institutionalizing the needed change.

3. **Improvements and sustainability.** An impressive amount of effort has been applied to the improvement of EM acquisition and project management; however, the institutionalization and sustainability of these improvements will require continued attention and diligence from the EM Assistant Secretary and a transformation of the EM project management culture. Further, the effectiveness of these changes can be assessed only by a review of results achieved. Areas for improvement remain such as clarity in the roles and responsibilities of DOE EM headquarters employees versus the field office employees, and change order management.

4. **Lessons learned system.** The process of identifying lessons learned is in place, but turning those lessons into usable knowledge is difficult and requires scarce project leadership time. No clear process requiring a review and use of past lessons learned in the formal acquisition business cycle has been found.

5. **External reviews.** External reviews are in place and are producing benefits. Follow-up to resolve issues raised needs to become more robust.

6. **Human capital.**

a. Budget trends indicate there will be more pressure on program direction funding, suggesting a need to revisit the idea of developing a revolving fund to support project and acquisition management personnel costs. Contract administration and adequate resourcing of project and acquisition management personnel in the Field, where the "rubber meets the road" both in terms of project planning and delivery, remain areas where EM's success at achieving its improvement initiatives is at risk.

b. The difficulty in acquiring adequate staffing for executing projects continues to be a concern of multiple stakeholders. As cited in Dr. Triay's November 1, 2010 response to the EMAB's September 15, 2010, report, one of the key initiatives planned and put into action was to staff complex and high cost EM projects with Deputy Federal Project Directors from the USACE to augment EM with the experience and knowledge base of seasoned USACE project managers.

A June 3, 2011 report from USACE[2] indicated the plan to assign USACE employees as deputy project directors on three sizable projects as a partial solution to this problem has not been successful to date. Although considerable effort was invested in selecting the projects and the individuals to be assigned, none actually have proceeded to the intended objectives. Further, it appears that the benefits expected from this initiative for the success of EM projects are not universally accepted as valid at either EM headquarters or in the Field. The idea appears to be sound on its face, but the inability to execute it indicates there is a flaw of some sort in the command control system. The Subcommittee believes that a solid command and control system is a fundamental need for the successful execution of complex, high cost projects and clear accountability of EM management to execute the direction and decisions of the EM Assistant Secretary. This lack of a strong command and control system remains an area for improvement.

7. **Stability.** The turnover in the EM Office of Project Management continues to frustrate the desire to strengthen the office as an effective project management organization. Multiple stakeholders remain concerned over the lack of stability in not having a standing Director comparable with the DOE Office of Science's Director of the Office of Project Assessment, Dan Lehman. Further, it is observed that clarity of roles and responsibilities between EM headquarters and the Field, and between the EM Office of Project Management and the DOE Office of Engineering and Construction Management (OECM) remains an area of frustration.

8. **Alignment.** The CBC is responsible for acquisition processes at small sites and for providing assistance and specific services to all sites. Progress is being made in pre-award contracting standardization, and an effort to improve communications across functional areas is being led by CBC. A major challenge is alignment of contract management and project baseline management.

9. **Cost estimating.** The CBC Office of Cost Estimating and Analysis is established and is interfacing with the Tri-Service Automated Cost Engineering System program, the USACE, and other federal cost estimating groups to develop cost databases. The office also has good relationships with customer cost estimating groups. Cost estimating is one of GAO's high interest areas, and long term improvement is contingent on avoiding base lining too soon as well as the temptation to reduce an estimate which is the "wrong answer" (too high) for political reasons.

10. **Chain of command.** Relationships among EM, OECM, Office of General Counsel, and the Office of Procurement Assistance have shown great improvement. However, confusion still exists over chain of command and who decision-makers, decision influencers, sponsors, and opponents are. Federal Project Directors (FPD) should serve on Source Evaluation Boards, but are spread thinly and many are unable to do so. A greater awareness that EM should manage the contract rather than the contractor is required. As noted earlier, Field perceptions on the roles and responsibilities between OECM and the EM Office of Project Management remain an area of frustration particularly when there are redundant data calls for the same or similar information. Coordination and clarity on redundant data calls would support improvements.

[2] Report to the US Department of Energy, Office of Environmental Management: Analysis of USACE – DOE Project Management Partnership Potential, June 3, 2011 US Army Corps of Engineers; James C. Dalton, P.E. Chief Engineering and Construction, Directorate of Civil Works - Communication to Ines Triay, EM-1

11. **NNSA approach.** NNSA is adopting an "eyes on / hands off" approach to acquisition and project management between headquarters and the Field, and between field federal managers and contractors. While they recognize the benefits of using experience and lessons learned of successful FPDs on new projects, they are finding it difficult to staff new projects because of a lack of mobility among federal employees. NNSA would like to have program direction funding included in project costs rather than trying to draw from a declining overall source of funding.

12. **M&O or M&O-like structure.** EM and contractor personnel interviewed at the Hanford complex have a great deal of experience in dealing with DEAR based M&O contracts at Hanford and other sites as well as FAR based replacement contracts. As summary of observations follows:

a. M&O contracts are easier to administer on the part of the government, but fee-earning capability is limited, which can affect the quality of personnel assigned by the contractor. If everything else is equal, the contractor has the incentive to assign his best personnel to the contract which has the greatest risk and reward potential. Further, on projects with a low proportion of high risk work to housekeeping work, contractors may be unwilling to assume high risks of waste tank retrievals for the allowable M&O fee.

b. M&O contracts at national laboratories and NNSA sites enable capital projects to address unforeseen R&D support requirements without becoming a part of the baseline cost. While the result is not cheaper overall, it is packaged differently and does not visibly add to the baseline results.

c. Environmental remediation and cleanup tasks are probably appropriate for cost plus contracting with some embedded firm fixed price work scope. Lack of stable and predictable funding is a complicating factor to any contracting approach adopted. The M&O contracting model provides greatest flexibility to respond to constant changes in funding especially if the funding profile does not address additional work required by concessions to regulators for missed intermediate milestones or policy changes, new order requirements, etc. A hybrid type of contract with incentive portions for high risk work and M&O provisions for recurring work would seem to provide sufficient flexibility to effectively administer and maintain control and oversight.

d. The River Corridor cost plus incentive fee contract works well for a project loaded with risks. Fee incentives drive the contractor to find solutions and move out. An M&O contract would likely result in more and more analysis and, consequently higher costs. While initial incentive contracts were plagued with conflicts and claims for fees which could not be earned when the planned funding profile did not materialize, the process is working well now at Hanford. Stakeholders initially had difficulty understanding how work would be accomplished, but have been pleased with the high return on investment. Over 90 percent of the work has been established by records of decision, so the scope is clear. Selecting contract types requires a deep understanding of conditions as well as knowns and unknowns. One major lesson learned is that a CPIF contract should be insulated from impacts from other contracts in order to minimize changes.

e. Targeted cost contracts are believed to be working very well. They are well set up for getting work done quickly and for fee potential. There are many requests for equitable adjustment from order changes, policy changes and the like. Very competent personnel are

required to administer and manage this type of contract work. One of the biggest problems in dealing with changes is their impact on the fee pool.

f. Political pressures make funding unpredictable and erode the trust of the contract workers, which, in turn, adversely affects their performance. This leads to increases in cost and schedule. The EM track record of over promising and underperforming adds to the general discontent.

g. The cost plus award fee (CPAF) mission support contract is close to an M&O contract. Unfunded mandates resulting from policy changes make managing them difficult. An M&O contract would have more flexibility for these occurrences. The field perception is that political influences drive selection of contract type versus selecting contract types following the guidelines outlined FAR 7.105. A serious review of all pros and cons of all types of contracts, including hybrids, would be beneficial. The contract administration discipline brought about by FAR-based contracts is recognized as a positive result, but acquiring the resources to carry out that discipline continues to be a concern.

h. Performance based contracts have been found to be very effective tools for cleanup and closure providing there is (1) regulatory alignment and (2) funding stability at some level. Long term operations such as pump and treat should be transitioned to an M&O contract after major construction and initial remediation are complete. A mix of performance-based cleanup and construction is usually appropriate, but a CPIF contract should not contain a construction project which is very large in proportion to the remediation effort.

i. The ability to transition existing contracts of one type (e.g. CPAF) to contain portions of fixed-price work, M&O, incentive work, etc. would be beneficial to field administrators.

13. **Secretarial Review.** The August 2011 report of the Secretarial Review committee presents findings which are in complete agreement with those of the APMS. Of the approximately 80 individuals interviewed by the committee, about 15 percent were also interviewed by the APMS during data gathering. The APMS concurs in and supports the eight points listed in the recommendation as well as the observation that implementation will be neither fast nor easy, but requires a holistic approach.

Recommendations:

Secretary Chu has directed that the recommendations of the Secretarial Review, which address many of the concerns of the APMS, be reviewed and implemented. To further aid the Assistant Secretary in his efforts to improve acquisition and project management in EM, the Acquisition and Project Management Subcommittee has developed a total of seven recommendations since it began its efforts in March 2010. The first five of the recommendations have been previously approved by the EMAB and forwarded to the Assistant Secretary – these recommendations are reproduced in the Appendix for reference. Each of these recommendations remains valid and appropriate for the new Acting Assistant Secretary's consideration and/or awareness. In this report, the Subcommittee presents the following two additional recommendations:

Recommendation 2012-01: EM should ensure that prior to and during acquisition strategy development leading to the selection of a contracting approach for the EM requirement being addressed, that all participants in the Acquisition Strategy development are trained and conversant in the advantages and disadvantages of all contract types to include the M&O contracting approach, as well as the resources required to administer such contracts, in order to select the most appropriate contract type.

The Subcommittee has observed that throughout its numerous interviews and assessments, the level of knowledge and sophistication in contract types varies considerably across EM management and acquisition personnel. One of the lessons learned over the history of the EM program is that selection of the proper contract type is critical to the success of the EM project activity. A text book example of the wrong type of contract applied to an EM project activity was to apply a Firm Fixed Price cleanup contract to the Pit 9 Project in Idaho. The extent of unknowns should have precluded use of a FFP contract. There are also numerous other examples. In today's and the immediate future's EM program, many factors will influence and determine a project's success or failure related to the GAO criteria. Many external factors such as changing or unpredictable budget profiles, new contamination discoveries, as well as changing regulatory requirements will influence success or failure – however, the flexibility or features of each contract approach are strongly impacted by these external factors. If the decision makers and the contributors to development of the acquisition strategy approach under either the FAR Part 7.105 provisions for contract type determination or the relevant DEAR clauses are not fully trained and conversant in the advantages and disadvantages of ***all*** contract types, the probability of selecting an inappropriate contract type is high, adding to the risk of success.

Recommendation 2012-02: In planning future acquisition strategies to deliver EM Project objectives and projects, EM should consider the potential change in performance requirements and risks associated with a project's total life cycle and evolution through risk and uncertainty maturity. In such considerations, it could be beneficial to establish hybrid contracting approach solutions for selected EM projects that incorporate the best features of any and all contract types under the FAR and DEAR.

A reality of EM projects is that they are characterized by uncertainty and the unknowns in many but not all circumstances. An additional reality of EM projects is that as investigations occur, new knowledge is learned, for example, on a waste or waste site's characterization, uncertainties are reduced and the risk profile changes. As an EM project evolves, the appropriate contract type should also evolve – an example is when there is greater uncertainty and risk, a cost plus contract is more appropriate. Over time, such a project's risks are characterized, uncertainty is reduced and as such, the best contracting approach can evolve from a cost plus award fee to a cost plus incentive fee, and eventually to a firm fixed price contract. Similarly, during the Critical Decision (CD) review process, a project maturity will evolve and there will exist opportunities to consider revising the contract type as key CD milestones are achieved. EM will be faced in the future with constrained financial resources as well as limited federal personnel to administer and manage contract acquisitions and competitive solicitations. It would be of benefit to EM and the Department to plan from the beginning of an acquisition where appropriate, an ability to transition or evolve from one contract type to another as a project matures within an awarded contract. A hybrid contracting approach could for example, begin as a cost plus

contracting approach through CD-2 (Approve Performance Baseline) and transition to a cost plus incentive fee contract upon approval of CD-3 (Approve Start of Construction Execution). Such a hybrid approach would recognize a project's increasing maturity and risk reductions.

APPENDIX

1) ***Recommendations Approved by EMAB on September 15, 2010 – Excerpts from full report***[3]

Recommendations:

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.

In order to adequately resource project management, contract administration, and other project-related efforts (e.g. independent cost estimating capability), EM requires more flexibility with Program Direction funding to provide the oversight and rigor for project risk management and contract oversight. There are consistent acknowledgements internal and external to EM that its current financial authorizations and budget profiles will not accommodate the flexibility EM requires to fully administer and manage its project portfolio pre- and post-award. Best-in-Class Project Management organizations in government (e.g. USACE and NAVFACENGCOM) and industry establish revolving funds or a percentage of total project costs to sufficiently assure project management requirements are fully resourced throughout the life of a project or projects.

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 a project's acquisition plan.

Historically and traditionally, EM applies nuclear QA standards as requirements for many of its projects despite the fact that a significant number of EM projects do not present nuclear risk hazards and should be subject to application of a Graded Approach in satisfying 10 CFR 830. As a result, projects are over-engineered resulting in increased cost, excessive oversight (e.g. DNFSB), and schedule impacts. This action will provide EM with the basis to apply only the necessary and required standards, which will result in cost savings, oversight balanced to the risks in place, and a greater confidence in project delivery on time, on cost and on schedule.

Recommendation 2010-24: EM should consider adoption an "Owner's Representative" project management support model to strengthen its Project Management and Contract Administration in the Field.

It has been repeatedly identified that insufficient front-end planning and post-contract award project management and contract administration are significant contributors to EM projects being on the High Risk List and, in general, EM Projects being characterized as subject to constant changes in scope, schedule and cost. Insufficient numbers of skilled manpower and

[3] Report to the Environmental Management Advisory Board - 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: September 15, 2010, submitted by the EMAB Acquisition and Project Management Subcommittee.

subject matter experts to manage risks and oversee EM contractors ranging from the FPDs to Cost Estimators to QA specialists are factors impacting project management. Projects throughout EM require a stable and engaged team continuously or at peak periods to properly manage project risks and EM's interests. Further, EM needs to be the owner-operator of its facilities and projects, and not simply a contract manager. Use of an Owner's Representative management approach will further the transition to an Owner-Operator approach.

Recommendation 2010-25: EM should reexamine the roles, responsibilities, and authorities of EM Federal Project Directors (FPDs) to strengthen the FPD position's effectiveness in project management and contractor oversight, and improve stability by reducing the turnover of FPDs on critical EM projects.

A resourced and empowered FPD and FPD team with clearly defined authorities and responsibilities, plus full support and backing of EM management is needed to stabilize turnover and establish needed ownership and continuity in Project Management. At sites where multiple projects are being managed, there is also a need to identify a single FPD to integrate and coordinate multiple projects for shared lessons learned, effective utilization of resources and improved project coordination overall.

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 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 plan.

Best-in-Class Project Management programs in industry and government engage in strategic partnering early in a project's development with all stakeholders that could positively or negatively impact its baseline and approach. Gaps in the level and adequacy of technology readiness during acquisition planning has been identified, as well as known impacts from DNFSB oversight when their oversight occurs well after a project's design or construction is underway. Early engagement and holding firm on the need to reach agreements will reduce future risk and project scope "creep," cost increases, and schedule adjustments. In addition, formal adoption of lessons learned reviews in the early project planning is needed.

2) ***Observations from Approved EMAB Report dated 15 September 2010 – Excerpts from Full Report***

General Observations:

1. EM initiates new programs and initiatives without internalizing and applying lessons learned.

2. There is insufficient partnering occurring between EM and the stakeholders (e.g. DNFSB) up front during the acquisition strategy development and planning.

3. Other federal agencies and commercial industry traditionally utilize an owner's representative model to ensure adequate support post-contract award in order to maintain control of cost, schedule, and scope. USACE fulfills this "owner's representation" role for numerous federal agencies.

4. It is recognized that EM is challenged with supporting incumbent workforces. An ongoing challenge for EM and its contractors is right-sizing the sites and projects' workforces as cleanup progress is made.

5. EM is very quick to say "yes" to stakeholders and begins projects early knowing full well that there are high risks and as a result, there is project scope creep, cost increases, etc.

6. There are adequate skilled personnel elsewhere in the government and private industry that can help EM meet its project management resource needs without hiring permanent staff. This will provide flexibility during project executions (resource analysis curve). Even if the acquisition delivery is adequately staffed, the need for on-call resources for peak work load or specific problems will still exist. These peak support needs should be factored into project budgets.

7. EM leadership has recognized that many EM projects have been baselined prematurely and is embracing more rigorous standards, e.g. not baselining projects until 90% design is complete. It should be noted however, that existing policies and procedures provide for this form of risk management but are not consistently applied or used.

8. Despite the improvements on clarifying roles and responsibilities between HQ and field offices, there is still a need for improved clarity.

9. It is acknowledged that EM does an adequate job of identifying risks up front but there is insufficient effort to adequately integrate new risks during project execution and recognize the impact these risks have on the baseline.

10. Roles, responsibilities, and frequency for change order management/change control on contracted projects are needed and require discipline to manage.

11. The roles and responsibilities between HQ acquisition project managers, field project directors, and other key managers responsible for acquisition through project delivery need clarification.

12. DOE-EM does not have sufficient independent cost analysis capability to protect its interests adequately.

13. While IPABs is recognized as the primary EM project management reporting tool, there are a growing number of independent systems being established, particularly in the

field. Further review of the requirements to standardize IPABs as the single reporting tool for EM is warranted.

14. The length of the acquisition cycle has generally resulted in starts of projects that were awarded on conditions that are 12-18 months out-of-date by the time of the award. Consequently, when projects start from the beginning, their scope, schedule, and funding requirements have changed.

3) Observations from Approved EMAB Report dated 24 February 2011 – Excerpts from Full Report[4]

1. A strong interest in improving and implementing changes where appropriate in acquisition and project management in the EM programs (as well as other DOE and National Nuclear Security Administration program operations) is evident at the very highest management levels of the Department and within EM. A continuation of such interest over the long run is needed to bring about positive and sustainable changes.

2. An impressive amount of effort has been applied to the improvement of EM acquisition and project management; however, the institutionalization and sustainability of these improvements will require continued attention and diligence from the EM Assistant Secretary. Further, the effectiveness of these changes can be assessed only by a review of results achieved. Areas for improvement remain such as clarity in the roles and responsibilities of DOE EM headquarters employees versus the field office employees, and change order management.

3. The process of identifying lessons learned is in place, but metrics and clear management expectations are required to enable assignment of accountability for using those lessons.

4. External reviews are in place and are producing benefits. Follow-up to resolve issues raised may need to become more robust.

5. Budget trends indicate there will be more pressure on program direction funding, suggesting a need to revisit the idea of developing a revolving fund to support project and acquisition management personnel costs.

4) ***Observations from Approved EMAB Report dated 23 June 2011 – Excerpts from Full Report[5]***

[4] Interim Report to the Environmental Management Advisory Board - 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, February 24, 2011, submitted by the EMAB Acquisition and Project Management Subcommittee.

[5] Second Interim Report to the Environmental Management Advisory Board - Removal of EM Projects from the GAO High Risk List: Strategies for Improving the Effectiveness of Project and Contract Management in the Office

1. Budget trends continue to indicate there is increasing pressure on program direction funding, suggesting a need to revisit the idea of developing a revolving fund to support project and acquisition management personnel and support costs. Contract administration and adequate resourcing of project and acquisition management personnel in the Field, where the "rubber meets the road" both in terms of project planning and delivery, remain areas where EM's success at achieving its improvement initiatives is at risk.

2. The difficulty in acquiring adequate staffing for executing projects continues to be a concern of multiple stakeholders. As cited in Dr. Triay's November 1, 2010, response to the EMAB's September 15, 2010, report, one of the key initiatives planned and put into action was to staff complex and high cost EM projects with Deputy Federal Project Directors from the USACE to augment EM with the experience and knowledge base of seasoned USACE project managers. A report from USACE indicates the plan to assign USACE employees as deputy project directors on three sizable projects as a partial solution to this problem has not been successful to date. Although considerable effort was invested in selecting the projects and the individuals to be assigned, none actually have proceeded to the intended objectives. Further, it appears that the benefits expected from this initiative for the success of EM projects are not universally accepted as valid at either EM headquarters or in the Field. The idea appears to be sound on its face, but the inability to execute it indicates there is a flaw of some sort in the command control system. The Subcommittee believes that a solid command and control system is a fundamental need for the successful execution of complex, high cost projects and clear accountability of EM management to execute the direction and decisions of the EM Assistant Secretary. This lack of a strong command and control system remains an area for improvement.

3. The turnover in the EM Office of Project Management continues to frustrate the desire to strengthen the office as an effective project management organization. Multiple stakeholders remain concerned over the lack of stability in not having a standing Director comparable with the DOE Office of Science's Director of the Office of Project Assessment, Dan Lehman. Further, it is observed that clarity of roles and responsibilities between EM headquarters and the Field, and between the EM Office of Project Management and the DOE Office of Engineering and Construction Management (OECM) remains an area of frustration.

4. GAO representatives indicate they consider human capital, institutionalizing improvements, cost estimating, project discipline, and premature decision-making to be top focus areas for EM in achieving further improvements in project and acquisition management.

5. The process of identifying lessons learned is in place, but turning those lessons into usable knowledge is difficult and requires scarce project leadership time. No clear process requiring a review and use of past lessons learned in the formal acquisition business cycle has been found.

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of Environmental Management:, June 23, 2011, submitted by the EMAB Acquisition and Project Management Subcommittee.

6. The CBC is responsible for acquisition processes at small sites and for providing assistance and specific services to all sites. Progress is being made in pre-award contracting standardization, and an effort to improve communications across functional areas is being led by CBC. A major challenge is alignment of contract management and project baseline management.

7. The CBC Office of Cost Estimating and Analysis is established and is interfacing with the Tri-Service Automated Cost Engineering System program, the USACE, and other federal cost estimating groups to develop cost databases. The office also has good relationships with customer cost estimating groups. Cost estimating is one of GAO's high interest areas, and long term improvement is contingent on avoiding baselining too soon as well as the temptation to reduce an estimate which is the "wrong answer" (too high) for political reasons.

8. Relationships among EM, OECM, Office of General Counsel, and the Office of Procurement Assistance have shown great improvement. However, confusion still exists over chain of command and who decision-makers, decision influencers, sponsors, and opponents are. Federal Project Directors (FPD) should serve on Source Evaluation Boards, but are spread thinly and many are unable to do so. A greater awareness that EM should manage the contract rather than the contractor is required. As noted earlier, Field perceptions on the roles and responsibilities between OECM and the EM Office of Project Management remain an area of frustration particularly when there are redundant data calls for the same or similar information. Coordination and clarity on redundant data calls would support improvements.

9. NNSA is adopting an "eyes on / hands off" approach to acquisition and project management between headquarters and the Field, and between field federal managers and contractors. While they recognize the benefits of using experience and lessons learned of successful FPDs on new projects, they are finding it difficult to staff new projects because of a lack of mobility among federal employees. NNSA would like to have program direction funding included in project costs rather than trying to draw from a declining overall source of funding.

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