Continuous Improvement in Project Management

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Meeting of the
Environmental Management Advisory Board
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• March 4, 2010, policy memorandum from Deputy Secretary Poneman issued project management principles for DOE

• DOE senior leadership commitment
  – Continuous improvement of project management
  – Removing all DOE organizations from the Government Accountability Office’s High-Risk List by January 2011

MEMORANDUM FOR DISTRIBUTION

FROM: DANIEL B. PONEMAN

SUBJECT: Project Management Principles

Secretary Chu and I are firmly committed to the continuous improvement of project management across the Department and to removing all Departmental organizations from the Government Accountability Office’s High-Risk List by January 2011. We recognize that this is an aggressive goal requiring your personal leadership, if it is to be achieved.

Many of the challenges to be addressed were detailed in the Root Cause Analysis (April 2008) and appropriate responses were identified in the Corrective Action Plan (July 2008). You should continue to use those documents as support of your efforts to improve project management.

You should also incorporate the attached policy statements on Project Size and Structure, Project Team Staffing, Funding Stability, Project Peer Reviews, Project Information Management, and Improving DOE Cost Estimates, into your processes for planning and executing our projects. These policies will also be included in the planned revisions to our contract and project management directives.

Attachment
• Design maturity must be advanced to a sufficient level prior to establishing the performance baseline
• A cost estimate developed that all relevant organizations have a high degree of confidence will endure to project completion
• Factors such as project size, duration, and complexity will be considered

EM is implementing 70-90% design completion prior to project baseline approval
Smaller projects are often easier to manage than larger projects and can be completed in less time with reduced risk.

Program Offices to consider breaking larger projects into multiple, smaller, more discrete, and usable projects that collectively meet the mission need.

Benefits of improved management and risk exposure should be balanced with the potential for increased overhead costs.

Each project should stand on its own and will be subject to appropriate DOE directives.

EM is making progress in restructuring the portfolio to create smaller, discrete capital asset projects separated from operations activities.
**EM Portfolio Restructuring Update**

- Accomplished evaluation of current EM project baselines to determine capital asset project and operational components
  - Initial declaration of fully operational PBSs
- Ensured integrity and traceability to approved lifecycle costs
- Currently defining specific capital asset projects within PBSs
  - Capital Asset projects will be consistent with completed Critical Decisions (CD) as required by DOE Order 413.3A
  - Restructuring **will not** include changes to the approved baseline cost, scope, or schedule
- Restructured portfolio is targeted to be implemented by June 2010 for budget execution, project reviews and reporting
DOE Policy Statement

Project Staffing

- Sufficient qualified staff (including contractors) must be available to accomplish all contract and project management functions.
- Based on a variety of factors, including project size and complexity, taking into account the management experience of the project staff.
- Use a validated methodology to determine the appropriate project team size and required skill sets.

EM established a Project Management Partnership with the U.S. Army Corps of Engineers in 2009 to provide resources for Federal management and oversight.
EM established Partnership with USACE in September 2009
Approach is to acquire "owner’s representative" resources to assist in effectively managing and overseeing projects
“Bottom line” objective is to improve performance of EM construction and capital asset projects
Since October 2009, 67 FTEs have been deployed at 8 sites and HQ using existing USACE contracts and resources
EM requested USACE to conduct independent detailed functional analyses of Federal staffing for EM projects to identify five-year needs and gaps
USACE procurements are in process for firms with sufficient capabilities and capacity to meet EM needs, with the first contract to be awarded in late May 2010
DOE Policy Statement
Funding Stability

• Improved project and financial management integration strengthens project stability and reduces risk
• In approving or changing a project life-cycle funding profile, the acquisition executive must determine it is affordable and executable within the budget portfolio
• CFO will verify that the funding profile is covered within the President's budget
• Line item capital asset projects with a total project cost less than $50M should be fully funded in a single budget request

With the portfolio restructuring, EM will have added flexibility to ensure construction and capital asset projects are funded at baseline approval
Cross-functional Project Peer Reviews are considered a "best practice" by the Government Accountability Office with demonstrated benefits.

Focused, in-depth reviews are conducted by non-advocates (Federal and contractor experts) to support the design and development of a project.

Conducted at least once a year for large projects and more frequently for the most complex projects or those experiencing performance challenges.

EM started Construction Project Reviews in 2009 based on the successful Office of Science model with at least one review conducted on each Line-Item project.
DOE Policy Statement
Project Management Information

- Project information must be timely, accurate, consistently reported and auditable
- Project Assessment and Reporting System (PARS) II will be the central repository for key project information
- Achieve complex-wide roll-out by the end of Fiscal Year 2010
- Project data to be uploaded into PARS each month, including monthly Earned Value Management System data provided directly from contractors' systems

EM achieved the capability in 2009 for selected construction projects to collect and analyze the data and blazed the trail for further DOE implementation
DOE Policy Statement
Improving DOE Cost Estimates

• Independent cost estimates (ICE) for major projects prior to approval of Alternative Selection and Performance Baseline (Critical Decisions 1 and 2)
• For start of construction (Critical Decision 3), DOE will conduct an ICE if warranted by risk and performance indicators
• All Programs to support development of a DOE Cost Database with historical and actual costs

The EM Cost Estimation “Center of Excellence” at the Consolidate Business Center conducted 27 ICEs in 2009 with 93% within 25% of a final contract award amount
Project Performance Goals

- **Capital Asset Line Item Projects**
  - Achieve CD-4 with original approved scope and within 10% of original approved cost\(^1\). On a program portfolio basis, 90% of projects will meet this criteria.

- **EM Cleanup Projects\(^2\)**
  - Achieve >80% of original defined NTB end-state scope, with a less than 25% of cost variance from original approved baseline\(^1\). On a program portfolio basis, 90% of projects will meet this criteria.

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1. Unless impacted by a directed/approved change.
2. With the restructuring of EM portfolio into capital and non-capital operations activities, this goal is no longer applicable. All EM capital asset projects must achieve the same goal as the line item construction projects.
EM is Improving Project Management

- EM commitment to capital asset project delivery on schedule and within cost
- Portfolio restructuring with more manageable right-sized projects to reduce risks
- Sufficient design completion and funding ensured prior to baseline approval
- Cross-functional Construction Project Reviews to ensure early identification and resolution of issues
- Project Management Partnership and project information tools to assist Federal staff in management and oversight
- Improved independent cost estimates to help ensure success in cost performance

The EM goal is to earn our way off the GAO High Risk List
Backup Slides
Focus Areas to Improve Project Structure

The current portfolio structure for PBSs

- Are too large to manage and provide adequate oversight
- Include both capital asset and operating activity scope
- Are difficult to separate cost, schedule and budget of subprojects from overall PBS
  - Struggling construction and capital asset projects are overshadowed when overall goals are measured
  - Operating projects and activities progress and accomplishments masked by “no completion” until end of the lifecycle for PBS
- Prolonged durations of current PBSs don’t yield any near-term successes or accomplishments
- PBS structure does not adequately demonstrate EM’s commitment to fund capital asset projects
Modify Project Categorization Approach

- Align projects better with DOE Order 413.3A
- Provide enhanced ability to tailor project management
- Create more manageable discrete blocks of work while still tracking life-cycle costs
- Break work into consistent categories:
  - Construction projects
  - Cleanup capital assets projects
  - Operational cleanup activities and programs
Project Categorization Goals

- Shift to a more performance-based program
  - Establish smaller capital projects within each PBS
  - Baseline with clearer scope definition
  - Develop more defensible project cost estimates
  - Identify schedules with realistic end dates
  - Greater understanding of project risks and opportunities
  - Achieve more successful project completions

- Ensure continued accountability of activities
  - Maintain integrity of lifecycle cost estimates
  - Assign performance measures and milestones to specific subprojects and operating activities

Categorizing EM work will lead to improved program, project, and contract management by defining performance expectations and improving stakeholder communications.
EM’s New Project Structure for PBSs

Capital Asset Projects (PARS Reportable)
- Construction Projects (TPC ≥ $10 million)
- Cleanup Projects (TPC ≥ $10 million)

Operations Activities and Programs
- Operations Activities
- Programs, Landlord Activities, and Site Services, etc.

Construction and Cleanup General Plant Projects (TPC < $10 million)
EM’s New Project Structure

- Restructure PBS to differentiate construction and capital asset projects from operating programs and activities
  - Develop manageable sub-projects using Analytical Building Blocks and Work Breakdown Structure
  - Maintain configuration control of lifecycle scope and cost
- Apply DOE O 413.3A requirements
  - Capital asset projects (≥ $10 million)*
- Apply DOE O 413.3A principles
  - General plant projects (< $10 million)*
  - Operations activities and programs
- Deliver project completions
- Deliver performance metrics as agreed to in contract and annual operating plan

* FY2010 only, FY2011 general plant project level returns to less than $5M
Guidelines for Restructuring Into Capital and Non-Capital

**CAPITAL ASSET PROJECTS**

- Line item construction projects
- Minor new construction projects* with total project cost (TPC**) of $10 million*** or more.

* Refer to DOE Order 430.1B, Change 1, *Real Property Asset Management*, for definitions of alterations and betterment.

** DOE Manual 135.1-1A, Change 1, *Department of Energy Budget Execution-Funds Distribution and Control Manual*, specifies total estimated cost (TEC). EM will utilize TPC as the cost determinant.

*** Congress raised the cost threshold for General Plant Projects (GPP) and Institutional GPP from $5 million to $10 million in *Omnibus Appropriations Act of 2009* (H.R. 1105).

**Cleanup Projects with TPC of $10 million or more**

- Surface and subsurface soil remediation such as construction of caps and engineered cover systems; excavation of contaminated soils and waste materials; and in situ grouting
- Surface water and groundwater remediation such as construction of treatment units; installation of sampling, monitoring and sentry wells; installation of barrier systems; and construction of phyto-remediation systems
- Retrieval of transuranic or other solid waste from earthen-covered storage below grade
- Removal or closure of radioactive liquid waste or high level waste tanks following waste retrieval operations
- Nuclear facility decommissioning
- Non-nuclear facility demolition and removal

**OPERATIONS ACTIVITIES & PROGRAMS**

**Operations Activities**

- Stabilization, packaging, storage, transportation, and disposition of: (1) solid waste, including transuranic waste; (2) liquid waste, including high level waste and radioactive tank waste; and (3) nuclear materials, including special nuclear materials and spent nuclear fuel
- Retrieval of transuranic or other solid waste from earthen-covered storage above grade
- Operation of facilities for receipt and retrieval of high-level waste
- Operation of waste processing facilities
- Surveillences, non-destructive and destructive inspections, and other stewardship activities of nuclear materials
- Emergency removal actions
- Cleanup activities with TPC less than $10 million
- Site facility investigation, characterization, sampling and analysis, alternatives evaluation, and other activities leading up to the final approved cleanup decision document
- Operation of environmental remediation systems such as groundwater treatment systems
- Post-construction and post-closure care of remediated land burial sites
- Long-term environmental stewardship including environmental monitoring and institutional controls
- Facility shutdown and deactivation activities in preparation for final decommissioning

**Programs**

- General Plant Projects and Institutional General Plant Projects
- Alterations and Betterments
- Maintenance and Repair
- Landlord activities and site services
- Safeguards and security
- Emergency management
- Land management
- Fleet management
- Technology research, development, demonstration and deployment
- Community-support grants
- Public outreach and regulator oversight grants
- Preservation of cultural resources
- Program management

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