

Management System Description: Project Management

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## 1.0 Purpose

The purpose of the Office of Environmental Management (EM) Project Management System is to identify key project management requirements and provide procedures that will enable accountable Headquarters Program and Site Office Managers and Federal Project Directors (FPDs) to effectively carry out their responsibilities for projects. The objective of the EM Project Management System is to ensure that EM delivers its projects on schedule, within budget, and fully capable of meeting mission performance and environmental, safety, and health (ES&H) standards.

## 2.0 Roles and Responsibilities

Successful project outcomes rest primarily on the efforts of experienced, disciplined, and dedicated Integrated Project Teams (IPTs). However, accountability for overall project performance must be accepted and shared appropriately by all responsible EM line managers, FPDs, and Contractor Project Managers. Advisory and independent oversight groups provide an essential system of checks and balances. While specific project authorities are well-defined and delineated in Project Execution Plans (PEPs), a summary of key project management responsibilities, consistent with the Department of Energy's (DOE's) Project Management System, is described below.

The table below represents roles and responsibilities specific to this Management System. For a detailed description of EMCBC roles and responsibilities, please see the [EMCBC Staff Functional Assignments](#) listed on the EMCBC website.

Roles	Responsibilities
Program Secretarial Officer (PSO) and Deputy Administrator	<ul style="list-style-type: none"><li>• Responsible for line accountability for applicable program and capital asset project execution and implementation of policy.</li><li>• Executes accountability for site-wide ES&amp;H and safeguards and security.</li></ul>

	<ul style="list-style-type: none"> <li>• Approves Mission Need Statement (MNS) documents and Acquisition Strategy (AS) documents for all capital asset projects. This authority cannot be further delegated.</li> <li>• Approves disposition of projects and Performance Baseline (PB) changes below Secretarial Acquisition Executive approval level following PB deviations. This authority cannot be further delegated.</li> <li>• Exercises decision-making authority, including Critical Decisions (CDs) when functioning as Acquisition Executive (AE).</li> <li>• Responsible for CD-0, Approve Mission Need, for all projects having a Total Project Cost of less than \$100 Million. This authority cannot be further delegated.</li> <li>• Delegates (as appropriate) AE functions.</li> <li>• Approves selection of FPDs no later than CD-1, Approve Alternative Selection and Cost Range.</li> <li>• Serves as Chair, appoint members for Acquisition Advisory Boards, and direct independent reviews.</li> <li>• Establishes project management support offices when responsibility is delegated or directed by the Under Secretaries or the Administrator of the National Nuclear Security Administration (NNSA) (NA-1).</li> </ul>
<p>Program Managers and Site Office Managers</p>	<ul style="list-style-type: none"> <li>• Direct initial project planning and execution roles for projects assigned by the AE.</li> <li>• Initiate definition of mission need based on input from Sites, Laboratories, and Program Offices.</li> <li>• Assign FPD no later than CD-1, Approve Alternative Selection and Cost Range, and supports selection of IPT members.</li> <li>• Oversee development of project definition, technical scope, and budget to support mission need.</li> <li>• Initiate development of the AS before CD-1, Approve Alternative Selection and Cost Range, (during the time preceding designation of the FPD).</li> <li>• Perform functions as AE when so delegated.</li> <li>• Develop project performance measures, and monitor and evaluate project performance</li> </ul>

	<p>throughout the project's life cycle.</p> <ul style="list-style-type: none"> <li>• Allocate resources throughout the project.</li> <li>• Oversee the project line management organization.</li> </ul>
<p>Federal Project Directors</p>	<ul style="list-style-type: none"> <li>• Must attain <a href="#">certification</a>, in concert with the requirements outlined in the applicable Chapter of the DOE Order for Project Management Career Development Program (DOE O 361.1), before they are delegated authority to serve as a FPD.</li> <li>• Manage the contract not the contractor.</li> <li>• Responsible for project management activities for all assigned projects.</li> <li>• Accountable for planning, implementing, and completing a project using a systems engineering approach.</li> <li>• Initiate development and implementation of the AS and the PEP.</li> <li>• Define project objectives and technical scope, schedule, and cost baselines.</li> <li>• Ensure design; construction; environmental, safety, health; and quality efforts performed by various contractors comply with the contract, public law, regulations, and Executive Orders.</li> <li>• Ensure timely, reliable, and accurate integration of contractor performance data into the project's scheduling, accounting, and performance measurement systems.</li> <li>• Evaluate and verify reported progress; and make projections of progress and identifies trends.</li> <li>• Serve as the single point of contact between Federal and contractor staff for all matters relating to a project and its performance.</li> <li>• Serve as the Contracting Officer's Technical Representative, as appointed.</li> <li>• Establish and lead the Federal IPT. With IPT support, prepares and issues the IPT Charter.</li> <li>• As delegated by Site/Field Organization Manager or Program Manager, approve changes in compliance with the approved change control process.</li> </ul>

<p>Acquisition Executives</p>	<ul style="list-style-type: none"> <li>• Approve CDs.</li> </ul> <p><b>NOTE:</b> CD-0, Approve Mission Need, cannot be delegated below the PSO/Deputy Administrator level.</p> <ul style="list-style-type: none"> <li>• Approve key project documents with the exception of the MNS and the AS, which are approved by the PSO/Deputy Administrator.</li> <li>• Appoint and chair Acquisition Advisory Boards to provide advice and recommendations on key project decisions.</li> <li>• Approve the selection of FPDs.</li> <li>• Monitor the effectiveness of FPDs and their support staff.</li> <li>• Approve project changes in compliance with change control levels identified in PEPs.</li> <li>• Conduct monthly and quarterly project performance reviews.</li> </ul> <p>Note: The Director, EMCBC has the following AE Responsibilities</p> <ul style="list-style-type: none"> <li>• Serve as Acquisition Executive for projects at managed sites per the delegation authority provided in <a href="#">memo from EM-1</a>.</li> <li>• Provide support services to projects at assigned sites per the <a href="#">DOE EMCBC Service Plan</a>.</li> </ul>
<p>Project Management Support Office</p>	<ul style="list-style-type: none"> <li>• Provides independent oversight and report directly to EM-1.</li> <li>• Serves as the Secretariat for the EMAAB.</li> <li>• Coordinates performance reviews.</li> <li>• Coordinates with other DOE organizations and offices, including the DOE HQ Office of Engineering and Construction Management, to ensure effective and consistent implementation of project management policies and directives.</li> <li>• Provides assistance and oversight to line project management organizations.</li> <li>• Analyzes project management execution issues.</li> <li>• Actively assist senior management on issues related to project management performance, including implementation of corrective actions.</li> <li>• Assures compliance with the <a href="#">EM Corporate Work</a></li> </ul>

## 3.0 Management System Operation

### 3.1 Overview

The Project Management System provides the corporate processes for delivering EM projects by relying on disciplined up-front planning, well-defined and managed project baselines, sound acquisition strategies, and effective communications among all project stakeholders.

EM manages its projects in concert with the project management principles and mandatory requirements contained in DOE's formal project management system (established by the DOE Order on Program and Project Management for the Acquisition of Capital Assets [see [Section 4.0, "Requirements"](#)]). EM has been an important contributor to the development of the principles, policies, and requirements embodied in the current DOE project management system.

The framework for organizing project management requirements is built around four key elements that significantly influence project outcomes: (1) Critical Decision Management, (2) Project Delivery, (3) Project Reporting and Monitoring, and (4) Federal Project Director Certification.

#### 3.1.1 Critical Decision Management

Within the DOE project management system, CDs are key project milestones that must be successfully achieved in order to reach agreement on project baselines, funding, and readiness to execute. CDs are integral to the overall project schedule and must be planned and managed with the same rigor as major technical activities and milestones. CDs secure stakeholder agreement, build credibility, keep the entire organization informed, and affirm the project's purpose and direction.

#### 3.1.2 Project Delivery

Project Delivery is a primary theme in EM's mission statement. EM's credibility with the contractor community, oversight agencies, and Congress depends in great measure on its successful delivery of projects. While Project Delivery in EM is guided by the Department's project management system, there are signature features of EM projects that have implications for their delivery.

- EM projects are tasked with solving the large scale, technically challenging risks and hazardous conditions posed by the **world's largest nuclear cleanup**.
- Each project has a "baseline" that clearly documents the scope of work to be completed, the estimated cost, and the schedule by which various aspects of the project will be completed.

- The baseline can be viewed as an acceptable point from which to track and control future changes throughout the duration of a project. EM monitors the actual progression of its projects on a regular basis against these project baselines.
- Project management personnel assist in the successful execution of projects by means of consultation, independent project reviews, quarterly project reviews and monthly project reviews and reporting. The project documents are kept under configuration management throughout the duration of the project.
- An approved near-term baseline reflects the identified scope of work that can reasonably be accomplished for an identified cost in an identified time period. The near-term period of the baseline typically coincides with the current contract period, which is generally five years.
- EM's environmental cleanup projects often extend beyond the near-term, which is why EM also develops out-year planning estimates (ranges of cost and schedule).
- Completing projects within the parameters of the baseline depends on adequate funding and the availability of contingency funds during project execution.

### **3.1.3 Project Reporting and Monitoring**

The [lessons learned](#) from successful EM projects regularly highlight effective project reporting and monitoring as a critical element of the project management process. Aspects of project reporting found to contribute to project success include:

- Proactive problem identification, tracking, and resolution,
- An emphasis on informal reporting in addition to fulfilling formal reporting requirements,
- Effective communications with project stakeholders, and
- Project reviews that build credibility and confidence, and provide checks and balances.

Project Management Lessons Learned are collected and maintained on the [Office of Health, Safety, and Security website](#). These Lessons Learned should be reviewed throughout the design and execution process.

### **3.1.4 [Federal Project Director Certification](#)**

Project outcomes are directly related to the experience, competencies, and leadership abilities of EM project personnel. While accountability for overall project performance is shared by all responsible DOE Line Managers, the FPD has a central role in ensuring project success. As DOE/EM's "owner representative," the FPD is the day-to-day interface with the site management where the project is being executed. The FPD conducts regular assessments, informs laboratory management of "owner" concerns, and intercedes in project activities as needed.

EM has been working with the MA-50 and the Certification Review Board since the inception of the [Project Management Career Development Program \(PMCDP\)](#) to ensure FPD candidates possess the skills and experience to fulfill the roles and responsibilities for directing projects of widely varying size, scope, and scale.

## **3.2 Key Functions/Services and Processes**

While the DOE project management system relies on a unique arrangement of deliverables and decisions, the overall process is modeled on a long-standing traditional model that organizes project activities into a sequence of phases/steps to be completed. The four phases – (1) initiation, (2) definition, (3) execution, and (4) transition/closeout are summarized in the next section.

### **3.2.1 Initiation**

During the Initiation Phase, identified user needs are analyzed for consistency with EM's Strategic Plan, Congressional direction, administration initiatives, and political and legal issues. One outcome of the analysis could be a determination that a user need exists which cannot be met through other than material means. This outcome leads to the development and approval of a Mission Need Statement (MNS) that discusses the user need in terms of required capability, not equipment, facilities, or other specific products. This is the first CD of the acquisition process, CD-0, Approve Mission Need. The information developed during this phase also provides the basis for the Project Engineering and Design Budget Request when preliminary design activities are planned.

### **3.2.2 Definition**

Upon approval of mission need, the project enters the Definition Phase, where alternative concepts based on user requirements, risks, costs, and other constraints are analyzed to arrive at a recommended alternative. This is accomplished using systems engineering and other techniques and tools, such as alternatives analysis and value management, to ensure the recommended alternative provides the essential functions and capability, consistent with performance, scope, schedule, and cost objectives. During this phase, more detailed planning is accomplished which further defines the required capability. These efforts include conceptual design, requirements definition, risk analysis and management planning, and development of the Alternative Selection (AS). The products produced by this planning provide the detail necessary to develop a rough order of magnitude or range for the project cost and schedule. The recommended alternative, when sufficiently defined and analyzed, is presented to the AE for review and approval (i.e., CD-1, Approve Alternative Selection and Cost Range).

### **3.2.3 Execution**

Upon completing the Definition Phase, the project enters the Execution Phase where the focus is on further defining the selected alternative, developing preliminary designs, arriving at a high confidence baseline, and generating the complete PEP; all of which support a request for funds in the DOE budget. This part of the Execution Phase culminates with the development of the Performance Baseline (PB), which is presented to the AE for approval (i.e., CD-2, Approve Performance Baseline). The PB documents the Department's commitment to Congress to execute the project at a specific cost and schedule threshold and achieve a specific performance

capability. After CD-2, Approve Performance Baseline, engineering and design continue until the project is ready for construction or implementation. Before construction or implementation begins, approval to move forward is obtained by CD-3, Approve Start of Construction.

### 3.2.4 Transition/Closeout

The Transition/Closeout Phase is when the project is approaching completion and has progressed into formal transition, which generally includes final verification that the project cleanup objectives have been achieved, inspection, and documentation, as the project is prepared for, long-term surveillance and maintenance, or closeout. The transition point will depend on the type of project and the Office that will retain ownership of the site.

## 4.0 Requirements

### 4.1 Primary Responsibility

This Management System has primary responsibility for ("owns") the following requirements:

Document	Title
<a href="#">DOE O 413.3</a>	Program and Project Management for the Acquisition of Capital Assets

### 4.2 Parsed Responsibility

This Management System is responsible for a part of the following high-level requirements:

Document	Title
<a href="#">DOE O 361.1</a>	Acquisition Career Management Program — Chapter IV

## 5.0 Subject Areas, Program Descriptions, and Guidance Documents

The following Subject Areas are maintained by this Management System:

- [Critical Decision \(CD\) Management](#)
  - [Critical Decision 0, Approve Mission Need](#)
  - [Critical Decision 1, Approve Alternate Selection and Cost Range](#)
  - [Critical Decision 2, Approve Performance Baseline](#)
  - [Critical Decision 3, Approve Start of Construction](#)
  - [Critical Decision 4, Approve Start of Operations](#)
- [Project Delivery](#)
  - [Managing the Project Initiation Phase](#)
  - [Managing the Project Definition Phase](#)
  - [Managing the Project Execution Phase](#)

- [Managing the Project Transition/Closeout Phase](#)
- [Project Reporting](#)
  - [Managing OECM Monthly Reporting \(Project Assessment and Reporting System \(PARS\)\)](#)
  - [EM Monthly Reporting](#)

## 6.0 References

Document	Title
<a href="#">Procedure</a>	FPD Training Program
<a href="#">Document</a>	Consolidated Business Center Acquisition Advisory Board (CBCAAB)
<a href="#">Document</a>	Capital Asset Project Critical Decision Approval Process
<a href="#">Document</a>	EM Corporate Change Control Process for Project Baselines and Outyear Planning Estimate Ranges, and Non-projects.
<a href="#">Document</a>	External Technical Reviews for the Environmental Management (EM) Program
<a href="#">Document</a>	OECM External Independent Review Standard Operating Procedure
<a href="#">Document</a>	Integrated Project Team Charter
<a href="#">Document</a>	EMCBC DOE Service Plan
<a href="#">Memorandum</a>	Environmental Management Project Management Lessons Learned Guidance, memorandum for distribution from Dae Y. Chung, dated June 3, 2011
<a href="#">Memorandum</a>	Implementation of the Office of Environmental Management Corporate Work Breakdown Structure, memorandum for distribution from Dae Y. Chung, dated August 26, 2010.
<b>ARRA References</b>	
<a href="#">Document</a>	EM Recovery Act Program; Portfolio Management Framework, Rev 0 dated July, 2009
<a href="#">Procedure</a>	EM-11 Office of Environmental Management Standard Operating Procedure, Validation of Project Readiness for Approval of Operations Critical Decision-4, SOP #004, Dated October 1, 2010

<a href="#">Memorandum</a>	Recovery Act Program Office Project Closeout, Memorandum from Thomas Johnson Jr. to Distribution, dated January 13, 2011
<a href="#">Memorandum</a>	Definition of Environmental Management Completion, Memorandum from Jessie H. Roberson to Distribution, dated February 12, 2003
<a href="#">Memorandum</a>	Schedule for Capital Asset Project Completions for Fiscal year 2011, Memorandum from Dae Y. Chung to Distribution, dated December 28, 2010
<a href="#">Memorandum</a>	Delegation of Acquisition Executive Authority, Memorandum from Inez Triay to Jack Craig, dated February 25, 2011