

<b>Management System: Project Management</b>			
<b>Subject Area: Project Delivery</b>			
<b>Procedure: Managing the Project Execution Phase</b>			
<table border="1"> <tr> <td><b>Issue Date and Revision Number:</b> 2/26/15, Rev. 2 (GENERAL REVISION)</td> <td><b>Lead Subject Matter Expert:</b> Sue Smiley</td> <td><b>Management System Owner:</b> Terry Brennan</td> </tr> </table>	<b>Issue Date and Revision Number:</b> 2/26/15, Rev. 2 (GENERAL REVISION)	<b>Lead Subject Matter Expert:</b> Sue Smiley	<b>Management System Owner:</b> Terry Brennan
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## 1.0 Applicability

This procedure applies to U.S. Department of Energy (DOE), Office of Environmental Management (EM), Federal Project Directors (FPD), Integrated Project Team (IPT) members and Program Managers who are responsible for the execution of all projects that are subject to the mandatory project management requirements in DOE Order 413.3B (Program and Project Management for the Acquisition of Capital Assets). This procedure describes the steps needed prior to presenting a Critical Decision-2 (CD-2, Approve Performance Baseline) and CD-3 (Approve Start of Construction) package to the cognizant Acquisition Executive (AE) for approval. Because most EM projects are not traditional construction projects (for which DOE O 413.3B was crafted), some tailoring of Order requirements will be useful or necessary. For example, most EM projects employ a combination CD-2/3 strategy, versus processing a separate CD-2 and CD-3.

This procedure describes how projects advance from CD-1 (Approve Alternative Selection and Cost Range) through developing the baseline and starting construction (or demolition, environmental remediation activities, etc.), i.e., CD's 2 and 3, and setting up active operation. DOE O 413.3B lists prerequisites for CD-2 and CD-3 in Appendix A (Requirements), Section 4.b, Tables 2.2 and 2.3, respectively. A separate but related EM Consolidated Business Center (EMCBC) procedure (SAP-OCE&PMS-413.3B-A-03), subordinate to the Subject Area Description (SAD) for Critical Decision and Change Control Management, has step-by-step instructions for preparing a combined CD-2/3 package and obtaining AE approval of CD-2/3. In comparison, the purpose of this procedure for the Project Execution Phase is to describe the steps needed to prepare the baseline, plan for its approval, and execute the Project.

An additional, separate EMCBC procedure (SAP-OCE&PMS-413.3B-A-05 [Consolidated Business Center Acquisition Advisory Board {CBCAAB}]) describes the local acquisition advisory board process. During the Project Execution Phase, the CBCAAB serves as the local Change Control Board, which is responsible for reviewing baseline change proposals (BCP) that cannot be approved at the site (i.e., FPD) level for proposed revisions to the technical, cost

and/or schedule components of the Performance Baseline that was established at CD-2. The CBCAAB also reviews proposed baseline deviation documentation, prepared by the FPD and/or the EMCBC Project Management Support Office (PMSO), prior to providing official notice to higher levels of management at DOE Headquarters. The CBCAAB review of proposed BCP (and approval of same, if within the EMCBC Director's delegated authority) includes verification that a contract modification (if required) has been processed in advance of approving the BCP. The CBCAAB membership includes the Assistant Directors from the Office of Cost Estimating and Project Management Support (OCE&PMS), Office of Financial Management (OFM) and Office of Technical Support & Asset Management (OTS&AM); as such, the CBCAAB is in a position to facilitate an integrated approach to monitoring both project changes and contract changes. For further information on EM Headquarters' expectations for an integrated approach to managing contract and project changes, refer to EM-50 memorandum dated January 22, 2013 entitled "Monthly Reporting on Alignment of Traditional Non-Management and Operating (M&O) Contracts and Project Management Baselines." Also see general DOE guidance contained in DOE G 413.3-20 (Change Control Management Guide).

During the Project Execution Phase, preliminary documents approved at CD-1 are updated to be consistent with management of the proposed Performance Baseline (e.g., Project Execution Plan [PEP], Integrated Project Team [IPT] Charter, Risk Management Plan); the final design is approved; and final environment, safety and health (ES&H), quality assurance and security documents are approved. The major Project Execution products are the PEP, Risk Management Plan, Performance Baseline (PB) and supporting documents, National Environmental Policy Act (NEPA) decision document, and the Final Design.

The Director of the EMCBC is the line manager for all Small Sites, and also serves as the AE for Small Site capital asset projects that have a total project cost (TPC) under \$100 million. The FPD for such capital asset projects, and any project support personnel (including project site or EMCBC staff), should review this procedure prior to developing a CD-2/3 package. This procedure may also be used by Site Directors and Operations Activity Managers (OAM) at the Small Sites, and any project site or EMCBC support staff, to identify potential baseline development and start of construction requirements for approved operations activities. Such operations activities are subject to the requirements in the EM Policy & Protocol for Operations Activities, issued in March 2012.

This procedure is consistent with the EM Enterprise Requirements System (EMERS) Functional Area Description (FAD) for Project Management.

## 2.0 Required Procedure

The following steps are not necessarily performed sequentially. Also see the aforementioned EMCBC procedures for Critical Decision-2/3 and the CBCAAB process.

<b>Step 1</b>	As the Project enters the Execution phase, it will have completed Alternative Selection, Conceptual Design, have a Preliminary Project Execution Plan, and a cost and schedule range. The Federal Project Director (FPD) will have been
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	<p>making reports in the DOE Project Assessment and Reporting System (PARS) and will begin reporting in the EM Integrated Planning, Accountability and Budgeting System (IPABS). Prior to approval of Critical Decision-2 (CD-2, Approve Performance Baseline), the PARS and IPABS reporting will be limited to total project cost (TPC) only, since earned value (EV) won't be calculated until an approved Baseline is in place.</p> <p>At the beginning of the Execution phase, projects will also start presenting Quarterly Project Reviews (QPR) and, possibly, Monthly Project Reviews (MPR). Refer to EMCBC Procedures SAP-OCE&amp;PMS-413.3B-C-01 (Office of Acquisition and Project Management [APM] Reporting) and SAP-OCE&amp;PMS-413.3B-C-02 (EM Reporting) for further information on PARS, IPABS and MPR/QPR reporting requirements for EM-funded projects.</p>
<b>Step 2</b>	<p>The FPD updates the Integrated Project Team (IPT) membership and the Project Execution Plan (PEP), as necessary, to address activities performed during the Execution phase.</p> <p><b>NOTE:</b> The final PEP cannot be approved by the Acquisition Executive (AE) until the Baseline is developed. If the PEP will structure significant management practices, then it may be advantageous to seek provisional approval of the PEP early, before Baseline development is complete.</p>
<b>Step 3</b>	<p>The FPD, with support from the IPT, ensures the initiation and completion of the Preliminary Design. For most EM projects, the preliminary design will advance directly to a Final Design level of detail.</p> <p><b>NOTE 1:</b> The Preliminary Design evolves out of the technical requirements documented in the Conceptual Design Report (CDR). There is no specific requirement for the level of detail that should be included in the Preliminary Design, and the level of detail in separate components of the Preliminary Design can vary based on the level of complexity of those components. However, the level of detail must be sufficient for development of Cost and Schedule documentation to establish the Performance Baseline. A sound configuration management process, linked to the baseline change control process, must be in place to control and document changes to the design as it evolves and to understand how those changes may impact the developing Performance Baseline. Plant and Engineering Design (PED) funds (a type of Capital funds) fund the design work for Line Item capital projects.</p> <p><b>NOTE 2:</b> The Final Design typically represents a set of plans and specifications for the project that can support the procurement and/or fabrication of equipment and/or facility construction. If a project has adopted a Tailoring Strategy that includes staggered CD-2 and CD-3 approvals for various project elements, the corresponding Preliminary and Final Design activities for those project elements may also be staggered.</p> <p>Guidance on the Preliminary and Final Design development, including Systems Engineering and Configuration Control considerations, can be found in DOE G 413.3-1 (Managing Design and Construction Using Systems Engineering for</p>

	Use with DOE O 413.3A).
<b>Step 4</b>	<p>The FPD, with support from the IPT, ensures the performance of a Final Design Review (and/or Preliminary Design Review, if done separately).</p> <p><b>NOTE:</b> A review of the Preliminary Design must be performed to ensure the proposed technical approach will meet the Key Performance Parameters (KPP) and confirm that there is a high likelihood that the completed project will perform as designed. The depth of detail of the review and the functional expertise applied to the review should be commensurate with the technical complexity of the project.</p> <p>The FPD and the IPT will ensure that sustainability considerations (e.g. High Performance Sustainable Building) provisions, also referred to as “sustainable environmental stewardship” per DOE O 436.1 (Departmental Sustainability), are incorporated in the design and its reviews</p>
<b>Step 5</b>	<p>The FPD, with support from the IPT, directs preparation of the Performance Baseline (PB).</p> <p><b>NOTE 1:</b> The PB describes the technical, cost, and schedule attributes of the project. These attributes will become the basis by which the status of the project is communicated to entities both internal and external to the DOE. Some key elements to be addressed in the development of the PB include:</p> <ul style="list-style-type: none"> <li>• Provide basis of estimate documentation, organized by the project’s Work Breakdown Structure (WBS), with clearly stated technical, cost, and schedule assumptions.</li> <li>• Ensure clear traceability from WBS element definitions, to basis of estimate documents, to the detailed cost estimate, to the integrated project schedule.</li> <li>• Provide reasonable and appropriate DOE Contingency and Contractor Management Reserve budgets as well as Schedule Contingency, derived from the Project Risk Assessment, to maximize the opportunity for project success.</li> <li>• Ensure continuity between the project performance parameters and CD-4 (Approve Start of Operations or Project Completion) project completion criteria described in the PEP, and corresponding technical information identified in the PB supporting documentation.</li> <li>• Include activities and durations for DOE review and approval of documents, such as Critical Decision and subcontracts, in the integrated project Schedule.</li> </ul> <p>Upon approval of CD-2, any changes to (or deviations from) the PB must be implemented via the governing change control process with final disposition of such change approved by the designated authority. Refer to the aforementioned</p>

	<p>EMCBC procedure on the CBCAAB process.</p> <p><b>NOTE 2:</b> If the draft Baseline cost exceeds the approved CD-1 high-end cost range by more than 50%, then the alternative selection process must be performed again, including approval by the AE. Refer to DOE O 413.3B, Appendix A (Requirements), Section 4 (Requirements for Approval of Critical Decisions), sub-section “b” (CD-1, Approve Alternative Selection and Cost Range).</p>
<b>Step 6</b>	<p>The FPD, with support from the IPT, ensures the update of Hazard Analysis Documentation (nuclear, radiological, or chemical).</p> <p><b>NOTE:</b> Preparation of the safety analysis documentation deemed appropriate during the “Definition Phase” of the project should continue as needed during the Project Execution phase, informed by the development of the detailed design. As always, the concepts of Integrated Safety Management (ISM) need to be considered and incorporated into all management and technical documentation for all project activities.</p>
<b>Step 7</b>	<p>The FPD, with support from the IPT, ensures the continued preparation of the Environmental and Permitting documentation deemed appropriate by the IPT during the Project Definition phase.</p> <p><b>NOTE:</b> The National Environmental Policy Act (NEPA) process must be completed prior to the project receiving approval of CD-2. For additional information regarding NEPA prerequisites for DOE programs and projects, refer to the memorandum from the Secretary of Energy (S-1) dated June 12, 2012, entitled “Improved Decision Making through the Integration of Program and Project Management with NEPA Compliance.”</p>
<b>Step 8</b>	<p>The FPD, with support from the IPT, must reaffirm that a Quality Assurance (QA) Program that fully addresses all applicable QA Criteria as defined in 10 CFR 830, Subpart A (Nuclear Safety Management, Quality Assurance Requirements) and DOE O 414.1D (Quality Assurance) is in place.</p>
<b>Step 9</b>	<p>The FPD, with support from the IPT, ensures that the Risk Management Plan initiated during the Project Definition phase and which supports the PEP and the proposed PB, is updated prior to submittal of CD-2 documentation for approval.</p>
<b>Step 10</b>	<p>The FPD, with support from the IPT, ensures the implementation of a Configuration Management Process in accordance with the Contractor Requirements Document (CRD) of DOE O 413.3B.</p> <p><b>NOTE:</b> A Configuration Management Process must be established that controls changes to the physical configuration of project facilities, structures, systems and components in compliance with ANSI/EIA-649 (National Consensus Standard for Configuration Management). This process must also ensure that the configuration is in agreement with the performance objectives identified in the technical baseline and the approved QA Plan.</p>

<b>Step 11</b>	The FPD, with support from the IPT, ensures the implementation of an Earned Value Management System (EVMS) for projects with a TPC greater than or equal to \$50 million that is compliant with ANSI/EIA-748-B-2007 (Earned Value Management System).
<b>Step 12</b>	The FPD, with support from the IPT, ensures that the preliminary security assessment is updated as necessary.
<b>Step 13</b>	The FPD, with support from the IPT, ensures the preparation and approval at the appropriate management level of a Construction Project Safety and Health Plan.
<b>Step 14</b>	The FPD, with support from the IPT, drafts a Funding Request, Project Data Sheet, and/ or Non-Information Technology (Non-IT) Business Case (also known as Exhibit 300) consistent with projections of out-year funding requirements. The applicable budget documents will ensure that the required funding is realistically within the sponsoring Mission Unit's projected out-year budget.
<b>Step 15</b>	<p>The FPD requests the performance of Baseline Validation and Execution Readiness Reviews prior to CD-2 /3 for projects with a TPC greater than \$50 million.</p> <p><b>NOTE:</b> Projects with a TPC greater than \$50 million will undergo some level of review of PB data and supporting management documentation prior to approval of CD-2, and again for CD-3 (or as a single step for a combined "CD-2/3"). The reviewing entity (i.e., DOE Office of Acquisition and Project Management [APM] versus the EM Office of Project Assessment [EM-53]) is dependent upon the size of the project.</p>
<b>Step 16</b>	The FPD, with support from the IPT, prepares the CD-2/3 package and the draft CD-2/3 Approval Memo for review by the cognizant acquisition advisory board. For additional information, refer to EMCBC procedures for CD-2/3 and the CBCAAB process.
<b>After AE approval of CD-2/3</b>	
<b>Step 17</b>	The FPD, with support from the IPT, ensures the implementation of Value Management/Engineering processes in accordance with the CRD of DOE O 413.3B.
<b>Step 18</b>	The FPD, with support from the IPT, updates and submits a Project Data Sheet and Non-IT Business Case (i.e., Exhibit 300) through the EM Mission Unit to the DOE Chief Financial Officer (CFO) and the Office of Management and Budget (OMB).
<b>Step 19</b>	The FPD, with support from the IPT, submits Lessons Learned regarding up-front project planning and design to EM-53 (and APM). Per DOE O 413.3B, such lessons learned must be submitted within 90 days of AE approval of CD-3. Also see EM-2 memorandum dated June 3, 2011 entitled "EM Project Management Lessons Learned (PMLL) Guidance."
<b>Step 20</b>	The FPD, with support from the IPT, commences oversight of the Contractor EVMS program. The Contractor must conduct an EVMS surveillance annually.

	<p>The Project Management Support Office (PMSO) must conduct an EVMS surveillance during the tenure of the contract (at the contract midpoint or every two years, during contract extensions, or as requested by the AE).</p> <p><b>NOTE:</b> The EMCBC serves as the PMSO for Small Site capital asset projects with a TPC under \$100 million.</p>
<b>Step 21</b>	<p>The FPD, with support from the IPT, continues monthly PARS (and IPABS) reporting (including earned value data). The FPD, EM Program Manager and APM continue to provide monthly assessments in PARS.</p>

### 3.0 References – Forms/Attachments/Exhibits

#### 3.1 References

- DOE O 413.3B (Program and Project Management for the Acquisition of Capital Assets)
- EMCBC Procedure SAP-OCE&PMS-413.3B-A-03 (Critical Decision 2/3, Approve Performance Baseline/Start of Construction)
- EMCBC Subject Area Description SAD-OCE&PMS-413.3B-A (Critical Decision and Change Control Management)
- EMCBC Procedure SAP-OCE&PMS-413.3B-A-05 (EM Consolidated Business Center Acquisition Advisory Board)
- Monthly Reporting on Alignment of Traditional Non-Management and Operating (M&O) Contracts and Project Management Baselines (EM-50 memorandum dated January 22, 2013)
- DOE G 413.3-20 (Change Control Management Guide)
- Policy and Protocol for Office of Environmental Management Operations Activities (EM-2 memorandum dated March 15, 2012)
- EM Enterprise Requirements System (EMERS), Functional Area Description for Project Management
- EMCBC Procedure SAP-OCE&PMS-413.3B-C-01 (Office of Acquisition and Project Management [APM] Reporting)
- EMCBC Procedure SAP-OCE&PMS-413.3B-C-02 (Office of Environmental Management [EM] Reporting)

- DOE G 413.3-1 (Managing Design and Construction Using Systems Engineering for Use with DOE O 413.3A)
- DOE O 436.1 (Departmental Sustainability)
- Improved Decision Making through the Integration of Program and Project Management with NEPA Compliance (S-1 memorandum dated June 12, 2012)
- 10 CFR 830, Subpart A (Nuclear Safety Management, Quality Assurance Requirements)
- DOE O 414.1D (Quality Assurance)
- ANSI/EIA-649 (National Consensus Standard for Configuration Management)
- ANSI/EIA-748-B-2007 (Earned Value Management System)
- Environmental Management Project Management Lessons Learned Guidance (EM-2 memorandum dated June 3, 2011)

#### 4.0 Records Generated

Records generated through implementation of this procedure are identified as follows and are maintained by the Office of Cost Estimating and Project Management Support (OCE&PMS) in accordance with the EMCBC Organizational File Plan:

<b>Records Category Code</b>	<b>Records Title</b>	<b>Responsible Organization</b>	<b>QA Classification (Lifetime, Non-Permanent or Not Applicable)</b>
ADM 16-05	<b>ADMINISTRATIVE MANAGEMENT RECORDS, Project Control Files</b>  <b>Examples:</b> Project Execution Plan IPT Charter Conceptual Design Report Preliminary Design Final Design Review Report Performance Baseline (PB) documentation Safety documentation QA Program Plan & supporting documents Risk Management Plan Readiness Review documentation CD-2/3 package CD-2/3 Approval Memo	Office of Cost Estimating and Project Management Support	Not Applicable

	Lessons Learned Report MPR/QPR briefing packages EVMS Surveillance Report PARS report (electronic) IPABS report (electronic)		
ENV 01-K-01	ENVIRONMENTAL RECORDS – ADMINISTRATION, Environmental Record Case Files, Environmental Program Support Files  <b>Examples (Budget documents):</b> Project Data Sheet (PDS) OMB Exhibit 300	Office of Cost Estimating and Project Management Support	Not Applicable
ENV 01-K-03	ENVIRONMENTAL RECORDS – ADMINISTRATION, Environmental Record Case Files, Decontamination and Decommissioning Cleanup & Transitioning Case Files  <b>Examples (Environmental documents):</b> Environmental Permits NEPA documents	Office of Cost Estimating and Project Management Support	Not Applicable

## 5.0 EMCBC Record of Revision

### EMCBC RECORD OF REVISION

DOCUMENT TITLE: Subject Area Procedure: Managing the Project Execution Phase

If there are changes to the controlled document, the revision number increases by one. Indicate changes by one of the following:

- I Placing a vertical black line in the margin adjacent to sentence or paragraph that was revised.
- I Placing the words GENERAL REVISION at the beginning of the text.

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<b>Rev. No.</b>	<b>Description of Changes</b>	<b>Revision on Pages</b>	<b>Date</b>
0	Initial issue		10/4/11
1	GENERAL REVISION		8/1/12
2	GENERAL REVISION (to meet CBC MS format requirements)		2/26/15