

Management System: [Project Management](#)

Subject Area: [Project Delivery](#)

Managing the Project Execution Phase

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1.0 Applicability

This procedure applies to Office of Environmental Management (EM) Federal Project Directors (FPDs), Integrated Project Team (IPT) Members, and Program Managers responsible for the execution of all projects subject to the mandatory project management requirements in [U.S. Department of Energy \(DOE\) O 413.3, Program and Project Management for the Acquisition of Capital Assets](#).

2.0 Required Procedure

The following steps are not necessarily performed sequentially.

Step 1	<p>The FPD updates the IPT membership as necessary to address activities performed during this project phase.</p> <p>NOTE: The composition of the IPT may need to be updated to ensure it includes the experience, knowledge, and skills required to produce and manage the products required during this phase of the project. Any changes in the composition of the IPT should be reflected in the IPT Charter to identify and formally state the roles and responsibilities of IPT members.</p>
Step 2	<p>The FPD, with support from the IPT, ensures the initiation and completion of the Preliminary Design, typically performed by the site contractor or a subcontractor.</p> <p>NOTE: 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</p>

	<p>based on the level of complexity of those components. The level of detail must be sufficient for development of Cost and Schedule Documentation to establish the Project Performance Baseline approved at Critical Decision (CD)-2. 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.</p> <p>Guidance on development of the Preliminary Design, including Systems Engineering and Configuration Control considerations, can be found in the following documents:</p> <ul style="list-style-type: none"> • DOE G 413.3-1, Managing Design and Construction Using Systems Engineering for Use with DOE O 413.3A • Tailoring D&D Engineering and Design to 413.3A
<p>Step 3</p>	<p>The FPD, with support from the IPT, ensures the initiation and completion of the Final Design, typically performed by the site contractor or subcontractor to the site contractor.</p> <p>NOTE: 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, 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. The guidance document referenced above for Preliminary Design is valid for the Final Design as well.</p>
<p>Step 4</p>	<p>The FPD, with support from the IPT, ensures preparation of the documentation required to establish the Project Performance Baseline.</p> <p>NOTE: The Project Performance Baseline describes the technical, cost, and schedule attributes of the project. Upon approval at CD-2, those attributes become the basis by which the status of the project is communicated to entities both internal and external to the U.S. Department of Energy (DOE). Some key elements to be addressed in the development of the Project Performance Baseline include:</p> <ul style="list-style-type: none"> • Provide basis of estimate documentation, organized by the project's Work Breakdown Structure (WBS), with clearly stated technical, cost, and schedule assumptions. • Ensure clear traceability from WBS element definitions, to basis of estimate documents, to the detailed cost estimate, to the integrated project schedule. • Provide reasonable and appropriate contingency/management reserve budgets, and schedule contingency, derived from the Project Risk Assessment, to maximize the opportunity for project success. • Ensure continuity between the project performance parameters and CD-4

	<p>project completion criteria described in the Project Execution Plan (PEP) and corresponding technical information identified in the Performance Baseline Supporting Documentation.</p> <ul style="list-style-type: none"> • Include activities and durations for DOE review and approval of documents, such as CD’s and subcontracts, in the Integrated Project Schedule. <p>Upon approval of CD-2, any changes to, or deviations from the Project Performance Baseline must be implemented via the governing change control process with final disposition approved by the designated authority.</p>
<p>Step 5</p>	<p>The FPD, with support from the IPT, ensures the update of Hazard Analysis Documentation, typically by the site contractor or a subcontractor to the site contractor.</p> <p>NOTE: Preparation of the safety analysis documentation deemed appropriate during the “Definition Phase” of the project should continue as needed, informed by the development of the detailed design. Again, the concepts of Integrated Safety Management (ISM) need to be considered and incorporated into all management and technical documentation for all project activities. General guidance on Environment, Safety, and Health (ES&H) documents and ISM can be found in the Memorandum on Project Management and the Project Management Manual.</p>
<p>Step 6</p>	<p>The FPD, with support from the IPT, ensures the continued preparation of the Environmental and Permitting Documentation deemed appropriate by the IPT in the “Definition Phase.”</p> <p>NOTE: The National Environmental Policy Act (NEPA) process is required to be completed prior to the project receiving approval for CD-2.</p>
<p>Step 7</p>	<p>The FPD, with support from the IPT, must re-verify that a Quality Assurance (QA) Program fully addressing all applicable QA Criteria as defined in 10 CFR 830, Subpart A, [<i>Nuclear Safety Management</i>] <i>Quality Assurance Requirements</i>, and DOE O 414.1, <i>Quality Assurance</i>, is in place. Guidance on QA Programs can be found in the Memorandum on Project Management and the Project Management Manual.</p>
<p>Step 8</p>	<p>The FPD, with support from the IPT, ensures that the Preliminary PEP initiated during the “Definition Phase” is updated prior to submittal of the CD-2 documentation for approval.</p>
<p>Step 9</p>	<p>The FPD, with support from the IPT, ensures that the Risk Management Plan initiated during the “Definition Phase” which supports the PEP and the Proposed Project Performance Baseline, is updated prior to submittal of CD-2 documentation for approval.</p>

Step 10	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.
Step 11	<p>The FPD, with support from the IPT, ensures the implementation of a Configuration Management Process in accordance with the CRD of DOE O 413.3B.</p> <p>NOTE: 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, <i>National Consensus Standard for Configuration Management</i>. 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>
Step 12	<p>The FPD, with support from the IPT, ensures the implementation of an Earned Value Management System (EVMS) for projects with a Total Projected Cost (TPC) greater than or equal to \$50M that is compliant with ANSI/EIA-748-A-1998, <i>Earned Value Management System (EVMS)</i>.</p> <p>NOTE: General guidance on EVMS and certification requirements can be found in DOE O 413.3B.</p>
Step 13	The FPD, with support from the IPT, ensures that High Performance Sustainable Building provisions, also referred to as “sustainable environmental stewardship” per DOE O 436.1 , Departmental Sustainability, are incorporated in the preliminary design and design review.
Step 14	The FPD, with support from the IPT, ensures that the Preliminary Security Vulnerability Assessment Report, which was prepared during the Project Definition Phase, is updated as necessary.
Step 15	The FPD, with support from the IPT, ensures the Initial Cyber Security Plan for Information Technology Projects, which was prepared during the Project Definition Phase, is updated as necessary.
Step 16	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.
Step 17	The FPD, with support from the IPT, submits a Funding Request through the Assigned Budget Organization based on projections of funding required to execute the follow-on project phases and to ensure that the required funding is realistically within the sponsoring programs projected out-year budget.
Step 18	The FPD, with support from the IPT, ensures the performance of a Preliminary

	<p>Design Review.</p> <p>NOTE: A review of the Preliminary Design must be performed to ensure the proposed technical approach will meet the key technical and functional requirements identified in the Mission Need Statement (MNS) 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>
Step 19	<p>The FPD, with support from the IPT, ensures the performance of a Final Design Review.</p> <p>NOTE: A review of the Final Design must be performed to ensure the proposed technical approach will meet the key technical and functional requirements identified in the MNS 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. Links to general guidance on the conduct of design reviews are provided above for the Preliminary Design Review.</p>
Step 20	<p>The FPD, with support from the IPT, ensures the performance of Baseline Validation and Execution Readiness Reviews prior to CD-2 and CD-3 respectively for projects with a TPC greater than \$50M.</p> <p>NOTE: Projects with a TPC greater than \$50M will undergo some level of review of Performance Baseline Data and Supporting Management Documentation prior to approval of CD-2 and again for CD-3. The reviewing entity (i.e., DOE Office of Engineering and Construction Management versus the Office of Project Management) is dependent upon the size of the project.</p>

3.0 References

- ANSI/EIA-649, *National Consensus Standard for Configuration Management*
 - ANSI/EIA-748-A-1998, *Earned Value Management System (EVMS)*
 - [10 CFR 830, Subpart A](#), [Nuclear Safety Management] *Quality Assurance Requirements*
 - [42 U.S.C. § 4321 et seq.](#), *National Environmental Policy Act of 1969 (NEPA)* , As Amended
 - [DOE O 413.3](#), *Program and Project Management for the Acquisition of Capital Assets*
 - [DOE O 414.1](#), *Quality Assurance*
 - [Tailoring D&D Engineering and Design to 413.3](#)
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