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DEPARTMENT OF ENERGY GUIDE FOR PROJECT EXECUTION PLANS

[This Guide describes suggested non-mandatory approaches for meeting requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice, or Manual.]

U.S. DEPARTMENT OF ENERGY
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INITIATED BY:
Office of Project Management Oversight and Assessments

FOREWORD

This Department of Energy Guide is for use by all DOE elements and provides approaches for implementing project execution plan (PEP) requirements of DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, dated 11-29-2010. Guides, which are part of the DOE Directives System, provide non-mandatory suggested approaches for meeting requirements and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice, or Manual.

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1. Introduction

The project execution plan (PEP) is the Department's core document for management of projects which are subject to DOE Order 413.3B. It is a living document that establishes the policies and procedures to be followed in order to manage and control project planning, initiation, definition, execution, and transition/closeout, and uses the outcomes and outputs from all project planning processes, integrating them into a formally approved document. The PEP includes an accurate depiction of how the project is to be accomplished, defines the project Key Performance Parameters (KPPs), resource requirements, technical considerations, risk management, configuration management, and roles and responsibilities.

The PEP serves as the main communication vehicle to ensure that everyone is aware of project objectives and how they will be accomplished as well as serving as a resource document after project completion for historical purposes. It is the primary agreement between the project management executive (PME), the federal project director (FPD), and the project owner. The PEP is closely linked and is often an attachment to the contract management plan (CMP), which is the key document guiding the coordinated efforts of the contract management team (project managers, program managers, attorneys, financial and procurement officials, etc.) throughout the term of the contract.

The scope of this guide includes basic aspects of the development and maintenance of the PEP for projects of any size and complexity for the benefit of the FPD, who is approved by the PME, and incorporates contractor input, as appropriate. Integrated project teams, program managers (if applicable), program offices, PMEs, and contractor project managers can also benefit from the suggestions in this guide. In summary, the purpose of this guide is to:

- Provide guidance for the FPD to produce a useful and flexible plan
- Provide guidance on how to appropriately apply tailoring as defined in DOE O 413.3B

2. Plan Development

Project objectives are derived from the mission needs statement, and an integrated project team assists in development of the PEP. The plan is a living document and should be updated to describe current and future processes and procedures, such as integrating safety into the design process. Updates are common as a project moves through Critical Decision (CD) stages and whenever a baseline change proposal (BCP) or significant change occurs. Prior to CD-2, the plan is referred to as a preliminary PEP (PPEP). At CD-2 and beyond, the plan is referred to simply as the PEP.

Prior to CD-1. The Preliminary PEP is a critical part of the CD-1 approval package. Depending upon the type of project and team experience, the level of detail in the PEP may vary from greater detail for current or near term activities (i.e., the design phase systems, processes, procedures and personnel) to less detail for future activities concerning procurement and construction activities to even less detail regarding testing, start-up and operational transition.

Prior to CD-2 or BCP. The PEP should be updated as part of the CD-2 or BCP approval package.

At this point, the plan should contain greater depth and breadth of information, detailed enough to bound the systems, processes, procedures and personnel and to support a well-defined scope, resource loaded schedule, definitive cost estimate, and defined key performance parameters for project execution. If any systems, processes, procedures and personnel requirements are yet to be fully defined (e.g., testing, start-up, or operation transition), the plan should clearly identify relevant assumptions/constraints and associated risks.

PEP Updates. The plan is a living document that should be updated as needed to capture changes to project systems, processes, procedures, personnel and revisions to the approved performance baseline or a post-construction contract award. The process for configuration control should be defined, including definitions of minor/major revisions and their associated approval authorities. Each PEP update should be made available to all project stakeholders.

3. Suggested Plan Content

The following sections provide a recommended format and suggested minimum content of the PEP. In preparing the PEP, terminology used should consistent with the Acquisition and Project Management *Glossary of Terms Handbook*, dated September 2014. Additionally, the PEP should be written to stand on its own and not depend on references to other documents to make it complete and readable. References should be provided for citation of source and amplifying information only.

1.1. Cover and Signature Pages

1.1.1. Cover Page

The cover page should include the title of the document, document control number, project name, project number, Project Assessment & Reporting System (PARS) number, Department of Energy program, site name, document date, restrictions or classification (as applicable), and any appropriate disclaimers.

1.1.2. Revisions Page

All revision numbers and associated dates should be captured along with the date the document was approved along with a description of the changes.

1.1.3. Signature Page

The signature page should contain the following:

- Project name and number
- Site name
- Date
- Restrictions or classification

- Signature blocks for FPD, PME, Project Owner
- Signature block for any other names of reviewers, concurrences
- Program office point of contact

1.1.4. Table of Contents

The document table of contents should include lists of tables and figures.

1.1.5. Acronyms List

The list should include acronyms used in the PEP and their definitions.

1.2. Introduction

This section should state the purpose and organization of the plan. Major sections should include project background, justification of mission need, and project description.

1.2.1. Project Background

This section should provide a brief history/background of the project identifying important chronological items/issues and key drivers including external drivers such as Congressional or Presidential mandates, should state the project's purpose and major objectives, and should include a clear, concise statement of what the project will accomplish and the time frame required.

1.2.2. Justification of Mission Need

The mission need statement should be summarized.

1.2.3. Project Description

Provide a summary-level description of the project, including:

- Project vision (i.e., concept of operations)
- Major system components and their functions
- Major project assumptions and uncertainties
- Project requirements
- Key performance parameters (KPP)
- Project scope including gross square footage of main and ancillary facilities, building type, number of stories, Facilities Information Management System (FIMS) number, if applicable

- Major interfaces
- Required site development, permits and licensing

  Major safety systems and assumptions and uncertainties related to safety

- Key stakeholders

1.2.4. Key Performance Parameters (KPP)

Describe threshold and objective KPPs to be met upon completion of the project.

1.3. Tailoring Strategy

This section should document how the requirements of DOE O 413.3B will be accomplished through a tailored application of project management and project controls. Tailoring is a flexible approach that allows appropriate levels of effort or analytical rigor to be used in fulfilling requirements of the Order. Tailoring does not mean waiving requirements, nor does it suggest the omission of essential elements in the acquisition process.

In the context of nuclear safety, tailoring is addressed in DOE-STD-1189. It should indicate how the information and approvals for documentation will be sequenced, organized, and bundled throughout the phases of the project, such that all requirements of the standard are met, including development of a safety design strategy. For large, complex, one-of-a-kind nuclear facilities, tailoring would not be expected.

Tailoring should be implemented in relation to the cost, complexity, and risk; project type; past experience; and lessons learned. This section should identify major assumptions or risks affecting the project, the project management requirements to be tailored, how tailoring will be applied, and the rationale or benefit to be derived. Prior to each Critical Decision, the strategy should be updated based on any changes in project risks, cost, or other factors.

One or more of the following examples of tailoring applications may be considered as elements of the strategy. See paragraph 22 on tailoring in Appendix C of DOE O 413.3B for additional details.

Consolidated or Phased Critical Decisions. Consolidation may facilitate some projects, such as single-contract procurements with well-defined requirements and low complexity, cost, and risk. However, critical decisions should not be combined if doing so would preclude meeting other DOE requirements, such as developing a preliminary documented safety analysis. Critical decisions also may be phased when prudent or necessary, such as long-lead procurements or site preparation work (i.e., Critical Decision–3A). In some instances, it may be appropriate to include a schematic of the phasing for clarity.

Graded Approach. This approach means that the level of effort or detail may be reduced to the degree needed to satisfy requirements. For projects involving existing missions or assets, a graded approach may be more appropriate than for those involving new missions or capabilities. For example, substituting an equivalent document or addressing multiple requirements in a

single document may be acceptable. For project reviews, a graded approach could involve fewer technical reviewers or reduced lines of inquiry. Use of a graded approach to document nuclear facility construction is addressed by DOE G 413.3-2, *Quality Assurance Guide for Project Management*.

Delegated Decisions and Responsibilities. Where approval authority is not identified, tailoring may be allowed according to other directives or program office policies (see Tables 1 and 2 of DOE O 413.3B).

1.4. Acquisition Approach

Describe the acquisition approach that will be used to execute the project scope.

1.5. Integrated Baseline

The project performance baseline evolves and is defined differently throughout the life cycle of the project and should be defined for technical scope (i.e., requirements), schedule and cost. Refer to DOE O 413.3B for project performance baseline requirements. Prior to CD-2 during preliminary baseline development, the project scope, schedule, and cost may change as the project continues with design and planning and continues to mature.

1.5.1. Technical and Programmatic Baseline

The objective of the technical baseline is to provide a single documented description of the scope of the project, to include technical as well as schedule and programmatic descriptions, normally derived from requirements and other technical documents. The technical baseline should include performance parameters and deliverables, and should define key features of the project. Refer to the OAPM Statement of Work and Key Performance Parameters Handbook for additional information. Typically, the technical baseline should include, but not be limited to, the specific information identified below:

- System purpose: describes the systems purpose and how it fits into the overarching project
- Technical definition and key performance characteristics: descriptions of hardware and software components, system architecture and equipment requirements, Key Performance Parameters (KPPs, as described in DOE 413.3-5A), operational concept, safety and security requirements, testing requirements etc.
- Acquisition strategy/plan, to include contract type, prime and sub-contractors
- Government Furnished Material/Equipment/Information
- Role of the Maintenance & Operations (if applicable)
- Work breakdown structure: compliant with DOE WBS Handbook, product oriented and at a level low enough to provide visibility into major cost drivers

- Identification and description of legacy or similar projects
- System test and evaluation plan: includes number of tests and required test assets, test criteria, number and location of tests, etc.
- Deployment/Startup details
- Safety plan: special or unique safety requirements to include specific laws, regulations, and environmental considerations
- Training plan: for operators and maintenance personnel, certification requirements, etc.
- Deactivation and Decommissioning activities
- Operational concept: where, when and program management details of operations
- Logistics support details: maintenance, sparing and planned upgrades
- Changes from the previous baseline

1.5.2. Integrated Master Schedule (IMS) Baseline

The project schedule baseline establishes the framework for project planning and execution. A good project schedule provides confidence in the plan and the dates for important milestones. Project schedules should be developed and maintained in accordance with the NDIA Planning & Scheduling Excellence Guide (PASEG), GAO Schedule Assessment Guide (GAO-12-120G), as well as DOE guidance. The schedule baseline for a project submitted for approval at CD-2 should include an overall project summary level schedule. As applicable, contents include but are not limited to the following:

- Key activities/milestones, including Critical Decision approval dates and other important milestones such as major reviews
- Include all activities and ensure these activities are:
    - Appropriately sequenced
    - Assigned resources
    - Have established durations
    - Integrated horizontally and vertically
    - Used to establish the critical path(s)
    - Have identified float

- All major project deliverables, reports, and studies

  Defense Nuclear Facilities Safety Board deliverables

- The Chief of Nuclear Safety (Department of Energy) or Chief Defense Nuclear Safety (NNSA) review and approval in the Level 1 milestone schedule

- Major cleanup agreement milestones, regulatory milestones or actions and completion of projects and tasks on the critical path

  Government-furnished equipment, information and materials

- External dependencies

The IMS baseline, as described above, shall be used as the basis for defining the project critical path(s), conducting schedule risk assessments, and sequencing the work.

1.5.3. Cost Baseline

The cost baseline represents the life cycle cost estimate developed from the technical, programmatic and schedule characteristics described above. The cost baseline should include all scope, be organized by a product oriented work breakdown structure (WBS) (refer to the DOE WBS Handbook), and include an explanation of significant ground rules and assumptions. Life cycle costs should clearly delineate the total project cost by phase (i.e. design, construction, Start-up, deactivation and decontamination, operations, etc.).

Additionally, since all estimates contain risk and uncertainty, estimates for each CD of the project should include a risk and uncertainty analysis with results displayed as a range of potential costs identified by confidence levels. Contingency is the portion of the budget that is set aside to mitigate risks within the project scope but outside the performance measurement baseline (PMB). The amount of contingency budget established should be based on risk analysis and selected from the appropriate confidence level of the cost estimate range. Contingency may be included both within the total estimated and other project cost.

The cost baseline, typically called the Total Project Cost (TPC), is the sum of Total Estimated Cost (TEC) and Other Project Costs (OPC). Please refer to the DOE APM Glossary of Terms for the definitions of TPC, TEC, OPC and other applicable terms utilized.

A project cost summary (baseline and budget data) table by fiscal year should be included in this section to reflect cost baseline information at the appropriate WBS level.

1.5.4. Funding Profile

The overall purpose and scope of this section is to ensure that the project clearly illustrates its requirements for time phased funding over the course of the project. This should be considered essential, as it is recognized that any given project will most likely not receive all its funding in any given year, but over multiple years in accordance with the Department’s annual budget cycle with Congress.

Funding profile information should clearly designate by fiscal year how much funding will be needed for the project. Cumulative time-phased budget requirements will be the total project cost. A project cost summary (baseline and budget data) table by fiscal year should be included to reflect cost baseline information at Work Breakdown Structure Level 2 and include project engineering and design (PED) funds.

1.5.5. Alternatives Analysis and Selection

Briefly summarize the alternative analyses and selections associated with accomplishing the mission and associated key parameters.

1.5.6. Life Cycle Cost

Life cycle costs should delineate clearly a total for the estimate as well as breakouts that correspond to each major phase of the project. In addition, this discussion should also include the estimated duration for each of the major phases of the project along with a statement on which phase of the project dominates or drives the overall life cycle cost. It should also be clear what reference point is being used to describe the costs. Key applicable assumptions should be stated. Highlighting life cycle analysis factors associated with sustainability features is also suggested. Refer to the DOE Life Cycle Cost Handbook for additional information.

1.5.7. Baseline Change Control

The baseline change control framework which includes applicable change management processes, threshold requirements, and change control board charter and the procedures to be followed should be established or referenced. A summary table of baseline change control thresholds as well as approval authority for the technical and programmatic, integrated master schedule, and cost for the Chief Executive for Project Management (CE), Program Secretarial Officer, Project Management Executive (PME), Federal Project Director (FPD), project manager, and others as applicable should be included in the PEP. Refer to DOE Guide 413.3-20, *Change Control Management* for more information.

1.6. Project Management/Oversight Strategy

The overall project management approach for the project should be described under the following topics:

1.6.1. Management Structure and Integrated Project Teams

The project organization should be described, including an organization chart that identifies the various participants (i.e., Organizational Breakdown Structure (OBS)), their roles and responsibilities (i.e., responsibility assignment matrix (RAM)), and interfaces and reporting relationships. Specifically, this section should establish clear roles, responsibilities and accountabilities among the owner, the project's line management organizational elements, and support/staff organizations, as directed in the Secretary's December 1, 2014 memorandum, *Improving the Department's Management of Projects.* The OBS identified in the PEP shall be consistent with ANSI/EIA-748-C, Guideline #2 as explained in the Earned Value

Management Systems ANSI-EIA-748C Intent Guide.

The discussion of resource requirements should include the necessary resources from inception to operational turnover. If a critical capability gap is identified on the IPT, the FPD should take action to close the gap with appropriate government or contract support before progressing further with the project. Lower tier documents will capture all the details and plans of resource utilization (cost/scope/schedule) throughout the project life cycle from initiation to start of operations/closeout.

Depending on the complexity of the project, a separate human resources and staffing plan may be appropriate. Refer to DOE Guide 413.3-19, *Staffing Guide for Project Management* for additional details. The IPT charter should also be referenced or attached to the PEP.

1.6.2. Communications and Reporting

Communication Management Plan

Describe policies and practices for communication to the multiple stakeholders and interested parties. Provide the mission, strategy and objectives of the project as the structure within which the communication should be provided and address project performance, inputs to decisions such as risk, and methods and frequency for keeping stakeholders informed. Either refer to or include the project's communication management plan. Attachment 2 to this Guide is a suggested format for a communication plan.

Project Reporting

Briefly describe the reporting process which includes both internal and external requirements and as appropriate, types, content, distributions, frequency of reporting, level of control, and review and approval requirements.

Project Reviews

Include a description of major reviews that would occur during a project's life cycle and the results of those reviews. Refer to DOE Guide 413.3-9, Project *Review Guide for Capital Asset Projects*.

1.6.3. Risk Management

This section should describe the policies and practices for managing risk management and a summary of the results of the risk analysis. Risk management should be addressed in the plan or included by reference and should summarize the key project risks. Key risks (identified as "critical risks" in DOE O 413.3B) are those estimated to have the most impact on cost and schedule and could include project, technical, internal, external, and other sub-categories. Refer to DOE Guide 413.3-7A, *Risk Management* for additional information. For projects involving Hazard Category 1, 2, or 3 nuclear facilities, refer to DOE-STD-1189; Appendix F. Ties to contingency/management reserve development based on identified project risks should also be included.

1.6.4. Environment, Safety, and Health (ES&H)

Provide a reference or identify all documents that establish the ES&H plan for the project or establish requirements for the site as a whole. The ES&H section should include the following:

- Brief assessment of environmental permitting
- Status of plans for National Environmental Policy Act (NEPA) compliance
- Description of all safety documentation, such as the site Integrated Safety Management System and/or a project-specific safety management plan
- Description of environmental management documentation, such as the site's Environmental Management System and/or project-specific waste management or pollution prevention plans

The PEP need not address ES&H work required for actual facility operations. However, for nuclear facility projects, the ES&H section should describe how safety-in-design requirements of DOE-STD-1189 will be accomplished.

Integrated Safety Management

Document that safety is integrated into daily work activities along with the Environmental Management System (EMS) requirements of ISO 14001: 2004(E) International Standards, EMS, which also addresses design with requirements to optimize worker and environmental controls and to consider pollution prevention and sustainable designs. Refer to the appropriate ISM documents, listed in the references section of this Guide.

Industrial Safety and Occupational Health

Document or reference the means of implementing worker and public protection measures. See references on Industrial Safety and Occupational Health listed in Attachment 3 of this Guide.

Nuclear Safety

Document or reference implementation of nuclear safety requirements and integration of safety into design. See references on Nuclear Safety listed in Attachment 3 of this Guide.

Hazard Analysis

Reference the Hazard Analysis document or identify the hazards related to the project and discuss mitigation/elimination plans.

Safeguards and Security

Safeguards and security systems, processes, procedures, and personnel should be identified and/or developed to establish a framework that will systematically integrate safeguards and security management into the project acquisition process. Refer to/include the project's

safeguards and security plan.

1.6.5. Monitoring & Controlling

Configuration Management

Configuration management is used to identify and document the configuration of the end products and control changes to the configuration during the project's life cycle. The FPD should initiate a configuration management system early in the development of the project and ensure the delivery of complete as-built documents at the close of the project. See references on configuration management listed in Attachment 3 of this Guide. Refer to/include the project's Configuration management plan.

Records Management/Document Control

Describe how records will be managed on the project. Federal records should be maintained in a manner that addresses DOE policy and regulations. See references on records management listed in Attachment 3 of this guide. Refer to/include the project's records management plan.

Quality Assurance

Describe the quality assurance requirements for the project. Depending on the project size and complexity, a project's Quality Assurance Program may be based on a corporate quality assurance plan or a project-specific plan. Also refer to regulatory and contract requirements for the QA Program. See further references on quality assurance listed in Attachment 3 of this guide.

Testing and Evaluation

Limited test and evaluation activities can be incorporated into the PEP. Where the test and evaluation effort is significant, a dedicated plan is recommended.

Project Controls

An earned value management system (EVMS) is required for all projects with a total project cost (TPC) of $100M or greater. Project control methods inclusive of a WBS, resource loaded schedule, critical path schedule, schedule of values, and an account of planned versus actual work are mandatory for those project with a TPC less than $100M. See references on project controls in Attachment 3 of this guide.

1.6.6. Project Readiness

Engineering and Technology Readiness

Briefly describe readiness of the project and plans to manage and control engineering and technology development and deployment. If a technology readiness assessment has been completed or a technology maturation plan has been developed, these should be summarized. For additional information, refer to DOE Guide 413.3-4A, *Technology Readiness Assessment* and the Secretary's 2015 project management policy memorandum which provides additional guidance

on technology readiness levels for major systems projects.

Systems Engineering

The primary goal of the systems engineering process is to transform mission requirements into system architecture, performance parameters, and design details. The process begins with the definition of a need and progresses through the establishment of the baseline and ending with verification that the need has been met. A summary of the project's systems engineering plan and documentation should be referenced in or attached to the PEP. Refer to DOE Guide 413.3-1, *Managing Design and Construction Using Systems Engineering* for more information.

Value Engineering/Management

Value management should be performed early in a project life-cycle and referenced or documented in the plan. See references on value engineering/management listed in Attachment 3 of this guide.

1.6.7. Closeout

Transition to Operations

Project transition to operations begins during design and continues until the new facility is completely operational and commissioned. Refer to/include the project's transition/closeout plan.

Project Closeout

Project closeout is initiated once construction has been completed and the project facilities are fully operational and commissioned. Refer to/include the project's transition/closeout plan.

Project Management Lessons Learned

Describe how the project team plans to capture and submit lessons learned to comply with DOE Order 413.3B lessons learned reporting requirements. Project teams are highly encouraged to submit lessons learned throughout the project life cycle utilizing the PARSIIe Lessons Learned repository.

PROJECT EXECUTION PLAN EXAMPLES

Examples of project execution plans may be found on the HQ DOE project management website in the policy and guidance section found at: http://energy.gov/management/downloads/sample-project-execution-plan

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REFERENCES

General Program and Project Management References

- DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*
- DOE O 226.1B, *Implementation of Department of Energy Oversight Policy*
- DOE P 226.1B, *Department of Energy Oversight Policy*
- DOE Acquisition and Project Management Glossary of Terms Handbook

Acquisition Strategy Reference

- Federal Acquisition Regulation, Subpart 7.1

Alternatives and Analysis References

- Clemen, R. T. (1996). Making Hard Decisions. Boston: PWS Kent Publishing.
- Dyer, J. S. and Lorber, H. W. (1982). The Multi-Attribute Evaluation of Program-Planning Contractors. OMEGA, 6, 673-678.
- Holloway, C. A. (1979). Decision Making Under Uncertainty: Models and Choices Englewood Cliffs, N. J.: Prentice-Hall.
- Keeney, R. L. and von Winterfeldt, D. (1991). Eliciting Probabilities from Experts in Complex Technical Problems. Institute of Electrical and Electronics Engineers Transactions on Engineering Management, 38, 191-201.
- McNamee, P. and Celona, J. (1990). Decision Analysis with Supertree. 2nd edition. San Francisco: Scientific Press.
- Raiffa, H. (1968). Decision Analysis. Reading, MA: Addison Wesley.

Configuration Management References

- 10 Code of Federal Regulations Part 830, Nuclear Safety Management.
- American National Standards Institute/ Electronic Industry Alliance-649B, *National Consensus Standard for Configuration Management*
- DOE O 420.1C, *Facility Safety*
- DOE G 420.1-1A, *Nonreactor Nuclear Safety Design Guide for use with DOE O 420.1C, Facility Safety*

- DOE O 433.1B , Maintenance Management Program for DOE Nuclear Facilities
- DOE-STD-1073-2003, Configuration Management
- DOE O 5480.30, *Nuclear Reactor Safety Design Criteria*

Project Controls References

- American National Standards Institute/Electronic Industry Alliance-748C-2013, *Earned Value Management Systems*.
- DOE G 413.3-10A, *Earned Value Management System (EVMS)*

Environmental Management References

- DOE O 451.1B, National Environmental Policy Act Compliance Program

External Independent Reviews and Independent Project Review References

- Office of Acquisition and Project Management website: http://energy.gov/management/office-management/operational-management/project-management/reviews-and-validations
- NNSA Annual Peer Review, Independent Project Review and Technical Independent Project Review Handbook
- NA-APM-20 Technical Independent Project Reviews training module

Industrial Safety and Occupational Health References

- DOE Office of Health, Safety and Security website: http://energy.gov/ehss/environment-health-safety-security
- Occupational Safety and Health Administration compliance–40 CFR 1910.120 and www.osha.gov
- 10 Code of Federal Regulations Part 851, Worker Safety and Health Program

Integrated Safety Management References

- DOE-STD-1189, Integration of Safety into the Design Process
- DOE P 450.4A, *Integrated Safety Management System Policy*
- Integrated Safety Management Systems (ISMS) Verification Team Leader's Handbook
- NNSA Best Practices and Guidance Document for Effective Incorporation of ISM and QA at the Activity Level

- DOE O 414.1D, *Quality Assurance*
- 10 CFR Part 830, Subpart A, Quality Assurance Requirements
- International Standards Organization's (ISO) 14001: 2004 (E) International Standard, Environmental Management Systems: Requirements with Guidance for Use

Life Cycle Asset Management References

- DOE Life Cycle Cost (LCC) Handbook

Management Reporting References

- Office of Management and Budget Circular A-11, Instructions for Planning, Budgeting, and Acquisition and Management of Non-IT Capital Assets
- DOE O 361.1C, *Acquisition Career Management Program*
- Department of Energy Project Assessment and Reporting System (online at https://pars2e.doe.gov)

Non-Nuclear Security References

- DOE O 470. 4B, *Safeguards and Security Program*
- DOE G 413.3-3A, *Safeguards and Security for Program and Project Management*
- DOE O 551.1D, *Official Foreign Travel*
- DOE O 471.1B, Identification and Protection of Unclassified Controlled Nuclear Information
- DOE O 475.2B, *Identifying Classified Information*
- DOE P 205.1, *Departmental Cyber Security Management Policy*

Nuclear Safety and Design References

- Title 10 Code of Federal Regulations 830
- DOE-STD-1189, Integration of Safety into the Design Process
- DOE O 420.1C, *Facility Safety*

Quality Assurance References

- Title 10 Code of Federal Regulations 830 Subpart A, Quality Assurance Requirements

- DOE O 414.1D, *Quality Assurance*
- ASME NQA-1-2015, Quality Assurance Requirements for Nuclear Facility Applications
- ANSI/ISO/ASQ Q9001-2008, Quality Management System Requirements Standard
- ANSI/ASQ Z 1.13-1999, Quality Guidelines for Research
- NNSA Policy Letter, NAP-24, Weapon Quality Policy
- Department of Energy/RW-0333P, Quality Assurance Requirements and Description for High-Level Waste & Spent Nuclear Fuel

Records Management References

- DOE O 243.1B, *Records Management Program*
- Title 10 Code of Federal Regulations, Part 830.6- *Recordkeeping*
- National Archives Requirements for Federal Records

Scope Baseline References

- Project Management Institute is the accepted standard on Work Breakdown Structure [A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Fifth Edition]
- American National Standards Institute/Electronic Industry Alliance-748C-2013, *Earned Value Management Systems*
- DOE G 413.3-10A, *Earned Value Management System (EVMS)*
- National Defense Industrial Association (NDIA) Planning & Scheduling Excellence Guide (PASEG)

Systems Engineering References

- DOE G 413.3-1, *Managing Design and Constructions Using Systems Engineering*
- Department of Defense, Defense Acquisition Guidebook, Chapter 4, Systems Engineering
- International Council of Systems Engineering (INCOSE) Handbook for Systems

Engineering

- DOE O 420.1C, *Facility Safety*

Value Engineering/Management References

- 41 USC 432, Value Engineering
- Office of Management and Budget Circular A-131, *Value Engineering*
- 48 CFR 52-248-1, *Value Engineering*
- ASTM E1699-10, Standard Practice for Performing Value Engineering/Value Analysis of Projects, Products and Processes