

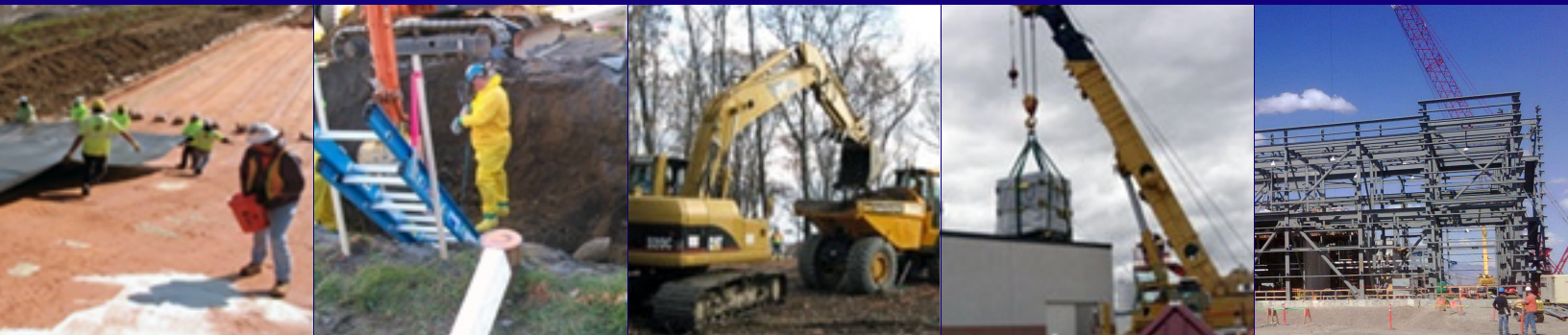


DOE - EM - SRP - 2010
2nd Edition

Environmental Management
Safety ▪ Performance ▪ Cleanup ▪ Closure

STANDARD REVIEW PLAN (SRP)

OVERVIEW



**TECHNICAL FRAMEWORK FOR EM PROJECTS CRITICAL DECISION (CD)
MILESTONES REVIEW & APPROVAL**

MARCH 2010

OFFICE OF ENVIRONMENTAL MANAGEMENT
U.S. DEPARTMENT OF ENERGY
WASHINGTON D. C. 20585

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Standard Review Plan Overview

Technical Framework for EM Projects Critical Decision Milestones Review and Approval

The Office of Environmental Management (EM) is responsible for managing the design, construction, operation, and eventual disposition of mission-critical projects/facilities. Coupled with this ongoing mission is the added responsibility for EM to diligently leverage and apply American Recovery and Reinvestment Act (ARRA) funds to accelerate the completion of its mission and create thousands of new jobs to revitalize the economy.

Effective management of these projects requires multiple disciplines to be integrated and engaged at various project lifecycle phases. These disciplines include project management, engineering, design, safety, environment, safeguards and security, and quality assurance. The lessons learned to date from ongoing Headquarters (HQ) and Field project reviews, insights resulting from Construction Project Reviews (CPRs), and institutional experience gained in managing large-scale projects have highlighted the need for a more focused, technically in-depth, and standardized approach to project reviews performed at Critical Decision (CD) points.

The Standard Review Plan (SRP) serves as the corporate framework designed to formalize the Department of Energy (DOE) and EM institutional processes and requirements associated with the review of project activities in support of CD approvals. The SRP has been developed as a collaborative effort between EM and the Chief of Nuclear Safety (CNS), Office of the Under Secretary. It is modeled after similar principles used extensively and successfully by the Nuclear Regulatory Commission (NRC) for evaluating U.S. commercial nuclear industry licensed activities.

The technical basis and foundation for the SRP are centered on project expectations and requirements defined in DOE O 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets*, DOE-STD-1189-2008, *Integration of Safety into the Design Process*, and EM's internal business management practices. It also leverages the best practices and lessons learned from the Office of Engineering and Construction Management (OECM), Office of Science (SC), National Nuclear Security Administration (NNSA), EM HQ and Field reviews, existing project review guides and protocols, and consensus standards.

The SRP is developed in a series of standalone Review Modules (RMs) and Topical Reports, which provide a set of core performance objectives and criteria in addressing specific project review areas tailored to each CD phase. The Second Edition of the SRP consists of 28 review modules and Topical Reports. Each RM or Topical Report addresses specific disciplines grouped by: Project Management; Engineering and Design; Safety; Environment; Security; and Quality Assurance.

Corporately, the SRP is designed to enhance the transparency and clarity of DOE requirements and expectations related to capital and construction projects; ensure a technically sound and rigorous review process; and, most importantly, promote technical consistency and stability in

the decisionmaking process. The key contribution and value added by the SRP to improve project efficiencies and the likelihood of success is that it provides:

1. Added clarity to, and streamlining of, project roles, responsibilities, accountabilities, and authorities, both at the HQ and the Field level;
2. Reduced overlaps, redundancy, and duplication in the number and scope of project reviews;
3. Integrated and synergistic project reviews, resulting in a reduced burden on site resources and ensuring a technically sound, consistent, and focused review process: which, in turn, provides the added benefit of ensuring that DOE expectations and review criteria are clearly conveyed to contractors;
4. An increased likelihood that unforeseen design, construction, operational, deactivation, and decommissioning issues and risks are identified earlier and addressed before they impact project progress and success; and
5. A technically objective and defensible basis for Critical Decision approval.

The attachments to this section provide additional information on the overall application of the SRP:

Attachment 1 illustrates the prerequisite activities for the various CD phases. These activities are consistent with the requirements of DOE O 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets*, and EM expectations.

Attachment 2 provides a listing of key documents to support CD approvals. The key documents reflect the contractor and DOE documentation, review, and analysis of the prerequisite activities listed in Attachment 1.

Attachment 3 lists the key management questions to support review and approval of each CD phase. These questions are intended as a guide for senior management discussions during project reviews.

Attachment 4 provides a depiction of the applicability of SRP RMs to each CD phase.

Attachments 5 and 6 present the intended audience for the use and corporate application of each section of the SRP.

Attachment 7 provides a suggested format and content guide for preparing individual review plans and final reports.

Finally, Attachment 8 acknowledges the individuals who have contributed to the development and application of the SRP.

Attachment 1

Prerequisite Activities for Critical Decision Review and Approval

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	CD-0 Approval on Mission Need	CD-1 Approval on Alternative	CD-2 Approval on Performance Baseline	CD-3 Approval on Start of Construction	CD-4 Approval on Start of Operations and Post CD-4 Activities
Project Management	<ul style="list-style-type: none"> Perform Pre-conceptual Planning activities Prepare Mission Need Statement Prepare a Tailoring Strategy if required Perform a Mission Validation Independent Project Review Evaluate projects for Information Technology elements within the Departmental Enterprise Architecture framework 	<ul style="list-style-type: none"> Prepare a preliminary Project Execution Plan Prepare an Acquisition Strategy Comply with the One-for-One Replacement legislation Approve appointment of the Federal Project Director Establish and charter an Integrated Project Team Approve Long-Lead Procurements, if necessary 	<ul style="list-style-type: none"> Update the Project Execution Plan Establish Performance Baseline Employ an Earned Value Management System Perform a Performance Baseline Validation External Independent Review (OECM) or a Performance Baseline Validation Independent Project Review Develop an Independent Cost Estimate or perform an Independent Cost Review for Major System Projects 	<ul style="list-style-type: none"> Update all CD-2 project documentation and required approvals to reflect any changes resulting from final Design, including Project Data Sheet, etc Perform an External Independent Review for Construction or Execution Readiness (OECM) Initiate a Project Transition to Operations Plan 	<ul style="list-style-type: none"> Verify Key Performance Parameters or Project Completion Criteria have been met and mission requirements achieved Perform final administrative and financial closeout and prepare a Final Project Closeout Report Prepare a Lessons Learned Report Conduct Post Implementation Review Issue a Project Transition to Operations Plan
Engineering and Design	<ul style="list-style-type: none"> Conduct Technical Independent Project Review for Nuclear Projects 	<ul style="list-style-type: none"> Conduct Technical Independent Review for Nuclear Projects Prepare a Project Data Sheet Prepare a Conceptual Design Report Conduct Conceptual Design Review Initiate Code of Record Development 	<ul style="list-style-type: none"> Update the Project Data Sheet, if applicable Prepare a Preliminary Design Conduct a Preliminary Design Review Update and Control Change to Code of Record 	<ul style="list-style-type: none"> Initiate a Checkout, Testing, and Commissioning Plan Prepare Final Design Conduct Final Design Review Develop Design Code of Record Update and Control Change to Code of Record 	<ul style="list-style-type: none"> Complete a Checkout, Testing, and Commissioning Plan Update and Control Change to Code of Record
Nuclear and Facility Safety	<ul style="list-style-type: none"> Determine major potential hazards and safety/risk implication 	<ul style="list-style-type: none"> Prepare a Safety Design Strategy for projects subject to DOE STD 1189 Prepare a Conceptual Safety Design Report for Hazard Category 1, 2, and 3 nuclear facilities Prepare a Conceptual Safety Validation Report Prepare a Preliminary Hazard Analysis Report for facilities that are below Hazard Category 3 threshold Implement Integrated Safety Management 	<ul style="list-style-type: none"> Update Safety Design Strategy Prepare a Preliminary Safety Design Report Prepare a Preliminary Safety Validation Report Prepare a Hazard Analysis Report and obtain DOE approval Implement Integrated Safety Management 	<ul style="list-style-type: none"> Update Safety Design Strategy Prepare the Preliminary Documented Safety Analysis Prepare a Safety Evaluation Report Update the Hazard Analysis Report and obtain DOE approval Initiate a Readiness Assessment or an Operational Readiness Review. As a precursor to ORR, conduct a Management Self-Assessment 	<ul style="list-style-type: none"> Prepare the Documented Safety Analysis with Technical Safety Requirements Prepare a Safety Evaluation Report Finalize the Hazard Analysis Report and obtain DOE approval Complete a Readiness Assessment or an Operational Readiness Review. As a precursor to ORR, conduct a Management Self-Assessment
Worker Safety	<ul style="list-style-type: none"> None at this CD stage 	<ul style="list-style-type: none"> Implement Integrated Safety Management (see nuclear safety) 	<ul style="list-style-type: none"> Implement Integrated Safety Management 	<ul style="list-style-type: none"> Implement Integrated Safety Management Prepare a Construction Project Safety and Health Plan and obtain DOE approval as defined in 10 CFR 851 	<ul style="list-style-type: none"> Implement Integrated Safety Management Update the Construction Project Safety and Health Plan
Environment	<ul style="list-style-type: none"> Initiate National Environmental Policy Act strategy and analyses 	<ul style="list-style-type: none"> Document High Performance Sustainable Building considerations Prepare environmental documents including National Environmental Policy Act strategy and analyses, and permit applications 	<ul style="list-style-type: none"> Incorporate Preliminary Sustainable Environmental Stewardship-High Performance Sustainable Building provisions into the preliminary design and design review Complete (or obtain approval of) final National Environmental Policy Act documentation, which must be completed prior to the start of final design 	<ul style="list-style-type: none"> Incorporate Sustainable Environmental Stewardship-High Performance Sustainable Building provisions into the Final Design and the External Independent Review Revise the Environmental Management System to ensure that it incorporates new environmental aspects related to turnover and operations 	<ul style="list-style-type: none"> Maintain Environment Management System
Security	<ul style="list-style-type: none"> None at this CD stage 	<ul style="list-style-type: none"> Prepare a Preliminary Security Vulnerability Assessment Report Prepare an Initial Cyber Security Plan 	<ul style="list-style-type: none"> Update the Preliminary Security Vulnerability Assessment Report Update the Initial Cyber Security Plan 	<ul style="list-style-type: none"> Update the Preliminary Security Vulnerability Assessment Report Update the Cyber Security Plan 	<ul style="list-style-type: none"> Finalize the Security Vulnerability Assessment Report Finalize the Cyber Security Plan for Information Technology projects and complete the Certification and Accreditation, as required
Quality Assurance	<ul style="list-style-type: none"> None at this CD stage 	<ul style="list-style-type: none"> Determine that the Quality Assurance Program is acceptable 	<ul style="list-style-type: none"> Determine that the Quality Assurance Program is acceptable and continues to apply 	<ul style="list-style-type: none"> Issue an updated Quality Assurance Plan to address testing, identified deficiencies, and startup, transition, and operation activities 	<ul style="list-style-type: none"> Update the Quality Assurance Program for operations

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Attachment 2

Key Documents for Critical Decision Review and Approval

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	CD-0 Approval on Mission Need	CD-1 Approval on Alternative	CD-2 Approval on Performance Baseline	CD-3 Approval on Start of Construction	CD-4 Approval on Start of Operations and Post CD-4 Activities
Project Management	Mission Need Statement	Project Execution Plan → Updated Project Execution Plan Detailed Resource Loaded Schedule → Updated Detailed Resource Loaded Schedule Detailed Cost and Schedule Estimates → Updated Detailed Cost Estimate Risk Management Plan → Updated Risk Management Plan Alternatives Analysis document → Contingency Analysis and Plan Earned Value Management System documents → Updated Value Management and Engineering Report Acquisition Strategy → Acquisition Strategy/Plan → Updated Acquisition Strategy Long Lead Procurement documents, if applied → Funding Profile documents → Updated Funding Profile documents Integrated Project Team Charter → Startup Plan, when appropriate → Updated Startup Plan, when appropriate EIR report on Performance Baseline Validation → EIR report on Construction Readiness Review			Documents on verification of Key Performance Parameters or Project Completion Criteria Project Transition to Operations Plan Final Project Closeout Report Lessons Learned Report Documents on operations procedures Post Implementation Review report
Engineering and Design	None at this CD stage	Code of Record → Approved Code of Record Technology Readiness Assessment → Drawings, specifications and design lists System Functions and Requirements documents (Design Criteria) → Final Design documents, including drawing and specs Conceptual Design Report → Preliminary Design Report Conceptual Design Review Report → Preliminary Design Review documents Project Data Sheet for design → Updated Project Data Sheet Initial Checkout, Testing and Commissioning Plan → Final Checkout, Testing, and Commissioning Plan			Approved Code of Record Final Design documents for operations Final Checkout, Testing, and Commissioning Plan
Nuclear and Facility Safety	Documentation of major potential hazards and safety/risk implication as part of Mission Need Statement	Safety Design Strategy → Updated Safety Design Strategy Conceptual Safety Design Report → Preliminary Safety Design Report Conceptual Safety Validation Report → Preliminary Safety Validation Report Preliminary Hazard Analysis Report for non-nuclear project → Hazard Analysis Report (non nuclear) DOE review of PHA Report → DOE review of Hazard Analysis Report ISM documents → Updated Hazard Analysis Report (non nuclear) DOE review of Hazard Analysis Report → DOE review of Hazard Analysis Report			Final Safety Design Strategy Documented Safety Analysis with Technical Safety Requirements Safety Evaluation Report Updated Hazard Analysis Report (non nuclear) DOE review of Hazard Analysis Report Readiness Review or Operational Readiness Review Report
Worker Safety	None at this CD stage	ISM documents (same as above) → ISM documents Hazard Analysis Report and approval (see Nuclear Safety) → Updated Hazard Analysis Report and approval (see Nuclear Safety)		ISM documents Construction Project Safety and Health Plan → Updated Construction Project Safety and Health Plan Updated Hazard Analysis Report and approval (see Nuclear Safety)	ISM documents Updated Construction Project Safety and Health Plan Updated Hazard Analysis Report and approval (see Nuclear Safety)
Environment	None at this CD stage	Permit applications/Compliance → Final NEPA documents NEPA documents → Sustainable Building considerations documents High Performance Sustainable Building considerations documents → Final Sustainable Building considerations documents			Environment Management System
Security	None at this CD stage	Preliminary Security Vulnerability Assessment Report, if applied → Updated Preliminary Security Vulnerability Assessment Report, if applied Initial Cyber Security Plan, if applied → Updated Cyber Security Plan, if applied			Security Vulnerability Assessment Report, if applied Cyber Security Plan, if applied
Quality Assurance	None at this CD stage	QA Plan → Updated QA Plan			Updated QA Plan

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Attachment 3

Key Management Questions for Critical Decision Review and Approval

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Attachment 3
Key Management Questions for Critical Decision Review and Approval

KEY QUESTIONS FOR CRITICAL DECISION REVIEW AND APPROVAL ¹	YES	NO
CD-0 (Approval of Mission Need)		
• Have pre-conceptual planning activities been performed that focus on the program's strategic goals and objectives, safety, environment, security, and design? (all project areas)		
• Has a Mission Need Statement been prepared that documents mission technical and functional requirements, priority, and constraints? (PM)		
• Have all significant project issues been identified, resolved, and documented? (PM)		
• Has project reviews been completed, including Mission Validation Independent Project Review and Construction Project Review , as directed by EM management? (PM)		
• If applicable, have the Information Technology elements within the Departmental Enterprise Architecture framework been evaluated? (PM)		
• Have the potential hazards and their safety, security, and risk implications been identified and documented in the Mission Need Statement ? (NFS, E, S)		
CD-1 (Approval of Alternative Selection and Cost Range)		
• Has a Risk Management Plan been prepared, and are all project risks identified, analyzed, and determined to be either avoidable or manageable? (all project areas)		
• Has an Acquisition Strategy been completed? (PM)		
• Has an Integrated Project Team (IPT) been chartered and organized, and is it functioning? (PM)		
• Has the Federal Project Director (FPD) been appointed and certified at the appropriate level? (PM)		
• Has the preliminary Project Execution Plan , including baseline range and documents, been submitted for approval? (PM)		
• Have Long-Lead Procurements been approved, if necessary? (PM)		
• Does the project comply with One-for-One Replacement legislation as mandated in House Report 109-86? (PM)		
• Is the Conceptual Design Report complete after design review by the contractor? (ED)		
• Has DOE completed the conceptual design review and prepared a Conceptual Design Review Report ? If it is a nuclear project, has a Technical Independent Project Review been conducted to determine if the safety documentation is adequate? (ED, NFS)		
• Has EM management directed a project review such as a Construction Project Review, Technical Authority Review, or Technology Readiness Assessment to support CD-1 approval? Are the review recommendations being implemented by the project? (all project areas)		
• Has the Project Data Sheet for design been submitted? (ED and PM)		
• Has the project established a Code of Record that contains a set of requirements that are used to design, construct, operate, and decommission a nuclear facility over		

¹ PM = Project Management, ED =Engineering & Design, NFS = Nuclear Facility Safety, WS = Worker Safety, E = Environmental, S = Security, QA = Quality Assurance.

KEY QUESTIONS FOR CRITICAL DECISION REVIEW AND APPROVAL ¹	YES	NO
its lifespan? Has DOE reviewed and approved the Code of Record, and has the contractor placed it under change control (all project areas)		
• Has a Safety Design Strategy been prepared, reviewed and approved by DOE? (NFS)		
• Has the contractor developed a Conceptual Safety Design Report (CSDR) per DOE-STD-1189? (NFS)		
• Has DOE prepared a Conceptual Safety Design Validation Report on the review of the CSDR? (NFS)		
• Has a Preliminary Hazard Analysis Report been prepared, if the project is non-nuclear? (FS and WS)		
• Has DOE reviewed and approved the Preliminary Hazard Analysis Report ? (FS and WS)		
• Has the Integrated Safety Management process been initiated and documented for the project? (NFS, WS)		
• Have the High-Performance Sustainable Building considerations been evaluated and documented? (E)		
• Have environmental documents been prepared, including National Environmental Policy Act strategy and analyses, and permit applications? (E)		
• Has a Preliminary Security Vulnerability Assessment Report been prepared? (S)		
• Has an initial Cyber Security Plan been prepared? (E)		
• Is the site-wide Quality Assurance Program acceptable to the project? (QA)		
• Has an External Technical Review (ETR) of technical alternatives and the conceptual design been conducted? (ED)		
• Has a Technology Readiness Assessment (TRA) been conducted? (ED)		
• Has a Technology Maturation Plan (TMP) been developed? (ED)		
CD-2 (Approval of Performance Baseline)		
• Has the project established a Performance Baseline ? (PM)		
• Has a Performance Baseline External Independent Review been conducted by OECM, including an Independent Cost Estimate ? Have the Corrective Actions been completed? (all project areas)		
• Has EM management directed a project review such as a Construction Project Review, Technical Authority Review, and Technology Readiness Assessment to support CD-2 approval? Are the review recommendations being implemented by the project? (all project areas)		
• Has a Risk Management Plan been updated to determine if risks have been identified and properly classified? Are appropriate risk mitigation actions incorporated into the baseline? (all project areas)		
• Has an Acquisition Strategy been updated? Is it consistent with the way the project is being executed? (PM)		
• Has an Integrated Project Team (IPT) been fully staffed and is it functioning properly? Are there any deficiencies in the IPT that could hinder successful execution of the project? (PM)		
• Is the Federal Project Director's level of certification still valid? (PM)		
• Has the Project Execution Plan been updated? (PM)		
• Have a detailed Resource-Loaded Schedule and Total Project Cost and Project Schedule been completed? (PM)		
• Does the Work Breakdown Structure represent a reasonable breakdown of the project work scope? (PM)		
• Has an Earned Value Management System been employed and approved? (PM)		

KEY QUESTIONS FOR CRITICAL DECISION REVIEW AND APPROVAL ¹	YES	NO
• Is the Preliminary Design Report completed as part of the contractor's Design Review ? (ED)		
• Are the Systems, Functions, and Requirements documents completed and included in the Code of Record and are they in the project baseline, including safety, permits, licenses, and regulatory approvals? (ED)		
• Has the Code of Record been reviewed and approved by DOE? Has the contractor placed the Code of Record under change control? (all project areas)		
• Has DOE completed the preliminary design review and prepared a Preliminary Design Review Report ? (ED)		
• Has the updated Project Data Sheet for design been submitted? (PM, ED)		
• Has a Safety Design Strategy been updated, reviewed, and approved by DOE for addressing early integration of safety into design? (NFS)		
• Has the contractor developed a Preliminary Safety Design Report (PSDR) per DOE-STD-1189? (NFS)		
• Has DOE prepared a Preliminary Safety Validation Report (PSVR) on the review of the PSDR? (NFS)		
• Has the Hazard Analysis Report been updated, if the project is non-nuclear? (FS and WS)		
• Has DOE reviewed and approved the Hazard Analysis Report? (FS and WS)		
• Has the Integrated Safety Management process been continuously implemented? (NFS, WS)		
• Have the High-Performance Sustainable Building considerations been documented and incorporated into the project? (E)		
• Have a National Environmental Policy Act document and Record of Decision been prepared? (E)		
• Has a Security Vulnerability Assessment Report been updated and documented? (S)		
• Has a Cyber Security Plan been updated? (E)		
• Has the Quality Assurance Program been updated for the design phase? (QA)		
• Has an External Technical Review (ETR) of the preliminary design been conducted? (ED)		
• Has a Technology Readiness Assessment (TRA) been conducted? (ED)		
• Has a Technology Maturation Plan (TMP) been implemented (ED)		
CD-3 (Approval of Start of Construction)		
• Has a construction readiness External Independent Review been conducted by OECM? Have the corrective actions been completed? (all project areas)		
• Has EM management directed a project reviews such as a Construction Project Review, Technical Authority Review, Technology Readiness Assessment, Construction Readiness Review, or Worker Safety reviews to support CD-3 approval? Are the review recommendations being implemented by the project? (all project areas)		
• Has the contractor prepared a Construction Readiness Plan ? Has EM conducted a Construction Readiness Review besides the OECM External Independent Review (EIR)? (all project areas)		
• Has a Risk Management Plan been updated to determine whether new risks have been identified in the final design and the risks have been properly classified? (all project areas)		
• Has an Acquisition Strategy been updated? Is it consistent with the way the project is being executed? (PM)		

KEY QUESTIONS FOR CRITICAL DECISION REVIEW AND APPROVAL ¹	YES	NO
<ul style="list-style-type: none"> Is an Integrated Project Team (IPT) fully staffed and functioning properly for the construction phase? Are there any deficiencies in the IPT that could hinder successful construction execution? (PM) 		
<ul style="list-style-type: none"> Is the Federal Project Director's level of certification still valid? (PM) 		
<ul style="list-style-type: none"> Has the Project Execution Plan been updated to reflect final design and does it support the way the project and construction effort is being managed? (PM) 		
<ul style="list-style-type: none"> Have the detailed Resource-Loaded Schedule and Total Project Cost and Project Schedule updated? (PM) 		
<ul style="list-style-type: none"> Has an Earned Value Management System been continuously employed? (PM) 		
<ul style="list-style-type: none"> Is the Project Transition to Operation Plan being initiated? (PM) 		
<ul style="list-style-type: none"> Is a Final Design Report complete and have its contents been reviewed and approved by the contractor? (ED) 		
<ul style="list-style-type: none"> Has DOE also completed the final design review and prepared a Final Design Review Report? (ED) 		
<ul style="list-style-type: none"> Are the Systems, Functions, and Requirements documents completed and have they been added to the Performance Baseline and in the Code of Record, including safety, permits, licenses, and regulatory approvals? Are changes from the final design review incorporated into the Performance Baseline? (ED) 		
<ul style="list-style-type: none"> Is the Code of Record under change control by the contractor? (all project areas) 		
<ul style="list-style-type: none"> Has the contractor completed the Construction Project Safety and Health Plan prior to CD-3 approval, as required by 10 CFR Part 851? Has DOE reviewed and approved this plan? (WS) 		
<ul style="list-style-type: none"> Has a Checkout, Testing, and Commissioning Plan been initiated prior to CD-3 approval? (ED) 		
<ul style="list-style-type: none"> Has the contractor developed a Preliminary Documented Safety Analysis (PDSA)? (NFS) 		
<ul style="list-style-type: none"> Has DOE prepared a Safety Evaluation Report (SER) on the review of the PDSA? (NFS) 		
<ul style="list-style-type: none"> Has a Hazard Analysis Report been updated, if the project is non-nuclear? (FS and WS) 		
<ul style="list-style-type: none"> Has DOE reviewed and approved the Hazard Analysis Report, if applicable? (FS and WS) 		
<ul style="list-style-type: none"> Has the Integrated Safety Management process been validated for construction activities? (NFS, WS) 		
<ul style="list-style-type: none"> Have the High-Performance Sustainable Building evaluations been completed, integrated to the design, and documented? (E) 		
<ul style="list-style-type: none"> Have NEPA documents been completed? (E) 		
<ul style="list-style-type: none"> Has a Security Vulnerability Assessment Report been updated and documented? (S) 		
<ul style="list-style-type: none"> Has the Cyber Security Plan been updated? (E) 		
<ul style="list-style-type: none"> Has the Quality Assurance Program Plan been modified for construction activities and testing? (QA) 		
<ul style="list-style-type: none"> Has an External Technical Review of the final design been conducted? (ED) 		
<ul style="list-style-type: none"> Has a Technology Readiness Assessment (TRA) been conducted? (ED) 		
<ul style="list-style-type: none"> Has a Technology Maturation Plan (TMP) been implemented? (ED) 		
CD-4 (Approval of Start of Operations)		
<ul style="list-style-type: none"> Have verifications been performed to determine if Key Performance Parameters or Project Completion Criteria have been met and mission requirements have been achieved? (PM) 		

KEY QUESTIONS FOR CRITICAL DECISION REVIEW AND APPROVAL ¹	YES	NO
• Has a Checkout, Testing, and Commissioning Plan been completed prior to the start of operations? (PM, ED, and NFS)		
• Has a Readiness Assessment or an Operational Readiness Review been completed, and have all pre-start findings been resolved? (PM, ED, and NFS)		
• Has a Management Self-Assessment been performed as part of the commissioning and readiness review? (PM)		
• Has EM management directed additional project reviews such as a Construction Project Review, Technical Authority Review, or Technology Readiness Assessment to support CD-4 approval? Are the review recommendations being implemented by the project? (all project areas)		
• Is an Integrated Project Team (IPT) fully staffed and is it functioning properly for the testing, commissioning, and project readiness phase? Are there any deficiencies in the IPT that could hinder successful construction execution? (PM)		
• Is the Federal Project Director's level of certification still valid? (PM)		
• Has the Construction Project Safety and Health Plan been updated? (WS)		
• Has a Project Transition to Operations Plan been developed? (all project areas)		
• Has the Documented Safety Analysis (DSA) been finalized and have the Technical Safety Requirements (TSRs) been established? (NFS)		
• Has DOE reviewed and approved the DSA and TSRs and prepared a Safety Evaluation Report (SER) ? (NFS)		
• Has the Hazard Analysis Report been finalized and have DOE review and approval been obtained prior to operations? (FS and WS)		
• Are the NEPA documents and the High-Performance Sustainable Building documents finalized and incorporated into the project's Environmental Management System ? (E)		
• Is the Security Vulnerability Assessment Report finalized? (S)		
• Is the Cyber Security Plan finalized? (S)		
• Has the Quality Assurance Plan been updated? (QA)		
• Has the Code of Record been updated and kept under change control by the contractor? (all project areas)		
Post CD-4 Requirements		
• Has a Final Project Closeout Report been prepared? (PM)		
• Has a Lessons-Learned Report been prepared and submitted to OECM? (PM)		
• Is all of the Operational Documentation completed? (PM)		
• Has a Post-Implementation Review been conducted for Information Technology project? (PM)		
• Are there project policies or procedures to ensure that the Code of Record is being kept under change control for operations and eventual decommissioning? (all project areas)		

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Attachment 4

Applicability of Individual SRP Review Modules and Topical Reports to Critical Decision Phases

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Attachment 4
Applicability of Individual SRP Review Modules and Topical Reports to
Critical Decision Phases²

SRP Section ³	SRP Subsection	Applicable CD Phase(s) ⁴					
		CD-0	CD-1	CD-2	CD-3	CD-4	Post CD-4
Overview	Overview of Critical Decision Framework and Strategy	✓	✓	✓	✓	✓	✓
	Suggested Format and Content Guide for Preparation of Project Review Plans and Final Reports						
Project Management	Project Execution Plan Review Module		✓	✓	✓	✓	
	Risk Management		✓	✓	✓	✓	
	Integrated Project Team		✓	✓	✓	✓	
	Earned Value Management System (EVMS)			✓	✓	✓	
	Acquisition Strategy		✓				
	Decommissioning Plan						✓
	Site Transition Guidance						✓
	Facility Transition Plan						✓
	Deactivation Plan						✓
	Long Term Surveillance and Maintenance Plan						✓
	Verification of Key Performance Parameters and Project Completion Criteria					✓	
	Project Transition to Operations Plan					✓	
	Lessons Learned						✓
	Mission Need	✓					
	Post Implementation Review						✓
	Project Data Sheet			✓	✓	✓	
	Contract Requirements	✓	✓				
	Final Project Closeout						✓
	Operational Documentation						✓
Engineering and Design	Conceptual Design		✓				
	Preliminary Design			✓			
	Final Design				✓		

² **Blue:** Review Modules and Topical Reports included in 2nd Revision of SRP, March 2010.

Orange: Review Modules under development for inclusion in the planned 3rd Edition of SRP in FY 2010.

³ Consistent with DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*

⁴ Definitions: CD-0: Approval of Mission Need; CD-1: Approval of Alternative Selection and Cost Range (Conceptual Design); CD-2: Approval of Performance Baseline (Preliminary Design); CD-3: Approval on Start of Construction (Final Design); CD-4: Approval of Start of Operations

SRP Section ³	SRP Subsection	Applicable CD Phase(s) ⁴					
		CD-0	CD-1	CD-2	CD-3	CD-4	Post CD-4
	Construction Readiness				✓		
	Commissioning Plan				✓	✓	
	Readiness Review				✓	✓	
	Seismic Design Expectations	✓	✓	✓	✓	✓	✓
	Interim Policy of Nuclear Facility Code of Record	✓	✓	✓	✓	✓	✓
	Technology Readiness Assessment		✓	✓	✓	✓	
	External Technical Review	✓	✓	✓	✓	✓	
	Code of Record Implementation Guide	✓	✓	✓	✓	✓	✓
	Natural Phenomena Design Expectations (excluding seismic)	✓	✓	✓	✓	✓	✓
	Safety	Safety Design Strategy (SDS)		✓	✓	✓	
Conceptual Safety Design			✓				
Preliminary Safety Design				✓			
Facility Disposition Safety Strategy							✓
Construction Project Health and Safety Plan					✓		
Review of SAR for Packaging							✓
Preliminary Documented Safety Analysis (PDSA)					✓		
Documented Safety Analysis (DSA)						✓	
Hazard Analysis Report RM for Non-Nuclear Projects		✓	✓	✓	✓	✓	
Integrated Safety Management System			✓	✓	✓	✓	✓
Environment	National Environmental Policy Act (NEPA)	✓	✓	✓	✓	✓	
	High-Performance Sustainable Building Design		✓	✓	✓	✓	
Security	Safeguards and Security and Cyber Security	✓	✓	✓	✓	✓	✓
Quality Assurance	Quality Assurance for Critical Decision Reviews		✓	✓	✓	✓	
	Protocol for EM Review/Field Self-Assessment of Site-Specific QAPs/QIPs		✓	✓	✓	✓	
	EM Memorandum on Commercial-Grade Dedication		✓	✓	✓	✓	
	Software Quality Assurance for Critical Decision Reviews		✓	✓	✓	✓	

Attachment 5

Intended Audience

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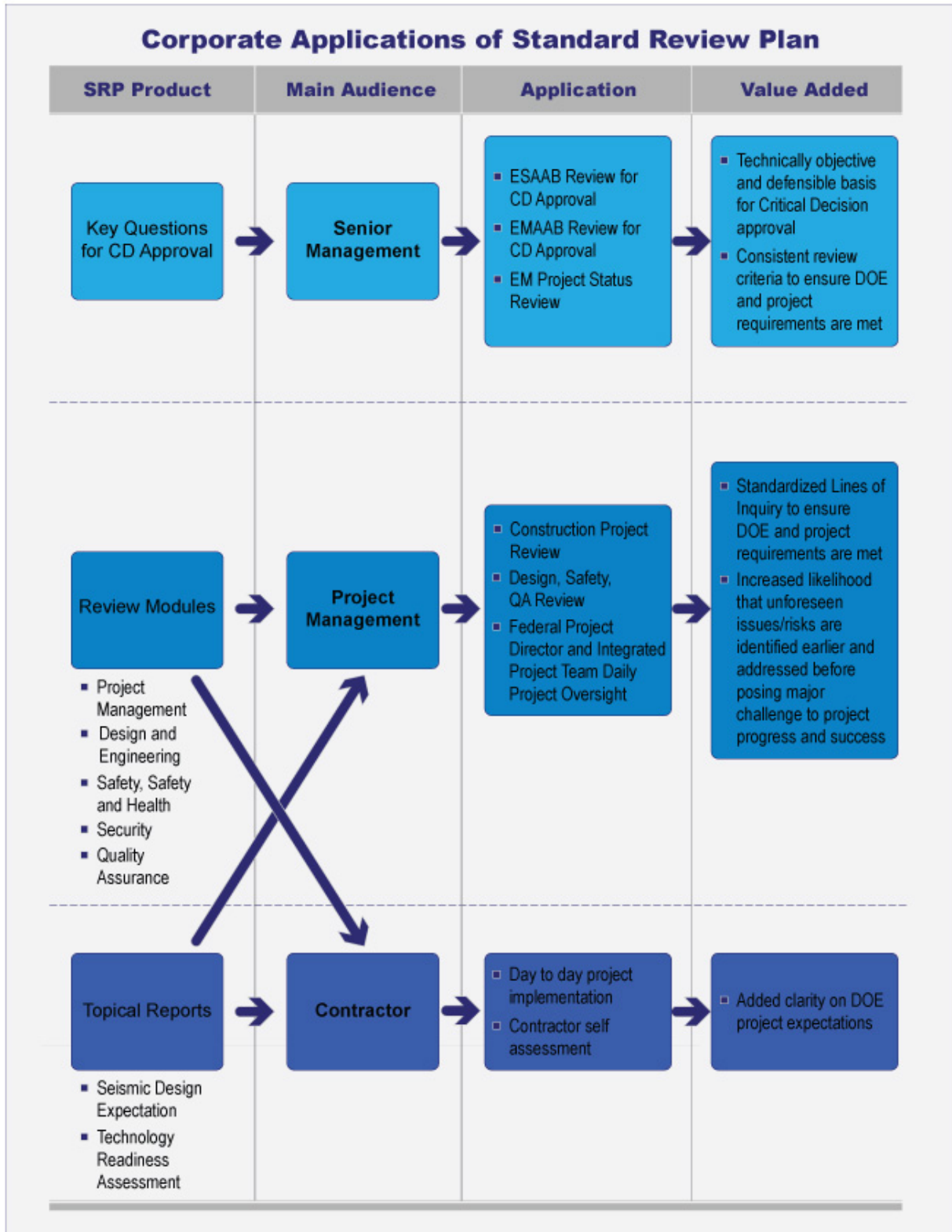
SRP Content and Information Description	SRP Section	Intended Audience
Prerequisite Activities for Critical Decision Review and Approval	Attachment 1 of the Overview Section	<ul style="list-style-type: none"> • Secretarial Acquisition Executive • CNS • EM Acquisition Executive • EM senior leadership • FPDs • IPTs • Technical Authority Board (TAB) • CPR Committees • Independent review teams • Contractors
Key Documents required for Critical Decision Approval Review	Attachment 2 of the Overview Section	<ul style="list-style-type: none"> • Secretarial Acquisition Executive • CNS • EM Acquisition Executive • EM senior leadership • FPDs • IPTs • TAB • CPR Committees • Independent review teams • Contractors
Key Management Questions for Critical Decision Review and Approval	Attachment 3 of the Overview Section	<ul style="list-style-type: none"> • Secretarial Acquisition Executive • CNS • EM Acquisition Executive • Energy Systems Acquisition Advisory Board (ESAAB) • Environmental Management Acquisition Advisory Board (EMAAB) • TAB • FPDs • IPTs • CPR Committees • Independent review teams • Contractors
Applicability of Individual SRP Review Modules and Topical Reports to Critical Decision Phases	Attachment 4 of the Overview Section	<ul style="list-style-type: none"> • CNS • FPDs • IPTs • External review teams • TAB • CPR Committees • Contractor

SRP Content and Information Description	SRP Section	Intended Audience
Intended Audience	Attachment 5 of the Overview Section	<ul style="list-style-type: none"> • CNS • FPDs • IPTs • TAB • CPR Committees • Independent review teams • Contractors
Corporate Applications of the Standard Review Plan	Attachment 6 of the Overview Section	<ul style="list-style-type: none"> • CNS • FPDs • IPTs • TAB • CPR Committees • QA review teams • Contractors
Individual SRP Review Modules and Topical Reports. These are grouped by the following disciplines: (1) Project Management; (2) Engineering and Design; (3) Safety; (4) Environment; (5) Security; and (6) Quality Assurance	SRP Sections on Specific Review Modules and Topical Reports	<ul style="list-style-type: none"> • CNS • FPDs • IPTs • TAB • CPR Committees • Independent review teams • Contractors

Attachment 6

Corporate Applications of the Standard Review Plan

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ATTACHMENT 7

Suggested Format and Content Guide for Preparation of Review Plans and Reports

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OFFICE OF ENVIRONMENTAL MANAGEMENT

**Suggested Format and Content Guide for Preparation of Review
Plans and Reports**



March 2010

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REVIEW PLANS AND FINAL REPORTS

This section prescribes the general expectations for preparation of a review plan related to project reviews that are consistent with the Standard Review Plan (SRP). It also provides a suggested template for the development of final reports. These documents establish a record of the approaches and criteria used in project reviews, provide management with a clear understanding of the findings and observations resulting from project reviews, and provide a record for DOE and the contractor to implement and track any necessary corrective actions.

I. REVIEW PLANS

The Review Plan guides the review team in the conduct of the review, but it also provides the Project Managers with information necessary to prepare for and support the review process. The Review Plan discussion below provides instructions on how to develop such a Plan. It is intended as a general guide for a Review Team Leader and Team Members in planning and conducting various project reviews. The main headers listed below are intended to form the structure of the review plan, but each plan should be tailored to the project being reviewed and may not contain a particular section.

a. Introduction/Background

The Introduction/Background should briefly state the primary objectives of the review and describe the project and the facility status that is relevant to the review to be conducted. A concise description of the project includes the planned facility mission, where it is located geographically, the intended processes and functions of the facility when complete, and any expected products to be generated by the facility. Facility process descriptions should also include sufficient information on material flows and waste streams. Deactivation and decommissioning projects should include a discussion of the anticipated facility end-state and future use of the site.

The project history conveys the proper context of the project and provides information that helps reviewers understand the facility being reviewed. This may include interfaces with other site operations or facilities being replaced by the new facility project. If the project involves the modification and use of existing buildings and structures, it is important to understand any prior operations and hazardous materials that were involved.

The Introduction/Background section should also describe the relationship of the review team to the project management organization; that is, whether the review is organized by a contractor using contractor resources or commissioned by the local DOE organization or by a Headquarters sponsor.

b. Purpose

This section presents the reason for, and objectives of, the project review. This includes the regulations and DOE directives that identify the need for the review and the area(s) being reviewed.

c. Scope

The scope of the project review effort should be defined to provide a focus for review team activities and to aid in the selection of review team members. The scope also helps the design or construction contractors prepare necessary materials and briefings that are appropriate to the review scope. This section of the Review Plan should be broken down to describe the topics covered by the review scope, any necessary assumptions or caveats considered by the review team, and project documents that are encompassed within the review (e.g., design documents and supporting safety documents).

The *Performance Objectives and Criteria* that apply to the review process will also be selected and presented in this section or attached as an appendix to the Review Plan. These should be based on Appendix A contained in each individual Review Module.

d. Review Schedule

The project review schedule should be supportive of the Critical Decision milestones and other reviews scheduled in accordance with DOE O 413.3A. The Review Plan should address the major review team activities supporting the project review and associated dates or durations for completion. At a minimum, the schedule should address the issuance of a Review Plan, the onsite design review, the factual accuracy of the draft report, and the issuance of the final report.

e. Team Composition and Responsibilities

The members of the design review team and their assigned responsibilities should be identified in this section. The organizational affiliation should also be presented for each individual.

The number and composition of technical and safety disciplines assigned to the team will depend on the type of project being reviewed. The Review Team Leader must ensure that each team member has the appropriate expertise. A short biography of each team member should be included as an appendix to the Review Plan.

f. Reporting Methods

This section of the Review Plan should disclose the methods used by the review team to communicate the results of the project review. This includes planned daily out-briefs or other meetings with the contractor that are planned during the onsite review. It also includes the methods used to document results, such as review checklists, and the final report.

II. FINAL REPORT

The final report should provide team's assessment of project's likelihood of success to meet upcoming CD milestones and comments. These should be based on analysis of observed project's strengths and weaknesses that were identified during the review, and provides the review results.

The Report should include the following sections:

a. Executive Summary

The Executive Summary provides a concise synopsis of the activities conducted during the review, the number of findings, observations, and strengths identified, and a discussion of the most significant issues identified by the Review Team.

b. Introduction

The Introduction provides the review purpose and drivers, organizations involved, and the basic process followed.

c. Review Results

The Review Results section provides a summary stating whether the review criteria were met and a listing of the strengths, findings, and observations identified for each area assessed.

d. Team Composition and Responsibilities

The Team Composition and Responsibilities section lists the review team members and the areas they assessed.

e. Review Results

Upon completion of the project review, team members shall document their review results and determine if the review criteria were met. The documentation shall list the records reviewed, personnel interviewed (by position title, not name), and activities observed during the project review. Team members shall provide a clear and concise write up for each criterion stating whether or not the criterion was met and describe the strengths, findings, and observations identified.

Finding – A noncompliance with a requirement. The requirement may be from a DOE directive or from a procedure or other site document.

Significant Observation - Deviation from DOE Guides or Handbooks, EM HQ guidance documents, and other accepted industry practices for which corrective actions are necessary.

Observation – A weakness or opportunity for improvement that cannot be tied directly to a requirement. Observations can be opinion-based.

Strength – A practice that exceeds assessor expectations.

In circumstances where a team member disagrees with the team's conclusion(s) or a Team Lead decision, the member may document this as a dissenting opinion. The dissenting opinion should include the member's basis for disagreement. If the dissenting opinion is due to a Team Lead decision, the Team Lead shall provide the basis for his or her decision.

Prior to issuing a final report, the Review Team Lead should provide a draft of the report to the assessed organization to review for factual accuracy. The assessed organization should provide written comments to the Team Lead for disposition. All comments should be resolved prior to the final report being issued.

Once the factual accuracy comments have been resolved, the Team Lead shall provide the final report to the official requesting the review for approval and transmittal to the assessed organization. Approved final reports shall be formally transmitted to the assessed organization via a memorandum that which includes the requirement for a corrective action plan (if necessary) within 60 days of report transmittal.

Attachment 8

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Principal Contributors to the SRP Development

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