

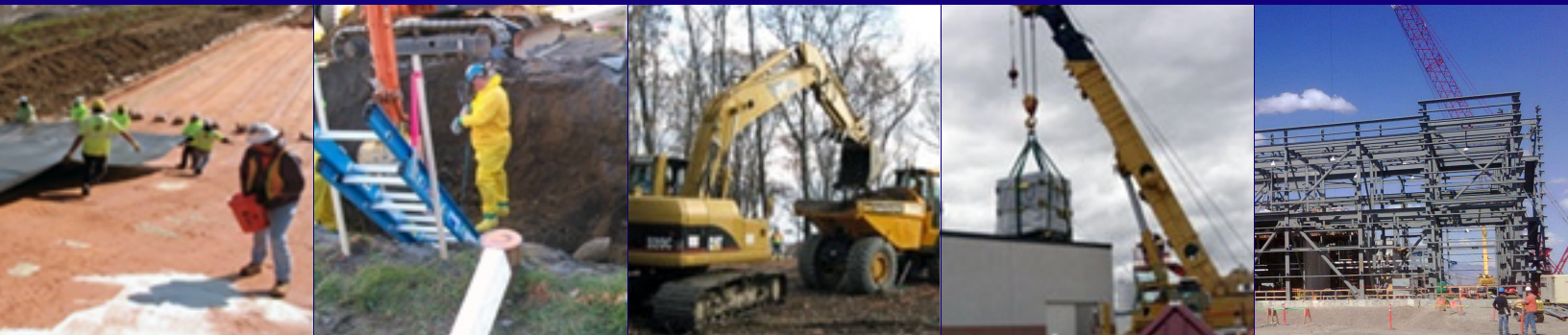


DOE - EM - SRP - 2010
2nd Edition

Environmental Management
Safety ▪ Performance ▪ Cleanup ▪ Closure

STANDARD REVIEW PLAN (SRP)

PROJECT EXECUTION PLAN (PEP) REVIEW MODULE



**CORPORATE CRITICAL DECISION (CD) REVIEW AND
APPROVAL FRAMEWORK ASSOCIATED WITH NUCLEAR FACILITY CAPITAL AND
MAJOR CONSTRUCTION PROJECTS**

MARCH 2010

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

OFFICE OF ENVIRONMENTAL MANAGEMENT

Standard Review Plan (SRP)

Project Execution Plan

Review Module

Critical Decision (CD) Applicability					
CD-0	CD-1	CD-2	CD-3	CD-4	Post Operation
	✓	✓	✓	✓	



March 2010

FOREWORD

The Standard Review Plan (SRP)¹ provides a consistent, predictable corporate review framework to ensure that issues and risks that could challenge the success of Office of Environmental Management (EM) projects are identified early and addressed proactively. The internal EM project review process encompasses key milestones established by 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.

The SRP follows the Critical Decision (CD) process and consists of a series of Review Modules that address key functional areas of project management, engineering and design, safety, environment, security, and quality assurance, grouped by each specific CD phase.

This Review Module provides the starting point for a set of corporate Performance Expectations and Criteria. Review teams are expected to build on these and develop additional project-specific Lines of Inquiry, as needed. The criteria and the review process are intended to be used on an ongoing basis during the appropriate CD phase to ensure that issues are identified and resolved.

¹ *The entire EM SRP and individual Review Modules can be accessed on EM website at <http://www.em.doe.gov/Pages/Safety.aspx>, or on EM's internet Portal at <https://edoe.doe.gov/portal/server.pt> Please see under /Programmatic Folder/Project Management Subfolder.*

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ACRONYMS

CD	Critical Decision
DOE	Department of Energy
DNFSB	Defense Nuclear Facility Safety Board
ES&H	Environment, Safety and Health
FPD	Federal Project Director
FRAM	Functions, Responsibilities, and Authorities Manual
IS	Industrial Safety
ISMS	Integrated Safety Management System
LOIs	Lines of Inquiry
NEPA	National Environmental Policy Act
NS	Nuclear Safety
NNSA	National Nuclear Security Administration
PEP	Project Execution Plan
RM	Review Module
SDS	Safety Design Strategy

I. INTRODUCTION

In recent years, Department of Energy (DOE) has developed a number of orders and guidance documents aimed to improve the overall performance of project management and the acquisition of capital assets with the DOE complex. One of the most important activities or products required by DOE O 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets*, to strengthen the overall performance of project management and the acquisition of capital assets is the development and approval of a Project Execution Plan (PEP). To ensure cost effective management of a given project it is essential both that the PEP be developed and that it be tailored to the planned activities and associated hazards and project risks.

Consistent with the DOE project management philosophy and approach as identified in DOE O 413.3A, DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets* and DOE G 413.3-15, *Department of Energy Guide for Project Execution Plans*, this review module was developed to summarize the requirements and guidance in the SRP formant regarding the DOE expectations for the development and implementation of the PEP.

II. PURPOSE

The Project Execution Plan (PEP) Review Module (RM) is a tool that assists DOE federal project review teams in evaluating the adequacy of the PEP development and maintenance for projects of any size and complexity. The Federal Project Director (FPD) is ultimately responsible for the PEP. The PEP RM identifies three key aspects associated with the PEP:

- Plan Development, including content adequacy based on DOE Guidance and Lessons learned from previous PEPs
- PEP maintenance
- Tailoring approach for PEP development, content and maintenance.

The Performance Objectives and Criteria identified in this RM were specifically developed to be generic in nature to ensure that they were applicable to as many DOE projects as possible. Therefore, it is essential that the review team use these Performance Objectives and Criteria only as a starting point to develop project specific Lines of Inquires (LOIs) to ensure that the project is adequately evaluated.

III. ROLES AND RESPONSIBILITIES

A successful PEP review depends on an experienced and qualified team. The team should be augmented with appropriate subject matter experts selected to complement the specific technical concerns of the project being reviewed. The specific types of expertise needed will be dependent on the type of facility being reviewed, as well as other factors such as complexity and hazards and risks.

It is strongly recommended that the team leader should either be a project or systems engineer experienced in the management of a multi-disciplined review team (e.g. fire protection,

criticality, radiological protection, nuclear) that matches to the extent practicable the contractors disposition team.

Management support is another necessary component to a successful PEP review. Field element managers, as well as the Federal Project Director, must recognize the importance of the PEP review and facilitate the resources necessary for its execution. This also requires appropriate interfaces with EM headquarters personnel who may direct or participate in the PEP review process.

The roles and responsibilities for all involved in the PEP review must be clear and consistent with various requirements of DOE O 413.3A and the DOE Functions, Responsibilities, and Authorities Manual (FRAM). The table below provides a compilation of PEP review roles and responsibilities.

Position	Responsibility
Field Element Manager	Provides support, personnel and resources to the Federal Project Director and Review Team Leader in carrying out the review.
Field Element Manager	Provides support and resources to the Federal Project Director and Review Team Leader in carrying out the review. Facilitates the conduct of the review. Assigns office space, computer equipment, and support personnel to the team as necessary to accomplish the review in the scheduled time frame.
Federal Project Director	Identifies the need for a PEP review and determines the scope of the review effort. In conjunction with the Contractor Project Manager, develops the briefing materials and schedule for the review activities. Coordinates the review team pre-visit activities and follows up review team requests for personnel to interview or material to review. Coordinates the necessary training and orientation activities to enable the review team members to access the facility and perform the review. Unless other personnel are assigned, acts as the site liaison with the review team. Tracks the status of requests for additional information. Coordinates the Federal site staff factual accuracy review of the draft report. Leads the development of the corrective action plan if required. Tracks the completion of corrective actions resulting from the review.
Review Team Leader	In coordination with the Federal Project Director selects the areas to be reviewed. Based on the areas selected for review, project complexity and hazards involved, selects the members of the review team. Verifies the qualifications: technical knowledge; process knowledge; facility specific information; and independence of the Team Members. Leads the review pre-visit. Leads the review team in completing the Review Criteria for the various areas to be reviewed. Coordinates the development of the data call and forwards to the Federal Project Director, a list of documents, briefings, interviews, and presentations needed to support the review. Forwards the final review plan to the FPD for approval.

Position	Responsibility
	Leads the on-site portion of the review.
	Ensures the review team members complete and document their portions of the review and characterizes the findings.
	Coordinates incorporation of factual accuracy comments by Federal and Contractor personnel on the draft report.
	Forwards the final review report to the Project Director for consideration in making the decision to authorize approval of the CD.
	Participates, as necessary in the closure verification of the findings from the review report.
	Refines and finalizes the criteria for assigned area of the review.
Review Team Member	Develops and provides the data call of documents, briefings, interviews, and presentations needed for his or her area of the review.
	Completes training and orientation activities necessary for the review. Conducts any necessary pre visit document review.
	Participates in the on-site review activities, conducts interviews, document reviews, walk downs, and observations as necessary.
	Based on the criteria and review approaches in the Review Plan, assesses whether his or her assigned criteria have been met.
	Documents the results of the review for his or her areas. Prepares input to the review report.
	Makes recommendations to the Review Team Leader for characterization of findings in his or her area of review.
	Resolves applicable Federal and Contractor factual accuracy comments on the draft review report.
	Prepares the final review report for his or her area of review.

IV. REVIEW SCOPE AND CRITERIA

This PEP RM provides a set of Performance Objectives and Criteria that are organized based on the key aspects associated with the PEP as identified in the DOE Orders and guidance. For each review area, Appendix A of this RM provides overall Performance Objectives and Criteria. These Performance Objectives and Criteria will provide consistent guidance to project-specific PEP review teams to develop their LOIs. The Performance Objectives and Criteria were specifically developed to be generic in nature to ensure that they were applicable to as many DOE projects as possible. Therefore, it is essential that the review team use these key elements only as a starting point, and that more detailed project specific LOIs are developed to ensure that the project is adequately evaluated.

Project Execution Plan

The Project Execution Plan (PEP) is the core document for management of a project. This area is focused on the adequacy of the PEP documentation – specifically does it address all of the required areas as identified in the DOE Orders and guidance documents. Additionally, the adequacy of the content is addressed in these LOIs and this review area.

PEP Maintenance

This area is focused on ensuring that as the project progresses the PEP is updated and controlled. Specifically as the PEP sub elements are better defined and changed through the project phases – the PEP document is updated and approved as required.

PEP Tailoring

The purpose of this review area is to ensure that material contained in the PEP is tailored based on the project phase, its complexity and any other relevant factors. Tailoring is based on the DOE orders and guidance documents.

V. REVIEW PLANS AND DOCUMENTATION

The results of a PEP review will be used by the DOE Federal Project Director and to determine approval of the PEP. It is important to clearly document the methods, assumptions and results of the PEP review. The overall Standard Review Plan provides guidelines for preparing a Review Plan and a final report.

The following activities should be conducted as part of the Review Plan development and documentation/closure of the review:

- Subsequent to the selection, formation and chartering of the review team and receipt and review of the prerequisite documents, assignment of responsibilities for the development of specific lines of inquiry should be made.
- The review team members should develop specific lines of inquiry utilizing the topics and areas listed in the respective appendices of this module.
- The individual lines of inquiry should be compiled and submitted to the manager authorizing the review for concurrence prior to starting the review.
- The project-specific review plan should be compiled with a consistent and uniform numbering scheme that provided for a unique identifier for each line of inquiry, arranged by subject such that the results of each line of inquiry can be documented and tracked to closure.
- The lines of inquiry should be satisfied via document review and personnel interviews and any combination of these methods. The method used the basis for closure/comment/finding and the result of the inquiry should all be documented and tracked.

VI. REFERENCES

- DOE Order 413.3A, Change 1, *Program and Project Management for the Acquisition of Capital Assets*
- DOE-STD-1189-2008, *Integrating Safety into the Design Process (Appendix F Safety-In-Design Relationship with the Risk Management Plan)*
- DOE G 413.3-15, *Department of Energy Guide for Project Execution Plans*
- DOE M 413.3-1, *Project Management for the Acquisition of Capital Assets*
- DOE G 450.3-3, *Tailoring for Integrated Safety Management Applications*
- DCD-001, *Final Project Execution Plan DUF₆ Conversion Project Rev 5a*
- V-PMP-J-00002, *Salt Waste Processing Facility Project - Project Execution Plan*

APPENDIX A - PERFORMANCE OBJECTIVES AND CRITERIA

Legend of PEP Review Topics

Review Topical Area	Identifier
Project Execution Plan	PEP
PEP Maintenance	PM
PEP Tailoring	PT

ID #	Performance Objectives and Criteria ²	Met?
Project Execution Plan (PEP)		
PEP-1	Has the PEP been developed in accordance with DOE O 413.3A, Change 1, Section 5.k.(9)?	
	Is the PEP thorough and comprehensive? (PEP-1.1)	
	Does the PEP summarize the critical information necessary to manage the project? (PEP-1.2)	
	Was the PEP developed using an integrated, systematic approach and does it define a project management system based on effective management practices that are sufficiently flexible to accommodate the size and complexity of the project? (PEP-1.3)	
	Was the preliminary PEP developed in support of CD-1 and has it been updated since to ensure it is consistent with the other project documents? (PEP-1.4)	
PEP-2	Does the PEP have the proper content and approvals for submittal to the Acquisition Executive prior to the associated CD in accordance with DOE G 413.3-15?	
	Does the PEP accurately reflect the manner in which the project will be managed and performed? (PEP-2.1)	
	Has the PEP received the necessary local reviews and approvals prior to transmittal to the Acquisition Executive? (PEP-2.2)	
	Has the PEP been submitted to the Acquisition Executive in a timely manner, prior to the associated CD? (PEP-2.3)	
PEP-3	Did the PEP development and preparation consider the appropriate project activities?	
	Did PEP development and preparation consider: <ul style="list-style-type: none"> • Identifying project participants' responsibilities, authorities, and accountabilities; • Organizing and preparing a project Work Breakdown Structure and Dictionary • Creating a responsibility assignment matrix by interfacing the Organization Breakdown Structure with the Work Breakdown Structure for assignment of responsibility and delegation of authority; 	

² The site should provide the technical bases and assumptions that support the answers provided to each Line of Inquiry. If possible, the review teams should independently verify the technical bases and assumptions.

ID #	Performance Objectives and Criteria ²	Met?
	<ul style="list-style-type: none"> • Identifying the time-phased budget or resource loaded schedule; • Performing critical path calculations and establishing project activity durations; • Developing resource loaded project activities; • Conducting risk assessment and mitigation planning; • Developing a preliminary order of range project cost estimate; • Establishing or identifying a progress/performance measuring and reporting system; and • Developing a method of communicating results, reviews, and revisions of project documentation to project participants and stakeholders? (PEP-3.1) 	
PEP-4	Does the PEP contain the appropriate material as identified in DOE orders and guidance documents?	
	<p>Does the PEP contain project background information that provides a brief history and background of the project including:</p> <ul style="list-style-type: none"> • Identification of important chronological items/issues • Key drivers including external drivers • The project's purpose and major objectives • A clear or concise statement of what the project will accomplish and the time frame required? (PEP-4.1) 	
	Does the PEP contain a summary of the mission need statement and does it list potential hazards including safety, security, and strategic review of overall project risk? (PEP-4.2)	
	<p>Does the PEP provide a summary level description of the project that includes:</p> <ul style="list-style-type: none"> • The project vision • Major systems components and their functions • Major project assumptions and uncertainties • Project requirements • Key performance parameters • Project scope • Major interfaces • Required site development, permits and licensing • Major safety systems and assumptions and uncertainties related to safety (where appropriate) • Key stakeholders? (PEP-4.3) 	
	Does the PEP describe the organization including an organization chart that identifies the various participants, their roles and responsibilities, interfaces and reporting relationships? (PEP-4.4)	
	Does the PEP address the roles and responsibilities of the IPT specifically? (PEP-4.5)	
	Does the PEP include a section discussing the tailoring strategy to be applied to the project? (PEP-4.5)³	
	Does the PEP include a project baseline that meets the requirements of DOE O 413.3A and is it defined for technical scope, schedule and costs? (PEP-4.6)	

³ More discussion on specific aspects of project tailoring is provided in the section below.

ID #	Performance Objectives and Criteria ²	Met?
	Does the PEP include an adequate description of the scope baseline? (PEP-4.7)	
	<p>Does the PEP include a project summary level schedule (as appropriate for the CD being approved) and does the schedule baseline include as a minimum:</p> <ul style="list-style-type: none"> • Key activities/milestones, etc. • Defense Nuclear Facility Safety Board (DNFSB) deliverables • The Chief of Nuclear Safety (NS) or the 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 • Critical Decision approval dates • Major reviews conducted by the field and Headquarters • Major shipments of waste or materials to other DOE sites or commercial facilities • Major procurements and/or when major procurement decisions were made including foreign owned determination and approvals • When major Headquarters policy decisions are needed and from whom • Major activities (contractor and/or Federal) associated with project completion • Government-furnished service item • Key decisions required by other agencies? (PEP-4.8) 	
	<p>Does the PEP include a cost baseline that addresses and includes:</p> <ul style="list-style-type: none"> • Total estimated cost • Other project costs • Contingency • Management reserve • Performance measurement baseline • Total project cost? (PEP-4.9) 	
	Does the PEP include a project funding profile section that clearly illustrates the projects requirements for time phased funding over the course of the project? (PEP-4.10)	
	Is the PEP funding profile information clearly designated by fiscal year? (PEP-4.11)	
	Is the life-cycle cost for the project clearly identified in the PEP and does it include breakouts that correspond to each major phase of the project? (PEP-4.12)	
	Does the life-cycle cost include an 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? (PEP-4.13)	
	Does the PEP identify the baseline change control framework which includes applicable change management processes, threshold requirements and change control board charter and the procedures to be followed or established? (PEP-4.14)	

ID #	Performance Objectives and Criteria ²	Met?
	Does the PEP contain a summary table of baseline change control thresholds, approval authority for scope, schedule and cost for all of the appropriate approval levels and personnel? (PEP-4.15)	
	Does the PEP contain a description of the reporting process including both internal and external requirements and as appropriate, types, content, distributions, frequency of reporting, and a level of control and review and approval requirements? (PEP-4.16)	
	Does the PEP contain a risk management section that describes the policies and practices for managing risk and a summary of the results of the risk analysis? (PEP-4.17)	
	Are key and critical risks identified in accordance with DOE O 413.3A and DOE-STD-1189, Appendix F? (PEP-4.18)	
	Does the PEP describe the readiness of the project and plans to manage and control engineering and technology development and deployment? (PEP-4.19)	
	Does the PEP summarize the alternative analyses and selections associated with accomplishing the mission and associated key parameters? (PEP-4.20)	
	Does the PEP provide a reference or identify all documents that establish the Environment, Safety and Health (ES&H) plan for the project or establish the requirements as a whole? (PEP-4.21)	
	Does the ES&H section of the PEP include the following: <ul style="list-style-type: none"> • A brief assessment of environmental permitting • The status of and plans for National Environmental Policy Act (NEPA) compliance • A description of all safety documentation • A description of environmental management documentation? (PEP-4.22)	
	If the project is a nuclear facility project does the ES&H section describe how safety-in-design requirements of DOE-STD-1189 will be accomplished? (PEP-4.23)	
	Does the PEP document the implementation of the ISM process sufficiently to demonstrate that safety is integrated into daily work activities? (PEP-4.24)	
	Does the PEP document or reference the means of implementing work and public protection measures for Industrial Safety (IS) and Occupational Health? (PEP-4.25)	
	Does the PEP document or reference implementation of nuclear safety requirements and integration of safety into design? (PEP-4.26)	
	Does the PEP reference the hazard analysis document or identify the hazards related to the project and discuss mitigation/elimination plans? (PEP-4.27)	
	Is the implementation of value management referenced or documented in the PEP? (PEP-4.28)	
	Does the PEP document implementation of value engineering in accordance with DOE policies and orders? (PEP-4.29)	

ID #	Performance Objectives and Criteria ²	Met?
	Does the PEP identify safeguards and security systems, processes, procedures and personnel to establish a framework that will systematically integrate Safeguards and security management into the project acquisition process? (PEP-4.30)	
	Does the PEP adequately discuss the project configuration management processes to ensure the delivery of complete as-built documents at the close of the project? (PEP-4.31)	
	Does the PEP adequately discuss how records will be managed on the project? (PEP-4.32)	
	Does the PEP refer to or include the project's systems engineering plan and documentation? (PEP-4.33)	
	Does the PEP refer to or include the project's earned value management system plan and documentation? (PEP-4.34)	
	Does the PEP describe the quality assurance requirements for the project or refer to a site quality assurance plan as appropriate based on the project size and complexity? (PEP-4.35)	
	Does the PEP refer to or include the project's communication management plan in accordance with DOE G 413.3-15 Attachment 2? (PEP-4.36)	
	Does the PEP incorporate or refer to the project test and evaluation plan? (PEP-4.37)	
	Does the PEP include a description of major reviews that would occur during a project's life cycle and (as applicable) the results of those reviews? (PEP-4.38)	
	Does the PEP refer to or include the project's transition/closeout plan? (PEP-4.39)	
PEP Maintenance/Update		
PM-1	Is there a documented and formal process for the update and revision of the PEP as the project progresses?	
	Is the PEP revision/update process identified in contractor procedures? (PM-1.1)	
	Are the anticipated PEP revisions/updates identified in the project schedules and cost estimates? (PM-1.2)	
	Is there a formal documented process for the review and approval of the revisions/updates to the PEP? (PM-1.3)	
	Is there a formal documented process to ensure that the PEP is maintained consistent with the project design and any other key project changes? (PM-1.4)	
	Is there a formal documented process to ensure that the updated/revised PEP is submitted to the DOE project manager and appropriate personnel for review and approval? (PM-1.4)	
PEP Tailoring		
TS-1	Does the PEP describe the tailoring strategy?	
	Does the tailoring strategy identify major assumptions or risks affecting the project? (TS-1.1)	
	Does the tailoring strategy identify the project management requirements and/or controls to be tailored? (TS-1.2)	
	Does the tailoring strategy describe how tailoring will be applied? (TS-1.3)	

ID #	Performance Objectives and Criteria ²	Met?
	Does the tailoring strategy describe the rationale or benefit to be derived? (TS-1.4)	
	Does the tailoring strategy describe any unique project approval decisions and responsibilities? (TS-1.5)	
TS-2	Does the tailoring strategy ties the business and management approach to the project risks?	
	Does the tailoring strategy describe the depth and breadth of the alternative analysis is tailored to the size, risk, and complexity of the project? (TS-2.1)	
	If the delivery method is Design-Build versus Design-Bid-Build and a single contract is awarded for both design and construction, is the project's execution process tailored to allow the project team to propose cost-effective innovative approaches that reduce project duration and cost? (TS-2.2)	
TS-3	Has tailoring been identified prior to the impacted Critical Decision and approved as early as possible starting at CD-0?	
	For projects with unique circumstances that combine or split the five Critical Decisions, does the tailoring strategy has a rational, clear, and documented basis? (TS-3.1)	
	Has a tailoring strategy been prepared that describes the project's approach for appropriately adapting Critical Decision requirements based on the project's risk and complexity? (TS-3.2)	
	Has information technology provide any rationale for any flexibility built into Critical Decisions to allow a phased approach required for the project? (TS-3.3)	
	If an early or phased CD-3 is anticipated for long-lead procurements has the need for this decision and the process been documented in the Project Execution Plan and Tailoring Strategy? (TS-3.4)	
TS-4	Has the Integrated Safety Management System (ISMS) been applied to address the tailoring of work management functions at the project, activity and task level?	
	Has consideration been given in an ISMS document regarding how the five core functions will be implemented for the project? (TS-4.1)	
	Has an appropriate set of safety and health standards been identified to govern the project based on the project scope and hazards? (TS-4.2)	
	Have the engineered controls been tailored to the functions being designed or performed? (TS-4.3)	
TS-5	Has the tailoring approach for safety design basis documents described in the Safety Design Strategy (SDS) and summarized in the PEP?	
	Is the SDS prepared in accordance with DOE-STD-1189? [NOTE: See SDS Review Module for specific criteria]. (TS-5.1)	
	Has the project committed to the appropriate nuclear safety requirements and documents in accordance with 10 CFR 830, DOE O 420.1B, and DOE-STD-1189? (TS-5.2)	
TS-6	Has the safeguards and security strategy been described in the PEP to address DOE directives, including DOE 470 series of directives, DOE O 413.3A, and DOE G 413.3-3?	