National Nuclear Security Administration

NNSA Policy Letter: BOP-50.001
(DOE O 413.3)
Date: August 7, 2006

TITLE: NNSA ESAAB EQUIVALENT PROCESS

I. OBJECTIVES:

A. To assure that National Nuclear Security Administration (NNSA) projects follow the requirements of DOE Order 413.3, Program and Project Management for the Acquisition of Capital Assets, as the projects proceed from concept through design and construction to turnover to operations;
B. To assure that NNSA programs and employees perform their roles and responsibilities in executing these projects;
C. To assure that the NNSA acquisition process reflects an integrated approach to matching program requirements with the project development and execution process;
D. To provide appropriate acquisition executive oversight to the NNSA acquisition process for construction projects greater than $5 million.
E. To ensure line management involvement and accountability for project performance; and
F. To demonstrate NNSA commitment to improving the acquisition process to Departmental and Congressional elements.

II. APPLICABILITY: The provisions of this Policy apply to all of the Administration's organizations and elements.

III. REQUIREMENTS: The attached process is NNSA implementation guidance for DOE Order 413.3 – "Program and Project Management for the Acquisition of Capital Assets," and applies to all capital and operating projects greater than $5 million. This process does not establish any new requirements that have not already been established within the DOE Directives system.

IV. RESPONSIBILITIES:

A. NNSA Administrator will monitor the implementation and results of the NNSA ESAAB Equivalent Process.

B. NNSA Deputy/Associate Administrators are responsible for the implementation and ongoing performance of the ESAAB Equivalent Process.

C. NNSA Associate Administrator for Infrastructure and Environment is responsible for the maintenance of the process and providing technical assistance to other NNSA organizations in executing the process.

V. POINT OF CONTACT FOR ADMINISTRATION BUSINESS AND OPERATING POLICY LETTER: Director, Office of Project Management and Systems Support (NA-54) 301-903-3557.

Linton F. Brooks
Administrator

Attachments:
1. NNSA ESAAB Equivalent Process Document
2. ESAAB Equivalent Flow Chart

ENERGY SYSTEMS ACQUISITION ADVISORY BOARD (ESAAB) EQUIVALENT PROCESS

for

NATIONAL NUCLEAR SECURITY ADMINISTRATION

July 2006

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

FOREWORD

This Document reflects the current requirements, understandings, and expectations related to the headquarters' NNSA ESAAB Equivalent Process. It has been updated to reflect the current versions of DOE Order 413.3 'Program and Project Management for the Acquisitions of Capital Assets' and DOE Order 413.3 and DOE Manual 413.3-1 'Project Management for the Acquisition of Capital Assets', and incorporates a renewed emphasis on integrating safety into the design of projects, particularly for nuclear projects.

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1.0 BACKGROUND

DOE Order 413.3, 'Program and Project Management for the Acquisition of Capital Assets', and DOE M 413.3-1, 'Project Management for the Acquisition of Capital Assets', require that as DOE projects proceed from concept through design, construction, and eventually start of operations, that at the end of each phases, a designated Acquisition Executive approve the project continuing on into the next phase. These approval points in the acquisition process are named 'Critical Decisions'. The Critical Decision authority resides with the Secretarial Acquisition Executive (SAE) for Major Systems projects and with other designated Acquisition Executives (delegated from the SAE) for non-Major Systems projects. In addition to Critical Decisions, baseline change proposals for Major Systems and other large projects are subject to review and approval by the SAE and/or designated Acquisition Executives. Energy Systems Acquisition Advisory Boards (ESAABs) and program office acquisition advisory boards are required by DOE Order 413.3 to advise the Acquisition Executives on the critical decisions and baseline change control proposals that are presented for disposition.

2.0 PURPOSE

This document specifies the procedures that shall be followed by Headquarters NNSA Program Offices with regard to the Secretarial ESAAB and NNSA ESAAB Equivalent processes. NNSA Site Offices will develop and implement procedures that will govern Field ESAAB Equivalent processes. These procedures are consistent with the requirements contained in DOE Order 413.3, and supporting expectations described in more detail in DOE M 413.3-1.

3.0 APPLICABILITY

The ESAAB Equivalent Board advises the designated NNSA acquisition executive on Critical Decisions (CDs) for all NNSA projects not designated as Major Systems, and Level 1 Baseline Change Proposals (BCPs) that the ESAAB Secretariat and HQ Program Office agree need review. Projects exempted from the NNSA HQ ESAAB Equivalent Process are General Plant Projects and Capital Equipment Projects, less than $5 Million. Responsibility for these projects is delegated to the respective Site Office Manager. The Site Office Managers are expected to apply DOE M 413.3-1 to their projects on a graded approach. The Acquisition Executive (AE) for the ESAAB Equivalent Board will make the final decision on the action presented before the board based upon the input from the board members. The board members act as subject matter experts in the evaluation of the project proposal, providing to the AE expert analysis, advice, and recommendations with respect to the implications of the CD or BCP being discussed.

In addition, for all decisions on NNSA Major System projects, the NNSA ESAAB Equivalent Board shall review all proposals prior to submitting them to the Departmental (Secretarial) ESAAB process. For those Major Systems projects that have an existing Level 1 Baseline Change Board, the ESAAB Equivalent process will utilize those boards for the review, supplemented with other disciplines from an NNSA ESAAB Equivalent Board (i.e. Nuclear Safety, General Counsel, Procurement, etc.), to meet DOE Order 413.3 and DOE Manual 413.3-1 requirements. Additionally to minimize the review burden on the project, the ESAAB members support staff will be asked to participate in a combination ESAAB Readiness Assessment/ESAAB Equivalent review meeting. The ESAAB Equivalent Board members will advise the Deputy/Associate Administrators to the suitability of the proposed decision or baseline change being sent forward to the Departmental ESAAB.

To enable the Secretary of Energy, NNSA Administrator, and Deputy Administrator for Naval Reactors to fulfill the functions assigned in Executive Order 12344, as set forth in Public Law (P.L.) 98-525, the

Department of Energy National Security and Military Applications of Nuclear Energy Authorization Act of 1985, and P.L. 106-65, the National Nuclear Security Administration Act, and consistent with DOE Order 413.3 and BOP-50.001, and as set forth in NNSA memorandum of 14 February 2001 and Deputy Secretary memorandum of 20 December 2000, Naval Reactors will establish an ESAAB, chaired by the Director, Naval Reactors to comprehensively evaluate projects between $5M and $400M (non-Major System Projects) and ensure compliance with NR/NNSA/DOE objectives and requirements. Naval Reactors will coordinate with and keep appropriate offices informed.

4.0 GOALS AND OBJECTIVES

The concept of using ESAABs at critical decision points in Federal projects was developed from the Office of Management and Budget Circular No. A-109. The goals and objectives of this procedure accordingly reflect those of A-109:

- To assure that the NNSA acquisition process reflects an integrated approach to matching program requirements with the project development and execution process.
    - Each acquisition fulfills a mission need and can achieve adequate levels of performance and reliability in its intended operating environment.
    - Planning is built upon this mission need.
    - Projects are consistent with the Site Utilization Plan and the Ten-Year Site Plan
    - Competitive design concepts are evaluated, whenever economically beneficial.
    - Appropriate trade-offs are made between investment costs, ownership costs, schedule and performance.
    - A project specific acquisition strategy is developed for each acquisition as soon as it is decided to solicit alternative design concepts.
    - Adequate system tests and evaluations are conducted.
    - Performance is assessed against project baselines and these assessments are provided to the agency head at critical decision points.
- To provide appropriate acquisition executive oversight to the NNSA acquisition process for construction projects greater than $5 million.
- To ensure effective integration of safety and project management practices including the identification and resolution of safety issues as early in the decision process as is practicable.
- To ensure line management involvement and accountability for project performance.
- To demonstrate NNSA commitment to improving the acquisition process to Departmental and Congressional elements.

The ESAAB and ESAAB Equivalent processes also provide a vehicle by which senior management can reinforce Departmental policy, make necessary course corrections, and verify that all organizational elements are working towards the same goal. For nuclear projects it is critically important that the process and expectations related to safety basis documentation, developed to comply with 10 CFR Part 830 requirements, support the CD process. As such, this procedure establishes expectations related to specific safety basis information and documentation for nuclear related projects, including:

- Ensure that safety analysis is performed at the earliest practical point in the project lifecycle so that required attributes of facility structures, systems, and components can be specified in design documents.
- Ensure integration of safety basis developed and project management activities in an incremental and iterative manner over the project lifecycle.
- Encourage integration of design and safety basis activities through use of a systems engineering approach tailored to the specific needs and requirements of each project.
- Ensure that nuclear facilities incorporate the concept of defense-in-depth into the facility design process.

It is understood that these goals and objectives will be attained through intelligent cooperation between the NNSA offices responsible for programs, projects, and oversight. Where necessary, the ESAAB Equivalent process will be adjusted by NA-54 to adapt to project unique requirements, as well as meet the need for informed, formal decisions

5.0 ROLES AND RESPONSIBILITIES

ESAAB Equivalent Board Participant's Functions

Acquisition Executive – Board Chair

- Preside over ESAAB Equivalent Board meetings.
- Make decisions on disposition of all requested CDs and BCPs.
- Assign action items that may result from meeting discussions.
- Assure that: 1) board members and project team members fulfill their ESAAB Equivalent process responsibilities; 2) that they have taken the appropriate measures to ensure the project is meeting the programmatic, safety, environmental, security, legal, procurement, and departmental requirements; and 3) assure that those requirements have been integrated into the design and execution of the project.
- Review Corrective Action Plan (CAP) reports on assigned project action items.

Designated AE - The Deputy Administrator for Defense Programs (DADP), NA-10, the Deputy Administrator for Nuclear Nonproliferation (DANN), NA-20, Deputy Administrator for Naval Reactors, (DANR), NA-30, or the Associate Administrator for Infrastructure and Environment, NA-50, will act as the Acquisition Executive (AE) for their respective headquarters ESAAB Equivalent Boards, as delegated by NA-1.

For projects less than $100 million that are not designated Major Systems, the Deputy/Associate Administrator may delegate AE responsibility to the appropriate program Assistant Deputy Administrator (ADA) or Site Office Manager. This delegation will be made on a case-by-case basis in accordance with the DOE M 413.3. For the current list of projects that have been delegated, please refer to the NA-54 website,

ADA - Assistant Deputy Administrator (ADA) can act as AE for those projects delegated by the Deputy/Associate Administrator. If the ADA is designated as the AE, the standing ESAAB Equivalent Board members will be used for the meeting.

Site Office Manager - the Site Office Manager can act as AE for those projects delegated by the NNSA HQ Programs, with the agreement of the Deputy Administrator for Defense Programs, NA-10. If so delegated, the Site Office must set up an 'ESAAB Equivalent type' Board to review decisions that are presented to the Site Manager. It is expected that the site board would follow with the principles of DOE Order 413.3, with board membership and processes tailored to the site and the nature of the projects. Board membership and procedures must be validated by NA-54. Copies of the meeting minutes, and decisions rendered must be supplied to the respective program office and NA-54 for historical purposes.

NNSA Chief of Defense Nuclear Safety

- For nuclear related projects, validate that the federal personnel assigned to the Integrated Project Teams are appropriately qualified and that the level of effort expected from them is appropriate. This validation of the IPT members will occur at or before CD-1.
- Required board member for nuclear projects, providing specific advice to the AE regarding the effectiveness of efforts to integrate safety into design

NNSA Chief Defense Nuclear Security

- For projects with significant security aspects, validate that the federal personnel assigned to the Integrated Project Teams are appropriately qualified and that the level of effort expected from them is appropriate.
- Required board member for projects with significant security aspect, providing specific advice to the AE regarding the effectiveness of efforts to integrate security into design.

Board Members -

- Fully evaluate the project for compliance with the requirements in the member's area of expertise (programmatic, safety, environmental, security, legal, procurement, and Departmental requirements)
- Provide assurance that those requirements have been integrated into the design and execution of the project
- Provide timely review of project materials.
- Prepare directed questions/comments on specific project items that need resolution to the Integrated Project Team (IPT), coordinating with the NNSA program office and the ESAAB Equivalent Secretariat (NA-54)
- Work to resolve issues with IPT.
- Attend all ESAAB Equivalent Board meetings or provide an alternate.
- Provide recommendation of disposition to the Board Chairperson.

NNSA ESAAB Equivalent Board members will act as subject matter experts in the evaluation of the proposed CD or BCP, to 1) assure that NNSA and DOE requirements are met and common construction/business practices are followed; and 2) provide effective recommendations and advice to the board chairperson (i.e. the Acquisition Executive). For nuclear related projects, the NNSA Chief of Defense Nuclear Safety will be included as a Board member providing specific advice to the AE regarding the effectiveness of efforts to integrate safety into design.

Program Office -

- Works with the Federal Project Director and the Integrated Project Team to assure that the project is in compliance with programmatic, safety, environmental, security, legal, procurement, and departmental requirements
- Works with the Federal Project Director and the Integrated Project Team to assure that those requirements have been integrated into the design and execution of the project
- Concurs in submittal of Level BCPs to ESAAB for disposition to acquisition executive
- Works with Federal Project Director to prepare project and materials for presentation to board.
- Coordinates with Federal Project Director and ESAAB Equivalent Secretariat to schedule meetings.
- Works with Federal Project Director to answer inquiries/resolve issues with board members.
- Prepares Decision Memorandum for Acquisition Executive signature.
- Coordinates Decision Memorandum with NA-54 to capture action items and/or issues resulting from the review.
- When Federal Project Director not available, presents proposed Critical Decision or Baseline Change Proposal to board.

The program office, as part of the Integrated Project Team, coordinates with the Federal Project Director and ESAAB Equivalent Secretariat to manage the project through the ESAAB Equivalent process.

Federal Project Director -

- Works with the Integrated Project Team and Program Office to assure that the project is in compliance with programmatic, safety, environmental, security, legal, procurement, and departmental requirements
- Works with the Integrated Project Team and Program Office to assure that those requirements have been integrated into the design and execution of the project
- Obtains Program Office concurrence on submittal of Level 0 BCPs for disposition
- Coordinates preparation of project documents supporting the decision process.
- Coordinates with Program Office and ESAAB Equivalent Board Secretariat to schedule board meeting.
- Prepares ESAAB Equivalent Board presentation.
- Presents proposed change to Board.
- Works with Program Office and Integrated Project Team to respond to ESAAB Equivalent Board questions/requests and resolves issues.

The Federal Project Director, as part of the Integrated Project Team, will prepare the project decision packages, coordinate project responses to board members comments/questions, and present the information to the AE and the board for consideration.

ESAAB Equivalent Secretariat –

- Coordinates ESAAB Equivalent Board schedules for the AEs.
- Coordinates NNSA ESAAB and ESAAB Equivalent Board schedules with OECM.
- Offers improvements/suggestions on project planning and process to the AE, Program Office, and Integrated Project Team (IPT).
- Provides written comments on significant project issues to the AE, Program Office, and Integrated Project Team (IPT).
- Advises AE on the technical and management significance of issues identified from ESAAB and Quarterly reviews.
- Provides science-based recommendations on the root cause of issues and how they can be resolved.
- Provides expert technical reviews and comments on the planning and execution of construction projects for headquarters and field elements.
- Develops lines of inquiry for use at the ESAAB Equivalent meeting.
- Records minutes and action items resulting from the AE reviews.
- Coordinates decision memorandum process so: 1) decisions are appropriately documented; 2) action items/issues are captured and included in the decision memorandum package; and 3) the memorandum is properly distributed to the project managers, board members and involved program offices.
- Maintains database/library of HQ ESAAB Equivalent Board meetings and actions
- Works with Federal Project Director, Program Office, and ESAAB Equivalent members to facilitate review process, arranges meetings, and tracks issues to resolution.
- Works with all parties to improve the ESAAB Equivalent Board process.
- Monitors/validates procedures and processes from Site Offices ESAAB Equivalent boards.

The secretariat will coordinate the meetings, participate in the ESAAB Equivalent process, advise the acquisition executive on the issues of the project, and assist the Acquisition Executive in disseminating information to and from the meeting.

6.0 BOARD MEMBERSHIP AREAS OF EXPERTISE REQUIREMENTS

The following table shows the areas of expertise that must be reflected in the membership for the NNSA ESAAB Equivalent Board that will review and/or approve Critical Decisions and Baseline Change Proposals for all NNSA line item projects. These areas of expertise are requirements as outlined in the DOE M 413.3 – Project Management for the Acquisition of Capital Assets. Each area of expertise must have a designated principal board member and a designated alternate. Line item projects below $100 million that have been delegated to Site Office Managers will be reviewed by a similarly constituted Site Office level ESAAB Equivalent Board. (The NNSA Board membership is listed in attachments).

Role/Area of Expertise	Principal Board Member	Alternate Board Members
Chair		
Nuclear Safety		
Legal		
Budget		
Environmental		
Safety & Health (incl. Integrated Safety Mgt.)		
Security		
Procurement		
Project Management		
Specialized support as required		
Other support as required		

ESAAB Equivalent Secretariat

NA-54		
OECM Participants (when required)		

7.0 ESAAB EQUIVALENT PROCESS

7.1 Scheduling

The Federal Project Director with the concurrence of the NNSA headquarters Program Office will request an ESAAB Equivalent Board meeting for approval of a Critical Decision (CD) or Baseline Change Proposal (BCP). This ESAAB Equivalent Board request will follow the format in Attachment 2 and be forwarded to the ESAAB Equivalent Secretariat (NA-54), who will begin the scheduling process with the program office and Federal Project Director.

Once a request is received, the Secretariat will coordinate with the AE, OECM, and board members for the ESAAB Equivalent meeting and notify the Federal Project Director and Program Office of the specific date.

(The Secretariat will maintain an ESAAB Equivalent schedule on the NA-54 website, that will be updated with the latest available information.)

7.2 Review and Comment Resolution

- The major facet of the NNSA ESAAB Equivalent process is the review and comment resolution phase. In this phase the ESAAB Equivalent members evaluate the project request and formulate their comments, issues, and recommendations. The goals of this phase are: 1) to assure that the project is in compliance with programmatic, safety, environmental, security, legal, procurement, and departmental requirements; 2) to assure that those requirements have been integrated into the design and execution of the project and 3) to resolve all comments and issues prior to the formal ESAAB Equivalent meeting with the Acquisition Executive.

a. Federal Project Directors, in cooperation with the advocate Program Office will supply appropriate project documents and materials to the board members approximately **one month** in advance of the board meeting. The materials provided will be the requested action documents (i.e. CD request or BCP), results from any external and/or internal reviews since the last ESAAB Equivalent meeting, Corrective Action Plans, and other materials that support the proposed decision or BCP. Attachment 3 contains listings of required documents and comprehensive outlines of suggested topics/lines of inquiry for each Critical Decision. For nuclear projects, Attachment 3 establishes expectations to ensure that nuclear safety is properly integrated into design for each of the CD stages.

b. The board members and the Secretariat will examine the project through the provided materials and provide directed questions/comments to the Federal Project Director and Program Office. Board members evaluations should identify project inadequacies, emphasizing in the comments:

- Areas where the project is not in compliance with programmatic, safety, environmental, security, legal, procurement, and departmental requirements or where requirements have not been addressed
- Areas where the project has not demonstrated that the requirements have been integrated into the design and execution of the project
- Those items to be corrected that are proven to ensure probability of project success.
- If the board member decides that the project is not adequately prepared, could the project proceed with additional requirements
- Document reasons for any critical comment and provide the cost implications of instituting the board member's recommendation that addresses comments.

c. A telephone conference call or tele-video conference review meeting will be held with the Federal Project Director, the other IPT members in the field, Program Office, Board staff, and the Secretariat, to review the project, discuss the comments/questions of the board members and set a schedule for resolving the outstanding issues/requirements.

d. For NNSA projects that are requesting a decision from the Secretarial ESAAB, the board members of the ESAAB will be invited to participate in a combined NNSA ESAAB Equivalent/ESAAB staff meeting. As above, this meeting will be to discuss the comments/questions of the board staff and work on a schedule for resolving outstanding issues/requirements. This meeting will take the place of a separate ESAAB staff briefing on the project.

e. After the review meeting, the Federal Project Director and Program Office will work with the board members and their staffs to answer inquiries and resolve issues prior to the formal ESAAB Equivalent Board meeting. If necessary, additional telephone and/or tele-video conferences can be held to resolve outstanding comments/issues.

f. The Secretariat will participate as an advisor to the AE, summarize results of the review and comment process, and will; 1) offer improvements/suggestions on project planning and process; 2) provide written comments on significant project issues; and 3) provide lines of inquiry for use at the ESAAB Equivalent meetings and quarterly reviews; to the acquisition executive, program office and IPT.

7.3 Pre-Briefings

The purpose of the pre-brief is to have a final 'run through' with the Deputy/Associate Administrator, ADAs, and/or staff, to present the project status and issues, and obtain feedback on the presentation prior to proceeding with the scheduled Secretarial ESAAB Board meeting. For nuclear projects, if there are any outstanding issues related to integration of safety into design, these will be summarized. For projects with significant security aspects, any outstanding issues related to integrating security into design, these will be summarized.

For Major Systems projects that have CD or BCP actions submitted to the Secretarial ESAAB board, a Pre-Brief with the Deputy/Associate Administrator will be held, at their discretion, at least 2-3 days prior to the ESAAB meeting. A separate Pre-Brief with NA-1 will also be scheduled 2-3 days prior to the meeting. Pre-brief presentation materials must be provided to the Secretariat 3 days prior to the pre-brief for distribution to board members.

7.4 ESAAB Equivalent Board Meetings

a. After the review and comment phase has been completed, the Federal Project Director and Program Office will confirm their intent to continue with the ESAAB Equivalent meeting with the Secretariat. The Secretariat will make final meeting preparations, distribute the project presentation to the board members, and coordinate the preparation of a decision memorandum.

b. The decision memorandum, see Attachment 2 for example, will be prepared by the Federal Project Director and Program Office prior to the meeting and provided to the Secretariat for use at the ESAAB Equivalent meeting. This memorandum will: 1) describe the decision requested; 2) capture action items and/or issues resulting from the ESAAB Equivalent review; 3) document assurances to the AE that the project have addressed the programmatic, safety, environmental, security, legal, procurement, and departmental requirements; 4) document assurances to the AE that the project has appropriately integrated those requirements into the design and execution of the project; and 5) incorporate approval and disapproval spaces for use by the AE and board members endorsements. The Secretariat will work with the Program Office to ensure decision memorandum package is complete and obtain board member concurrences prior to the final meeting.

c. At the formal meeting, the Federal Project Director (and/or a Program Office member) will present the project before the ESAAB Equivalent Board. The presentation should be brief and emphasize programmatic issues; basic overview of the project; actions taken to assure that the project have addressed programmatic, safety, environmental, security, legal, procurement, and departmental requirements; actions taken to assure that the requirements have been appropriately integrated into the design and execution of the project; comment/issue resolution; and the decision that is being requested of the AE. (See Attachment 4 for outline of ESAAB Equivalent presentation.) Any unresolved issue that requires action by the AE should be presented at this time.

d. At the conclusion of the presentation, the Decision memo will be offered to the acquisition executive for signature. The Decision memo will incorporate approval or disapproval, and action items and/or issues that result from the ESAAB Equivalent review, as appropriate. Signed copies of the Decision memo will be provided to the Federal Project Director, program office, ESAAB Equivalent Board members and involved offices within a week of signatures.

   Significant changes to the Decision memo, if required, will be made by the Program Office and IPT, and offered to the acquisition executive for signature within one week of the ESAAB Equivalent Board meeting.

   For Major Systems projects, the Office of Engineering and Construction Management, ME-80, will prepare the decision memorandum for the Under Secretary's (S-2) signature. NNSA Program Office, Project Team, and Secretariat will be asked for input in the drafting of the memorandum.

e. The proceedings of the meeting will be mechanically recorded by the Secretariat. Transcripts of the action items identified will be distributed to Federal Project Director, Program Office, board members and interested offices, within two weeks of the meeting.

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

ATTACHMENT 1 - ESAAB EQUIVALENT BOARD MEMBERSHIPS

NNSA ESAAB Equivalent Board Membership

Role/Area of Inquiry	Principal Board Member	Alternate Board Members
Chair	Deputy/Associate Administrator	Principal Assistant Deputy/Associate Administrator for Operations
Nuclear Safety	Jim McConnell, NA-2.1	P. Cahalane, NA-2.1 D. Minnema, NA-2.1
Legal	Dave Jonas, NA-3.1	R. P. Detwiler, NA-3.1 C. Pak, NA-3.1
Budget	Kate Foley, Director, Office of Planning, Programming, Budgeting, and Evaluation (PPBE), NA-62	E. Stewart, NA-62 D. Gezelle, NA-62
Environmental	Frank Russo, NA-3.6	J. Ordaz, NA-3.6
Safety & Health (incl. Integrated Safety Mgt.)	Frank Russo, NA-3.6	T. Wyka, NA-3.6
Security	Bill Desmond, NA-70	A. Starnes, NA-70, C. Stone, NA-70
Procurement	Keith Landolt, NA-63 Ed Simpson, ME-62	G. Lyttek, NA-63
Project Management	Thad Konopnicki, NA-54	M. Hickman, NA-54 D. Oliff, NA-54
Specialized support as required	Project-specific technology support: R&D subject matter experts Program specialists ES&H subject matter experts	
Other support as required	Office of Diversity Public Affairs Congressional Affairs	

ESAAB Equivalent Secretariat

NA-54	Thad Konopnicki, Director Office of Project Management Support, NA-54	Dale Oliff, NA-54
OECM Participants (when required)	Mike Donnelly, MA-50	Sheri Bone, MA-50

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ATTACHMENT 2 – CRITICAL DECISION REQUEST AND APPROVAL MEMORANDUM EXAMPLES

REQUEST FOR
NNSA ENERGY SYSTEMS ACQUISITION ADVISORY BOARD (ESAAB)
EQUIVALENT REVIEW

Name of Project _____

Project Location _____

Project Number **Major System?** ☐ Yes ☐ No

Acquisition Executive _____

Type of Review:

- ☐ Critical Decision 0
- ☐ Critical Decision 1
- ☐ Critical Decision 2
- ☐ Critical Decision 3
- ☐ Critical Decision 4
- ☐ Baseline Change Proposal, Level
- ☐ Other:

	Name	E-Mail	Org
NNSA Project Director:			
Contractor Project Manager:			
HQ Program Manager(s):			

An NNSA Pre-ESAAB Equivalent Review is Requested on or between these dates: _____

A full NNSA ESAAB Equivalent Review is Requested on or between these dates: _____

ADDITIONAL ATTENDEES

If your office would like to have the electronic meeting notice for this meeting sent to individuals in addition to the names provided on this form, include those names and e-mail addresses here:

NAME	E-MAIL ADDRESS	ORG

The supporting documentation will be available for the ESAAB Equivalent Board members' review on the Shared Files on the Extranet NA-54 Web site (https://extranet.nnsa.doe.gov/) at least one month prior to the ESAAB Equivalent scheduled meeting date*:

1. I acknowledge and accept the above requirement:	**Project Director**	**Date**	**Phone #**
2. Approved for scheduling:	**Program Office Requesting/Certifying Official**	**Date**	**Phone #**
3. Fax or e-mail to NA-54 for scheduling:	Fax #: 301-903-2544 (To confirm: 301-903-3557) ATTN: Dale Oliff/Jane Gartner/Ginnie Barazotto, NA-54		
	E-mail: 1) Save the file; 2) from the Menu bar click on FILE/SEND TO/MAIL RECIPIENT - as Attachment.		

Required Review Materials

CD-0 Approve Mission Need

1. Mission Need Statement
2. Tailoring Strategy
3. Program Requirements Document
4. Results from Mission Validation Independent Review (if required), and any external and/or internal reviews including Corrective Action Plans
5. Presentation

CD-1 Approve Alternative Selection and Cost Range

1. Conceptual Design Report
2. Cost Estimate, including documentation on the basis and assumptions
3. Acquisition Strategy
4. One-for-One Replacement documentation
5. Preliminary Project Execution Plan
6. Integrated Project Team
7. Design Review Results, including Technical Independent Project Review (when required)
8. Preliminary Project Data Sheet
9. NEPA strategy and analysis documents
10. High Performance Sustainable Building documentation
11. Preliminary Security Vulnerability Assessment Report
12. Conceptual Safety Design Report (when required)
13. Preliminary Hazard Analysis Report (when required)
14. Safety Evaluation Report (when required)
15. Quality Assurance Program documentation
16. Presentation

CD-2 Approve Performance Baseline

1. Project Execution Plan
2. Performance Baseline (i.e., scope, cost, schedule, risk mitigation, etc.)
3. Cost Estimate, including documentation on the basis and assumptions
4. Performance Baseline Validation Review results including Corrective Action Plans
5. Performance Baseline Validation Letter
6. Independent Cost Estimate or Independent Cost Review (when required)
7. Quality Assurance Program documentation
8. Updated Project Data Sheet
9. Design Review results
10. Preliminary Safety Design Report (when required)
11. Approved Hazard Analysis Report
12. Updated Security Vulnerability Assessment Report
13. Safety Evaluation Report (when required)
14. Evidence of incorporating Sustainable Environmental Stewardship – High Performance Sustainable Building provisions
15. Final NEPA documentation
16. Presentation

CD-3 Approve Start of Construction

1. Design Review results from final design review
2. Approved Preliminary Safety Analysis Report and DOE Safety Evaluation Report
3. Updated Project Execution Plan and Performance Baseline
4. Results from an Execution Readiness External Independent Review for Major Systems
5. Preliminary Documented Safety Analysis Report (when required)
6. Updated Hazards Analysis Report
7. Updated Security Vulnerability Assessment Report
8. Safety Evaluation Report
9. Approved Construction Project safety and Health Plan

10. Evidence of incorporating Sustainable Environmental Stewardship – High Performance Sustainable Building provisions
11. Updated Quality Assurance Program
12. Project Data Sheet
13. Presentation

CD-4 Approve Start of Operations or Project Closeout

1. Verification of Key Performance Parameters or Project Completion Criteria
2. Completed Operational Readiness Review or Readiness Assessment
3. Checkout, Testing and Commissioning Plan
4. Project Transition to Operations Plan
5. Updated Quality Assurance Plan
6. Revised environmental management system
7. Documented Safety Analysis Report with Technical Safety Requirements (when required)
8. Updated Construction Project safety and Health Plan
9. Approved Final Hazards Analysis Report
10. Final Security Vulnerability Assessment Report
11. Safety Evaluation Report (when required)
12. Presentation

PLEASE NOTE:

- **ESAAB Equivalent Board members expect all review documents will be made available on Shared Files on the NA-54 Extranet website for review at least one month prior to scheduled meetings.**
- **The Project Director agrees to notify Dale.Oliff@nnsa.doe.gov or Jane.Gartner@nnsa.doe.gov if the supporting documentation will not be ready for review one month prior to scheduled meetings.**
- **Board members may reschedule meetings if adequate review time is not provided.**

NA-54 Extranet website is located at: https://extranet.nnsa.doe.gov

DO NOT FAX THIS PAGE

SAMPLE CD-2 MEMORAMDUM

DOE F 1325.8
(08-93)

United States Government Department of Energy

memorandum

DATE:
REPLY TO
ATTN OF: DP-17 (S. Jaghoory, 3-7091)

SUBJECT: Renovating Roadways Project at the Nevada Test Site, Line Item 99-D-108
TO: Assistant Deputy Administrator for Research, Development and Simulation, DP-10

Issue: Approval of the Critical Decision (CD) -2, Start Final Design; a partial CD-3, Start Construction; and a Baseline Change Proposal (BCP) for the subject project.

Background: This line item project is part of the overall revitalization of the Nevada Test Site infrastructure that began in early 1980s. Planning for this project began in early 1990s and it received its first funding in the Fiscal Year (FY) 1999. However, Congress imposed a moratorium on releasing the appropriated funds until the report of the Congressionally mandated External Independent Review (EIR) was submitted to Congress. This report was submitted to Congress in June 1999. However, Congress did not lift the moratorium and cut the FY2000 funding request by more than $2 million. As a result, the Total Estimated Cost (TEC) of the project is now $8.981 million instead of $11.005 million. Because the Department met the intent of the Congressional mandate for the EIR, Defense Programs released the project funds in early January 2000.

Discussion: Prior to the cut in the TEC, the scope of the project included renovating the entire 37 miles of the Mercury Highway and the total reconstruction of the 2.3 mile long Rainier Mesa Road at the Nevada Test. To comply with the reduction in the TEC, Defense Programs proposed to perform a comprehensive survey of the Mercury Highway and renovate only the worst segments of the road. This survey has been completed and based on the available funds only approximately 15.2 miles of the Mercury Highway will be renovated and the 2.3 mile long Rainier Mesa Road reconstructed. In addition, contingency plans have been developed by the project team to increase the scope of the renovation, if Congress reinstated the cut in the TEC in FY2001.

The Title I design has been completed by Bechtel Nevada (BN) and appropriate design documents have been submitted for review and comments. These documents have been reviewed by the DP-17 staff and the DOE Federal Project Director. Comments on the

reviewed documents have been submitted to BN for resolution. To proceed with the final design on a timely fashion, the Federal Project Director is requesting the CD-2 approval, prior to the resolution of these comments.

In addition to the CD-2, a partial CD-3 approval is requested to allow BN to proceed with cleaning and reconstructing the drainage ditches prior to commencing the main renovation and reconstruction. Renovating the Mercury Highway and reconstructing the Rainier Mesa Road will be performed by an outside subcontractor, through a firm, fixed contract. BN's activity is scheduled to start soon after the partial CD-3 approval.

A Baseline Change Proposal is also submitted by the Federal Project Director to re-establish the scope, cost, and schedule for the project. Although the FY2001 Construction Project Data Sheet incorporated the changes in the cost, schedule, and scope of the project, these changes were not formally approved by the Acquisition Executive.

Member of Defense Programs Energy Systems ESAAB EQUIVALENT-Equivalent have reviewed the Title I design documents and the BCP and recommended their approval. As a result, I request that you approve the CD-2 and CD-3 requests and BCP to allow the project to proceed to the next phase.

Recommendation: That you sign the attached memorandum to the Manager, Department of Energy Nevada Operations Office.

Dennis Miotla
Director, Office of Facilities Management and
ES&H Support
Defense Programs

Attachment

DOE F 1325.8
(08-93)

United States Government Department of Energy

memorandum

DATE:
REPLY TO
ATTN OF: DP-17 (S. Jaghoory, 3-7091)

SUBJECT: Renovating Roadways Project at the Nevada Test Site, Line Item 99-D-108
TO: Manager, Department of Energy Nevada Operations Office

By this memorandum, I am approving the Critical Decision (CD)-2, Start Final Design; the partial CD-3, Start Construction; and the Baseline Change Proposal for the subject project. These approvals were requested by the DOE Nevada Operations Office (NV) Federal Project Director. My approval is based on the recommendations of members of Defense Programs Energy Systems ESAAB EQUIVALENT-Equivalent.

Successful completion of this project is critical to Defense Programs mission at the Nevada Test Site. As a result, at this time, I will maintain the Acquisition Executive (AE) responsibility for the project. Once I am confident that the project is proceeding within the established baselines, I may delegate the AE responsibility to you.

The DOE NV Federal Project Director has been prompt and diligent in submitting the required monthly progress report for this and other line item projects at the Nevada Test Site. I would like to thank him for his effort and encourage him to continue submitting the monthly reports to keep me and my staff apprised of the status of the projects.

If you have any questions, please contact me at 202-586-7349 or Dennis Miotla at 301-903-5427.

David H. Crandall
Acting Assistant Deputy Administrator for
Research, Development and Simulation
Defense Programs

SAMPLE CD-4 MEMORANDUM

DOE F 1325.8
(08-93)

United States Government Department of Energy

memorandum

DATE:
REPLY TO
ATTN OF: DP-17 (S. Jaghoory, 3-7091)

SUBJECT: Critical Decision-4 for the Water Well Replacement Project, Line Item 96-D-102-010, at the Los Alamos National Laboratory

TO: Acting Deputy Administrator for Defense Programs

Issue: Headquarters approval of Critical Decision (CD-4) is required to start operating the new water wells constructed under the subject line item.

Background: This project was initiated to provide four new 800-gallons per minute (gpm) production wells to replace six existing, marginal or non-producing wells located in the Guaje Well Field. Each new well location included drilling, casing, and development of an approximate 2,000-foot deep well with an associated pump house equipped with lights, heating, and ventilation systems.

Discussion: Construction activities that were included in the baseline scope of this project were successfully completed on time in September 1999 and substantially below the Total Estimated Cost of $16.8 million. At the end of Fiscal Year 1999, the Los Alamos National Laboratory (LANL) returned $2,500,000 of the surplus contingency fund to Defense Programs. Currently, it is estimated that at least $200,000 more could be returned once all cost accounts are closed, which is tentatively scheduled for May 31, 2000.

However, the baseline scope of 800 gpm was not achieved. This output was based on preliminary information and approximate data. However, later hydrological studies conducted by LANL and other experts determined that the total designed amount of 3,200 gpm cannot be sustained over a long period without permanently damaging the aquifer. As a result, the overall output from the four wells is now restricted to approximately 2,200 gpm. This reduction in output is compensated for with higher than expected output from wells in another existing well-field and the return to operation of a non-producing well.

Pre-operational tests have shown that pumps at three of the four new wells are not working as designed. Accordingly, LANL is working with the pump installers and manufacturer to correct the

problem. This issue is being addressed through the normal

warranty agreement at no cost to the Department of Energy.

Water production and distribution, including operation of the new wells, will be transferred to the County of Los Alamos to comply with the 1998 Defense Authorization Act, Public Law 105-85. Final details of the transfer are being worked out between the County, DOE, and LANL.

The Energy System ESAAB EQUIVALENT members have reviewed this package and recommended its approval. This project is not designated as a Major System. As such, a January 3, 2000, memorandum from the Deputy Secretary assigned the responsibility of all critical decisions for non-Major Systems to the Program Secretarial Officers.

Recommendation: That you sign the attached letter to the Manager, Los Alamos Area Office.

David H. Crandall
Acting Assistant Deputy Administrator
for Research, Development, and Simulation
Defense Programs

Attachment

DOE F 1325.8
(08-93)

United States Government Department of Energy

memorandum

DATE:
REPLY TO
ATTN OF: DP-17 (S. Jaghoory, (301) 903-7091)

SUBJECT: Critical Decision-4 for the Water Well Project, Line Item 96-D-102-010, at the Los Alamos National Laboratory

TO: Manager, Los Alamos Area Office

In accordance with the request received from the Los Alamos Area Office, authorization is hereby granted for Critical Decision 4, Transition to Operations, for the Water Wells Replacement project at Los Alamos National Laboratory. This decision is based on recommendations of the Defense Programs Energy Systems ESAAB EQUIVALENT- Equivalent members. I expect the project close-out report to be finalized before the end of May 2000 and an information copy sent for my review and record.

Please convey my congratulations and appreciation to our DOE Project Engineer, Mr. Steve Fong, and the Los Alamos National Laboratory's project staff for a job well done. Their hard work and dedication were instrumental in the successful completion of this important project.

If you have any question, please contact me or have your staff contact Mr. Dennis Miotla at (301) 903-5427.

THOMAS F. GIOCONDA
Brigadier General, USAF
Acting Deputy Administrator
for Defense Programs

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

ATTACHMENT 3 - CRITICAL DECISION INFORMATION OUTLINES

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

ATTACHMENT 3 - CRITICAL DECISION INFORMATION OUTLINES

CRITICAL DECISION 0 (CD-0) - APPROVE MISSION NEED

A. Required Information:

The following is the List of Critical Decision Prerequisites from the DOE Order 413.3 and DOE Manual 413.3-1.

Mission Need Statement
Tailoring Strategy
Program Requirements Document
Results from Mission Validation Independent Review (if required), and any external and/or internal reviews including Corrective Action Plans
Presentation

B. Suggested Project Preparation Topics for Critical Decisions

The following list provides a general outline for construction scope, cost, schedule, management, and other project related topics that a project requesting CD-0, Approve Mission Need, typically will have investigated prior to the decision. As part of the project development process, field and IPT members document results from the investigation of these topics. The depth and breadth of the effort in addressing these project development topics would be scaled, based upon the cost, complexity, and risks of the project. For example, not all projects will be required to follow the formal Safety Analysis Report process, but all projects should perform a hazards analysis.

For nuclear related projects, to ensure that nuclear safety is appropriately integrated into design, those nuclear safety related expectations that should be considered as mandatory are identified in **bold.**

This list is offered as an aid in preparing for a CD-0. DOE project lessons learned and Project Management studies have shown that "projects fail not because they planned to fail, but because they have failed to plan. The listing is an attempt to capture the important issues/topics that typically have caused NNSA projects problems in the past.

Note: The following lists of topics will be merged with the list of recommended review topics/lines of inquiry in the Independent Project Review Plan.

Statement of Mission Need
- define specific need of program
- relate need to DOE and NNSA strategic Plans
- identify how project functions support mission
- mission need date for project
- impact of not meeting mission need date
- impact of Critical Decision 0 delay
- identification and support of mission advocate

Brief Description

location (site selection decision required?)
purpose & function
features
long term goals

Minimum Technical/Functional Requirements
Technical performance objectives and interfaces
feasibility of meeting objectives
R&D required – How funded? R&D plan costs, program support/schedule of deliverables for design
availability of special systems/equipment
integration with other project activities
quality assurance planning
demonstrate linkage between requirements and mission
Facility Design Description complete?
Systems Engineering Planning

Safety, including **Nuclear Safety**
define safety objectives and constraints
Initial estimated facility hazard categorization based on a project radiological inventory
Preliminary evaluation on whether safety SSCs will be needed and the steps to be taken during the definition phase (conceptual design) to establish facility level safety system classification
integrated safety management strategy/process flow diagram

Acquisition Strategy
acquisition decision process
acquisition alternatives being considered (i.e. Design-Bid-Build, Design-Build, Lease Back)
factors for determining decision
strategy to obtain and use Preliminary Engineering and Design (PED) funding /incremental funding or other funding profiles
survey of public and private sector to determine current state-of-the-art project delivery systems and selection of benchmarks of similar projects in DOE and private industry/lessons learned
make-buy decision process
define and evaluate feasibility of alternatives of facility/system being proposed
Tri-lab agreement placement/site priority

Resource Capability
ID capabilities required
capabilities of site personnel in these technologies to support project
strategy to obtain necessary project capabilities

Risks
preliminary risk assessment
basis for risk assessment
mitigation strategies

Preliminary Security Planning
planned Security Assessments vulnerabilities
compliance with Design Basis Threat Policy
functional requirements for security defined
preliminary security determination from review of Site Safeguards & Security Plan
plan for addressing security in design

Preliminary Environmental Strategy
- expected NEPA strategy
- pollution prevention issues
- waste minimization issues
- other expected environmental issues
- local outreach strategy
- Sustainable Design strategies

Proposed Cost and Schedule
- fiscal year funding start
- expected design duration
- expected construction duration
- critical milestones
- cost range for project TEC & TPC
- preliminary funding profile
- mortgage analysis (capital and operating) – does this reasonably fit in NNSA budget out years?
- facility operating costs – can NNSA budget support operating costs?
- preliminary CD1 & CD2 Request dates versus budget cycle milestones

Preliminary Legal Strategy
- preliminary determination on make-buy decisions
- preliminary review of local agreements
- preliminary NEPA and permitting strategy

Organizational Interfaces

Involvement of related agencies
- Strategy for developing internal agency agreements
- State and regulatory agency agreements
- Strategy for cooperation/collaboration with agencies

Conceptual Planning/acquisition
- cost
- Congressional notification/approval required (CDR cost > $3M)
- schedule/duration
- budget planning requirements
- who will do CDR
- how will it be acquired/accomplished
- additional R&D and/or planning required prior to CD-1
- option to be developed
- total operating (OPEX) prior to Title I start
- Source of conceptual phase funding.

Project Management (Federal Acquisition Team)
- members - organized, charter – roles & responsibilities of each
- program manager - names
- project manager/COTR relationship
- safety
- environmental and health
- legal
- contracts
- public outreach
- maintenance and operations
- contracting officer

copy of proposed Project Manager resume and history

Project inclusion in M&O performance award?

Identify all assumptions

Identify similar successful and unsuccessful
project on site and other sites for future
bench marking and lesson learned identification

CRITICAL DECISION 1 (CD-1) - APPROVE PRELIMINARY BASELINE RANGE

A. Required Information:

The following is the List of Critical Decision Prerequisites from the DOE Order 413.3 and DOE Manual DOE 413.3-1. This list is subject to change and will be updated when there are changes to the Order:

Conceptual Design Report
Cost Estimate, including documentation on the basis and assumptions
Acquisition Strategy
One-for-One Replacement documentation
Preliminary Project Execution Plan
Integrated Project Team
Design Review Results,
including Technical Independent Project Review (when required)
Preliminary Project Data Sheet
NEPA strategy and analysis documents
High Performance Sustainable Building documentation
Preliminary Security Vulnerability Assessment Report
Conceptual Safety Design Report (when required)
Preliminary Hazard Analysis Report (when required)
Safety Evaluation Report (when required)
Quality Assurance Program documentation
Presentation

B. Suggested Project Preparation Topics for Critical Decisions

The following list provides a general outline for construction scope, cost, schedule, management, and other project related topics that a project requesting CD-1, Approve Preliminary Baseline Range, typically will have investigated prior to the decision. As part of the project development process, field and IPT members document results from the investigation of these topics. The depth and breadth of the effort in addressing these project development topics would be scaled, based upon the cost, complexity, and risks of the project. For example, not all projects will be required to follow the formal Safety Analysis Report process, but all projects should perform a hazards analysis.

For nuclear related projects, to ensure that nuclear safety is appropriately integrated into design, those nuclear safety related expectations that should be considered as mandatory are identified in **bold.**

This list is offered as an aid in preparing for a CD-1. DOE project lessons learned and Project Management studies have shown that "projects fail not because they planned to fail, but because they have failed to plan". The listing is an attempt to capture the important issues/topics that typically have caused NNSA projects problems in the past.

Note: The following lists of topics will be merged with the list of recommended review topics/lines of inquiry in the Independent Project Review Plan.

Statement of Mission Need - Validation of currency
- define specific need of program
- relate need to DOE and NNSA strategic Plans
- identify how project functions specifically support mission
- mission need date for project

impact of not meeting date

Brief Description
- location (site selection decision approved?)
- purpose & function
- features
- long term goals
- plan to overcome past site project development/execution problems?

Technical/Functional Requirements
- treatment of technical performance objectives and interfaces in conceptual design
- If nuclear facility, reviewed and selected appropriate NRC standards?
- feasibility of meeting objectives
- R&D funding in place, integrated in project schedules/completed ID deliverables for design
- availability of special systems/equipment
- reliability of systems as relates to facility usability
- review of design components that would effect future decommissioning
- integration with other project activities
- Title I design control strategies
- configuration management plan and implementation process
- Plan for incorporation of lessons learned from similar projects
- Implementation of Quality Assurance (QA) Plan
- compare to 6% design benchmark used by DOD
- impact of Critical Decision delay
- compare to GSA Administration space guidance

Safety, including **Nuclear Safety**
- ID facility processes
- **Preliminary Hazards Analysis including Hazard Category II nuclear facilities preliminary design basis accidents**
- **hazard categorization**
- **Initial selection of facility level safety class and safety significant systems**
- **Identification of initial safety functions**
- **Identification of design criteria for safety related SSCs**
- facility design descriptions
- system design descriptions
- **steps to be taken during the execution phase to develop a draft preliminary documented safety analysis to support approval of the performance baseline**
- Facility Siting Determination
- Hazardous-material Inventory and Characterization
- Preliminary Defense in Depth

Acquisition Strategy
- assessment of alternatives - definition and evaluation including life cycle cost
- results of survey to determine current state-of-the-art for project
- results of bench marking of similar projects
- PED funding Execution Plan
- RFQ/RFP/contracting strategy -
- (design-build versus design-bid-build decision analysis vs Construction Management process)
- Preliminary Acquisition Plan

Resource Capability
- Assessment of site/Project and Program team personnel capabilities in project specific technologies

plans to obtain necessary project capabilities

Risks
- risk assessment
- basis for risk assessment
- mitigation strategies
- contingency analysis

Cost and Schedule
- preliminary TEC & TPC
- detailed cost estimate
- funding profile
- mortgage analysis (capital and operating)
- facility operating costs
- fiscal year funding start
- preliminary project schedule including critical path analysis
- project milestones

Project Management
- approved preliminary Project Execution Plan
- project data sheet (CPDS for PED funding to be approved, TEC/TPC Range number)
- assignment of COTR responsibility
- Federal Project Acquisition Team status (part of PEP -changes in personnel that must be approved by AE
  - program manager
  - project manager
  - safety
  - environmental and health
  - legal
  - contracting officer
  - public outreach
  - maintenance
  - operations
- Identify past reviews to date
- Is EIR complete or was a favorable internal non-advocate review complete and EIR scheduled?
- Status of correction action plan items.

Environmental
- preliminary NEPA assessment/status/issues
- permitting requirements
- pollution prevention plans
- waste minimization plans
- other expected environmental issues
- local outreach input/results
- Sustainable Design features per DOE Order 430.2A
- Energy Conservation Report (ECR) submitted per DOE Order 430.2A

Security
- security determination from review of Site Safeguards & Security Plan
- completed security assessments to include vulnerability assessments

Legal
- determination on contracting strategy
- local agreements review results
- preliminary NEPA assessment

permitting requirements

Organizational Interfaces

Involvement of related agencies - schedule integration of stakeholders - DNFSB, NEPA, etc.
State and regulatory agency agreements
cooperation/collaboration agreements with agencies
internal agreements documented and in place.

Report of Lessons Learned & benchmark addressed by IPT
Identify all assumptions

CRITICAL DECISION 2 (CD-2) - APPROVE PERFORMANCE BASELINE

A. Required Information:

The following is the List of Critical Decision Prerequisites from the DOE Order 413.3 and DOE Manual 413.3-1. This list is subject to change and will be updated when there are changes to the Order:

Project Execution Plan
Performance Baseline (i.e., scope, cost, schedule, risk mitigation, etc.)
Cost Estimate, including documentation on the basis and assumptions
Performance Baseline Validation Review results including Corrective Action Plans
Performance Baseline Validation Letter
Independent Cost Estimate or Independent Cost Review (when required)
Quality Assurance Program documentation
Updated Project Data Sheet
Design Review results
Preliminary Safety Design Report (when required)
Approved Hazard Analysis Report
Updated Security Vulnerability Assessment Report
Safety Evaluation Report (when required)
Evidence of incorporating Sustainable Environmental Stewardship – High Performance Sustainable Building provisions
Final NEPA documentation
Presentation

B. Suggested Project Preparation Topics for Critical Decisions

The following list provides a general outline for construction scope, cost, schedule, management, and other project related topics that a project requesting CD-2, Approve Performance Baseline, typically will have investigated prior to the decision. As part of the project development process, field and IPT members document results from the investigation of these topics. The depth and breadth of the effort in addressing these project development topics would be scaled, based upon the cost, complexity, and risks of the project. For example, not all projects will be required to follow the formal Safety Analysis Report process, but all projects should perform a hazards analysis.

For nuclear related projects, to ensure that nuclear safety is appropriately integrated into design, those nuclear safety related expectations that should be considered as mandatory are identified in **bold.**

This list is offered as an aid in preparing for a CD-2. DOE project lessons learned and Project Management studies have shown that "projects fail not because they planned to fail, but because they have failed to plan". The listing is an attempt to capture the important issues/topics that typically have caused NNSA projects problems in the past.

Note: The following lists of topics will be merged with the list of recommended review topics/lines of inquiry in the Independent Project Review Plan.

Statement of Mission Need
- affirm mission need of program
- mission need date for project
- impact of not meeting date
- construction schedule for meeting date

Brief Description
- location
- purpose & function
- features
- long term goals
- System Design Descriptions (SDD)

Technical/Functional Requirements
- results of Title I design review
- If nuclear facility, have NRC standards been appropriately addressed in Title I?
- incorporation of technical performance objectives and interfaces in design
- value engineering results and incorporation of design
- availability of special systems/equipment
- reliability of systems as relates to facility usability
- integration with other project activities
- design control process
- completed design criteria
- confirm lessons learned incorporated into design
- confirm Quality included in design
- value engineering results
- system design descriptions
- decommissioning considerations

Safety, including **Nuclear Safety**
- **Draft Preliminary Documented Safety Analysis (PDSA) (focus on Chapter 1 thru 4) including final facility hazard category, hazard and accident analysis, identification of safety class and safety significant SSCs, and safety SSC functional requirements**
- safety SSC functional requirements
- **Facility Design Description chapter 1 - 3**
- **System Design Description chapter 1 – 3, summarizing design requirements for all safety SSCs.**
- **Fire Hazard Analysis**
- Defense in depth & worker protection design criteria
- Preliminary Technical Safety requirements.
- **steps to be taken during the execution phase to develop a final preliminary documented safety analysis to support approval of the start of construction**

Acquisition Strategy
- Long lead/special equipment procurement strategies/plans/contracts
- RFP/contracting strategy for construction
- updated Acquisition Plan
- RFP approval along with CD-3 request for design build
- Assessment of pre-CD2 performance
- impact of Critical Decision delay

Risks
- risk assessment - update
- basis for risk assessment
- mitigation strategies - update
- contingency analysis - revised

Cost and Schedule
- performance baseline detailed cost estimate, TEC, & TPC
- updated funding profile & mortgage analysis (capital and operating)

facility operating costs analysis
performance baseline project schedule including critical path analysis
project milestones

Project Management
approved updated Project Execution Plan
updated project data sheet
results of External and Non-advocate reviews
results of ICE
Federal Project Acquisition Team (part of PEP)
confirm in place ID any changes - AE approve changes for key positions
program manager
project manager
safety
environmental and health
legal
contracts
public outreach
maintenance
operations
Status of correction action plan items
Identify past reviews to date

Environmental
Final NEPA determination
permitting arrangements
pollution prevention ideas incorporated into design
waste minimization ideas incorporated into design
local outreach input/results
ID waste sites incorporated in design
Sustainable Design strategies executed as planned

Security
security determination from review of Site Safeguards & Security Plan/results of security vulnerability assessments
incorporation of specific security design criteria

Legal
contracting strategy
NEPA determination
permitting arrangements

Organizational Interfaces

Involvement of related agencies - revised schedule for stakeholders interface
State and regulatory agency agreements
cooperation/collaboration agreements with agencies
internal MOUs in place
look at CD 0(zero)/comments
identify all assumptions

CRITICAL DECISION 3 (CD-3) - APPROVE START OF CONSTRUCTION

A. Required Information:

The following is the List of Critical Decision Prerequisites from the DOE Order 413.3 and DOE Manual 413.3-1. This list is subject to change and will be updated when there are changes to the Order:

Design Review results from final design review
Approved Preliminary Safety Analysis Report and DOE Safety Evaluation Report
Updated Project Execution Plan and Performance Baseline
Execution Readiness External Independent Review Results for Major Systems
Preliminary Documented Safety Analysis Report (when required)
Updated Hazards Analysis Report
Updated Security Vulnerability Assessment Report
Safety Evaluation Report
Approved Construction Project safety and Health Plan
Evidence of incorporating Sustainable Environmental Stewardship – High Performance Sustainable Building provisions
Updated Quality Assurance Program
Project Data Sheet
Presentation

B. Suggested Project Preparation Topics for Critical Decisions

The following list provides a general outline for construction scope, cost, schedule, management, and other project related topics that a project requesting CD-3, Approve Start of Construction or Remedial Action, typically will have investigated prior to the decision. As part of the project development process, field and IPT members document results from the investigation of these topics. The depth and breadth of the effort in addressing these project development topics would be scaled, based upon the cost, complexity, and risks of the project. For example, not all projects will be required to follow the formal Safety Analysis Report process, but <u>all</u> projects should perform a hazards analysis.

For nuclear related projects, to ensure that nuclear safety is appropriately integrated into design, those nuclear safety related expectations that should be considered as mandatory are identified in **bold.**

This list is offered as an aid in preparing for a CD-3. DOE project lessons learned and Project Management studies have shown that "projects fail not because they planned to fail, but because they have failed to plan". The listing is an attempt to capture the important issues/topics that typically have caused NNSA projects problems in the past.

Note: The following lists of topics will be merged with the list of recommended review topics/lines of inquiry in the Independent Project Review Plan.

Statement of Mission Need
- affirm mission need of program
- mission need date for project
- construction schedule for meeting date

Brief Description
- location
- purpose & function
- features

long term goals
final design plans

Technical/Functional Requirements
results of Title II design review
incorporation of technical performance objectives and interfaces in design assurance
If nuclear facility, have appropriate NRC standards been incorporated in Title II design?
assurance of compliance with codes and standards/quality assurance review results
systems designs as relates to facility reliability/usability
integration with other project activities
configuration management process operating
confirm quality incorporated in design

Safety
Final Preliminary Documented Safety Analysis (PDSA)
DOE PDSA Safety Evaluation Report
Facility Design Description complete
System Design Description complete
ES&H integration in project execution
safety orders and regulations compliance assured
OSHA Safety plan in place
Final drawings, specifications, and supporting analysis for safety related Structures, Systems, Components
steps to be taken during the construction phase to develop a final documented safety analysis to support approval of the start of operations

Acquisition Strategy
long lead/special equipment procurement status
RFP/contracting strategy for construction - design build combine with CD-2
final Acquisition Plan
U.S. vendor participation/completed all foreign ownership determinations
Assessment of pre-CD#3 performance
Impact of Critical Decision delay

Risks
updated risk assessment
mitigation strategies
contingency status

Cost and Schedule
cost and schedule status of design effort – including earned value analysis
updated performance baseline detailed cost estimate, TEC, & TPC
updated funding profile & mortgage analysis (capital and operating)
facility operating costs
updated performance baseline detailed project schedule (resource-loaded with critical path analysis)
project milestones
project control systems in place and operating
review of CD-2 comments

Project Management
approved final Project Execution Plan
updated project data sheet
project controls, scheduling, configuration management, reporting and change control procedures
project completion plan approved - transition plan and budget

- outyear operating funds included in planning budgets - operation, maintenance, security
- Federal Project Acquisition Team (part of PEP)
  - program manager
  - project manager
  - safety
  - environmental and health
  - legal
  - contracts
  - public outreach
  - maintenance
  - operations
- status of corrective action plan items
- identify past reviews to date

Environmental

- Final NEPA determination approved
- permitting arrangements complete
- pollution prevention ideas incorporated into design
- waste minimization ideas incorporated into design
- local outreach input/results

Security

- security determination from review of Site Safeguards & Security Plan
- incorporation of specific security needs in design
- security plan for construction, to include escorts for construction (if necessary) funded and available
- coordination of construction activities with security organization

Legal

- contracting strategy
- RFP process and contract award - combine with CD-2 for design build
- NEPA determination
- permitting arrangements

Organizational Interfaces

Involvement of related agencies - results of safety stakeholder reviews - DNFSB other

- State and regulatory agency agreements
- cooperation/collaboration agreements with agencies
- internal agreements status
- identify all assumptions

CRITICAL DECISION 4 (CD-4) - APPROVE START OF OPERATIONS OR PROJECT CLOSEOUT

A. Required Information:

The following is the List of Critical Decision Prerequisites from the DOE Order 413.3 and DOE Manual 413.3-1. This list is subject to change and will be updated when there are changes to the Order:

Verification of Key Performance Parameters or Project Completion Criteria
Completed Operational Readiness Review or Readiness Assessment
Checkout, Testing and Commissioning Plan
Project Transition to Operations Plan
Updated Quality Assurance Plan
Revised environmental management system
Documented Safety Analysis Report
with Technical Safety Requirements (when required)
Updated Construction Project safety and Health Plan
Approved Final Hazards Analysis Report
Final Security Vulnerability Assessment Report
Safety Evaluation Report (when required)
Presentation

B. Suggested Project Preparation Topics for Critical Decisions

The following list provides a general outline for construction scope, cost, schedule, management, and other project related topics that a project requesting CD-4, Approve Start of Operations or Project Closeout, typically will have investigated prior to the decision. As part of the project development process, field and IPT members document results from the investigation of these topics. The depth and breadth of the effort in addressing these project development topics would be scaled, based upon the cost, complexity, and risks of the project. For example, not all projects will be required to follow the formal Safety Analysis Report process, but all projects should perform a hazards analysis.

For nuclear related projects, to ensure that nuclear safety is appropriately integrated into design, those nuclear safety related expectations that should be considered as mandatory are identified in **bold.**

This list is offered as an aid in preparing for a CD-4. DOE project lessons learned and Project Management studies have shown that "projects fail not because they planned to fail, but because they have failed to plan". The listing is an attempt to capture the important issues/topics that typically have caused NNSA projects problems in the past.

Note: The following lists of topics will be merged with the list of recommended review topics/lines of inquiry in the Independent Project Review Plan.

Statement of Mission Need
- has mission need been met – validation document

Brief Description
- location
- purpose & function
- features
- long term goals

Project Management
- staff reduction plan

project completion plan
transition plan complete
operating funds in place
Federal Project Acquisition Team - plan for continued operation of team or dissolution of team in place.

Technical/Functional Requirements
ORR has been completed
has project validated functional requirements been met?/design criteria
were authorized technical performance objectives as stated in the design met?
was the project fully integrated with the site/systems as proposed?
operations and maintenance plan is prepared/approved
facility staff trained in the maintenance and operation of the facility/systems
facility staffing plans implemented

Safety, including **Nuclear Safety**
construction changes have been analyzed for effect on safety
safety component specifications are written
System Design Descriptions (SDD) are complete and approved
Facility Design Descriptions (FDD) updated as needed and approved
DSA is complete and approved
DSA SER issued
as-builts control safety features
ES&H program plan has been reviewed and revised as necessary
OSHA compliance plan in place for operations

Configuration Management
as-built drawings and documents reflect facility as completed
configuration management plan is complete and approved
configuration management documentation integrated into operations/maintenance/safety.

Acquisition Strategy
status of construction contracts - closeout
outstanding claims processed

Risks - contingency status - plan against outstanding project issues

Cost and Schedule
status of funds
expected closeout of project - report
schedule status
documented lessons learned
“as builts” complete?

Environmental Status
Have applicable permits, licenses, and regulatory approvals been obtained?
pollution prevention plans or strategies executed as planned
waste minimization efforts completed
have stakeholders concerns been fully addressed?
Have project benefits been fully documented in public participation plans or documents?

Security
security requirements as stated in the DOE orders have been met
project integrated into Site Safeguards & Security Plan
security systems physically integrated into site security systems
facility specific security training and procedures are in place

appropriate protective force is in place

Legal

outstanding claims against project identified and plan to resolve addressed
local agreements have been satisfied
NEPA and permitting complete

Demolition and Disposal
- D&D plan is complete and approved
- agreements/contracts in place for construction/demolition debris disposal

Organizational Interfaces

Involvement of related agencies
- compliance with state and regulatory agency agreements
- cooperation/collaboration processes/procedures in place with agencies

Evaluate appropriateness of initial assumptions.

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

ATTACHMENT 4 - ESAAB EQUIVALENT PRESENTATION OUTLINE

NATIONAL NUCLEAR SECURITY ADMINISTRATION

ESAAB EQUIVALENT PROCESS

ATTACHMENT 4- ESAAB EQUIVALENT PRESENTATION OUTLINE

What follows is a proposed outline of an ESAAB Equivalent presentation:

- What decision is being requested from the ESAAB Equivalent AE
  (1 slide)

- Extremely brief Project Overview (i.e. mission and project description)
  (1 –2 slides)

- **Evidence of compliance with programmatic, safety, environmental, security, legal, procurement, and departmental requirements**
  (1-3 slides)

- **Evidence of the integration of above requirements into the design and execution of the project**
  (1-3 slides)

- Changes to project status and resolution of prior issues since last ESAAB Equivalent Meeting
  (1-2 slides)
  What progress has been made on the project since the last ESAAB Equivalent meeting – including progress on Corrective Action Plans and resolution of other issues

- Brief summary of results of ESAAB Equivalent member staff review
  (1-2 slides)
  Summarize results of ESAAB Equivalent discussions, issue resolution, and corrective action plan

- Specific Issues that require AE action
  (1 slide)
  Federal Project Director and Program Office will work with board members to prepare specific major issues for presentation to AE, in advance of the ESAAB for presentation and discussion. This should be reserved for issues that have significant programmatic implications.

- Decision Approval Summary
  (1 slide)
  Summary of presentation and requested decision

ESAAB Equivalent Process Flow