Department of Energy

Office of Science

Office of Project Assessment

**DOE/SC**

**ENERGY SYSTEMS ACQUISITION ADVISORY BOARD (ESAAB) PROCESS**

# May 2024

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7. **INTRODUCTION**

Department of Energy (DOE) Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets* requires the approval by Chief Executive (CE) through the Energy Systems Acquisition Advisory Board (ESAAB) process for the following:

* Requests for Critical Decision (CD) approval of all Major System projects;
* Requests to change the project performance baseline that results in:
  + Any change in scope and/or performance that affects the ability to satisfy the mission need or are not in conformance with the current approved Project Execution Plan and Project Data Sheet (this is known as a deviation),
  + An increase in excess of the lesser of 50 percent (cumulative) or $100 million of the original CD‑2 (Approve Performance Baseline) cost baseline; and
* Any future budget requests for construction for projects that requested construction funds prior to CD-2 but did not receive CD‑2 approval within two years following budget submission.

For projects **with performance baseline changes** below the CE thresholdorfor **approval of a CD** for projects that are designated as non-Major Systems, DOE Order 413.3B requires that each Program Secretarial Officer (PSO) appoint an ESAAB Equivalent (ESAAB-E) Board for advising on decisions.

In February 2011, as a direct result of the Office of Science (SC) past and current project performance, the Deputy Secretary of Energy approved the SC request for exemption from DOE Order 413.3B. A major benefit of the exemption is the delegation of the SC Project Management Executive (PME) authority and the establishment of SC project management requirements. The Office of Science Project Management Decision Matrix (Appendix A) outlines these requirements—the matrix should be referenced to determine the PME and baseline change authorities for each project.

The purpose of this procedure is to provide guidance to the Office of Science Federal Program Manager and the Federal Project Director on how to process the required approval requests through the Department-level ESAAB or the Office of Science ESAAB-E reviews.

# **The ESAAB PROCESS**

The ESAAB is a Department-level board that provides advice to the CE. The ESAAB action is a two-step process that consists of a Project Management Risk Committee (PMRC)/Pre-ESAAB meeting and the ESAAB meeting itself. The Office of Project Management (PM) is the Departmental-level ESAAB Secretariat, as well as the PMRC Secretariat.

## **2.1 Project Management Risk Committee (PMRC)**

Prior to, and in preparation of an ESAAB meeting, a PMRC (formerly the “Pre-ESAAB meeting”) is required. The PMRC meeting serves as a dry run of the CE ESAAB meeting. The PMRC members include representatives from the following organizations:

* Director, Office of Project Management
* Deputy Director for Field Operations, SC
* Deputy Assistant Secretary for Acquisition and Project Management, EM
* Director, Office of Project Assessment, SC
* Director of Project Analysis, Oversight and Review, NA
* Deputy Director, Loan Programs Office, LP
* Director, Office of Project Assessments, EM
* Deputy Associate Administrator Design and Construction, NA

The purpose of the PMRC meeting is to provide enterprise-wide project management risk assessment and expert advice to the Secretary, Chief Executive for Project Management (CE), Departmental Project Management Executives (PMEs) and the Energy Systems Acquisition Advisory Board (ESAAB) on cost, schedule and technical issues regarding capital asset projects.

The PMRC is not responsible for project implementation and execution, which remains with the CE, the PME, project owner, and the FPD. The authority for approving certain CDs for Major System Projects will continue to reside with the CE, and for non-Major System Projects, authority will continue to reside with the appropriate PME. The Committee's role is to provide recommendations to the CE, PME and ESAAB at those CD points and at any other time as needed.

The steps for conducting a PMRC meeting consist of:

* At least six weeks prior to the ESAAB Review, the SC Program Office requests that the Office of Project Assessment (OPA) schedule a PMRC/Pre-ESAAB meeting with PM.
* At this time, the SC Program Office also schedules a meeting with the Under Secretary for Science (S‑4), and/or the Director of Science/Deputy Director of Science Programs , Deputy Director of Operations, and OPA. The purpose of this meeting is to brief senior-level SC management on the project’s request.
* The SC Program Manager prepares, or coordinates with the Federal Project Director (FPD) to prepare a draft ESAAB presentation), which is submitted to OPA ten days prior to the PMRC meeting for dissemination to the PMRC members. The PMRC briefing is usually presented by the FPD (or the Program Associate Director or SC Program Manager). Presentation templates for various Critical Decisions and other actions are located on Max.Gov (see “Briefing Templates” tab) or can be provided by OPA upon request. The PMRC presentation will also be used for the ESAAB meeting with management.
* The Program Office and OPA works with the PMRC board members to resolve issues and answer inquiries prior to the CE ESAAB meeting.

## **2.2 ESAAB Meeting**

When PMRC inquiries and issues are resolved to the extent possible and the ESAAB presentation briefing and the CD or BCP approval document are finalized, the Program Manager provides these to OPA who then forwards it to PM (via e-mail to the ESAAB Secretariat and/or the designated PM point-of-contact for SC) and requests the ESAAB meeting. The following individuals should be included in the presentation distribution: OPA Director; Program Office Associate Director; SC Program Manager; FPD and all others deemed appropriate by the Program Office. The steps for coordinating and conducting the ESAAB meeting consist of:

* PM confirms the Program Office’s readiness to continue with the ESAAB meeting.
* The ESAAB Secretariat coordinates with OPA the next available CE meeting date, which is normally within two-to-three weeks of the request.
* The ESAAB Secretariat issues invitations to the ESAAB board members:

### Deputy Secretary Of Energy, CE as Chair

### Under Secretary for Infrastructure

### Under Secretary for Science and Innovation

### Under Secretary for Nuclear Security

### Deputy Chief Financial Officer

### DOE General Counsel

### Chief Information Officer

### DOE or NNSA Senior Procurement Executive

### Executive Director, Loan Programs Office

### Director, Office of Project Management

* Prior to the ESAAB meeting, the Program Office will:
  + Provide the ESAAB presentation to OPA ten days prior to the ESAAB date. The ESAAB briefing should follow the same format as the PMRC presentation. Presentation templates for various Critical Decisions and other actions are located on Max.Gov (see “Briefing Templates” tab) or can be provided by OPA upon request.
  + Determine the individuals who will participate in the ESAAB meeting.
* The ESAAB briefing is usually presented by the FPD (or the Program Associate Director or SC Program Manager).
* The ESAAB members have the opportunity to ask questions and raise concerns.

## Based on the meeting, the CE either approves the request or defers approval until questions and/or issues are resolved.

## **2.3 Post ESAAB Meeting**

The Program Office will receive the final approval or disapproval memorandum from the Deputy Secretary of Energy (prepared by PM), within approximately two weeks after the meeting.

After the approval of the ESAAB action, the FPD will post the approved documents in PARS and update the PARS project account as necessary (add CD information; updated FPD toolbox, etc.).

## **2.4 “Paper” ESAAB Process**

DOE Order 413.3B does make provision for a streamlined ESAAB in circumstances that require CE approval, but where the acquisition action is of relatively low monetary value, low risk, and requires non‑controversial decisions (i.e., performance baseline deviation and CD approvals). The Paper ESAAB achieves the required staff coordination and approval without convening a formal meeting of all ESAAB members. Steps involved for obtaining a Paper ESAAB include:

* The Program Manager/FPD discusses with OPA the need for a Paper ESAAB instead of a formal meeting;
* OPA requests that PM consider a streamlined ESAAB in lieu of a formal ESAAB meeting;

* PM will determine: 1) if a streamlined ESAAB is appropriate; and 2) the level of inter‑office coordination required;
* The Program Manager drafts an action memo to the Deputy Secretary of Energy through PM to approve the requested action (CD approval, baseline change proposal or BCP).

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### At a minimum, all streamlined ESAABs will be coordinated with PM, the Chief Financial Officer, and the Office of the General Counsel with the expectation of expeditious review. If issues cannot be resolved within 15 days of document submission to ESAAB members, PM will forward the issues to the Deputy Secretary for final decision. (See Appendix C for a sample Paper ESAAB memorandum.)

# **The ESAAB EQUIVALENT PROCESS**

For those projects that do not meet the requirement for a Department-level ESAAB, an ESAAB Equivalent (ESAAB-E) Board at the PSO level will be conducted. The ESAAB-E process supports Critical Decisions requesting Project Management Executive (PME) approval and for the Baseline Change Proposal (BCP) resulting from deviations for Deviation Approval Authority.

The Project Management Executive is the chair of the SC ESAAB-E Board. The [SC Project Decision Matrix](http://science.energy.gov/~/media/opa/pdf/processes-and-procedures/Project_decision_matrix_11_2010_m.pdf) (Appendix A) should be referenced to determine the PME for each project decision. OPA serves as the ESAAB-E Secretariat for all SC ESAAB requests. The SC ESAAB-E board members include one representative from each of the following SC organizations:

* Office of Project Assessment (OPA)
* Office of Budget (OB)
* Environment, Safety and Health (ESH)
* Office of Safety and Security (OSS)
* Office of Science Laboratories Infrastructure (SLI)
* Non-Proponent SC Program Manager
* Non-Proponent SC FPD
* Other Representative as Required (for example, the ESAAB board reviewing a radiological project will include an expert representative from the DDO)

## **3.1 ESAAB Equivalent Meeting**

Attendance at the ESAAB-E meeting is limited to the PME (Under Secretary for Science and Innovation; Director of Science; Deputy Director of Science Program and/or Deputy Director of Operations; and/or the Program Office Associate Director); the ESAAB Equivalent Board; program office staff; OPA staff, and the FPD and site office staff. Contractors and laboratory staff are not permitted to participate in the ESAAB-E meeting.

***Under Secretary is the PME***

The steps for completing the ESAAB-E meeting, when the Under Secretary is the PME, include:

Scheduling the ESAAB-E

* The SC Federal Program Manager (FPM; in coordination with the FPD) contacts OPA to schedule an ESAAB-E meeting at least four/six weeks prior to the requested meeting date.
  + At this time, the Office of Project Assessment will also schedule a pre-ESAAB meeting with the Director of Science, the Deputy Director of Science Programs or Deputy Director of Operations (depending on which reporting line the project is under), and OPA. The purpose of this meeting is to brief senior-level SC management on the project’s request. This meeting is conducted approximately two weeks prior to the ESAAB-E meeting.
  + The program office and FPD should also be prepared to participate in additional pre-meetings or dry-run meetings, as requested by the Under Secretary’s office, SC management, or the program office or OPA.

ESAAB-E Documents

* Pre-Review of Pre-Requisite Documents. About four/six weeks prior to conducting the ESAAB-E meeting, the FPM should provide to the SC ESAAB Secretariat (OPA) appropriate draft pre-requisite documents including the Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP forms, CD-3x Justification Form, etc., for pre-review—this should be prior to obtaining signatures. OPA comments will be returned to the program office and FPD within seven business days.
* Presentation and Approval Document for PMRC Review. The FPD, in cooperation with the FPM, prepares a briefing presentation (See Appendix C) and a CD approval document (see Appendix D) or BCP approval form (Appendix F) for use at the PMRC meeting and ESAAB-E meeting. The presentation and approval document are due to the SC ESAAB Secretariat (OPA) one week prior to the PMRC meeting.
* ESAAB-E. Prior to the ESAAB-E meeting, the FPM and FPD should ensure that all necessary reviews have been performed and the required documents per DOE Order 413.3B (Presentation, Approval Document, Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP form, CD-3X Justification form, etc.) have been reviewed and approved by appropriate personnel.

* + The presentation and approval document are due to the ESAAB Secretariat (OPA) at least one week prior to the ESAAB-E meeting.
  + Signed (Adobe; pdf) pre-requisite documents (MNS/PEP/AS/etc.), as well as the final MSWord version should also be provided to the ESAAB Secretariat (OPA) one week prior to the ESAAB-E meeting.
  + Documents should contain all Site Office and Program Office signatures—OPA will obtain OPA and SC management signatures.
* The presentation and approval document will be distributed by the SC ESAAB Secretariat (OPA) to the PME and ESAAB-E board one week prior to the ESAAB-E meeting. (Note: Other documents may be provided to the ESAAB-E board members upon request.) If documents are not received and submitted in adequate time for the ESAAB board’s review, the ESAAB-E meeting may be postponed.

The ESAAB-E Meeting

* ESAAB Equivalent Board Members have one week to review the documents and provide preliminary comments, issues, and questions. Board members should provide their questions to the ESAAB Secretariat (OPA), who will distribute the comments to the Program Office, FPD, and OPA staff.
* The SC ESAAB Secretariat (OPA) will facilitate the ESAAB-E meeting.
* The FPD (or in some cases the SC Program Manager) presents the CD or BCP approval request to the ESAAB-E board.
* The ESAAB-E board will have the opportunity during the ESAAB-E meeting to ask questions, raise concerns, and make a recommendation for approval to the PME.
* Based on these recommendations, the PME either approves the request or defers approval until questions and/or issues are resolved.

Post ESAAB-E Meeting

* After the ESAAB-E meeting, the SC ESAAB Secretariat (OPA) will collect board signatures, as well as other SC management signatures; prepare the final documents and obtain the PME approval; prepare minutes of the ESAAB-E meeting; and distribute approved documents to the program office and FPD.
* After the approval of the ESAAB action, the FPD will post the approved documents in PARS and update the PARS project account as necessary (add CD information; updated FPD toolbox, etc.).

***Director of Science is the PME***

The steps for completing the ESAAB-E meeting, when the Director of Science is the PME, include:

* The SC Program Manager (in coordination with the FPD) contacts OPA to schedule an ESAAB-E meeting at least four weeks prior to the requested meeting date.
  + At this time, the Program Office will schedule a pre-ESAAB meeting with the Deputy Director of Science Programs or Deputy Director of Operations (depending on which reporting line the project is under), and OPA. The purpose of this meeting is to brief senior-level SC management on the project’s request. The meeting is scheduled one to two weeks prior to the ESAAB-E meeting.
  + The FPD, in cooperation with the SC Program Manager, prepares a briefing presentation (See Appendix C) and a CD approval document (see Appendix D) or BCP approval form (Appendix F) for use at the ESAAB-E meeting. Documents for the pre-ESAAB meeting are due to the SC ESAAB Secretariat (OPA) one week prior to the meeting.
  + About four/six weeks prior to scheduling the ESAAB-E meeting, appropriate draft pre-requisite documents including the Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP forms, CD-3x Justification Form, etc., should be provided to the SC ESAAB Secretariat (OPA) for review—this should be prior to obtaining signatures and at least four weeks prior to ESAAB-E meeting. OPA comments will be returned to the program office and FPD within seven business days.
  + The program office and FPD should also be prepared to participate in additional pre-meetings or dry-run meetings, as requested by SC management.
* Prior to the ESAAB-E meeting, the program office and FPD should ensure that all necessary reviews have been performed and the required documents per DOE Order 413.3B (Approval Document, Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP form, CD-3X Justification form, etc.) have been reviewed and approved by appropriate personnel.
  + A ESAAB-E documents are due to the ESAAB Secretariat (OPA) at least one week prior to the ESAAB-E meeting.
  + Signed (Adobe; pdf) documents, as well as the final MSWord version should be provided at this time.
  + Documents should contain all Site Office and Program Office signatures and be ready for OPA final review and approval by the SC ESAAB Secretariat (OPA) one week prior to the ESAAB-E meeting.
* ESAAB-E documents (presentation and approval document) will be distributed by the SC ESAAB Secretariat (OPA) to the PME and ESAAB-E board one week prior to the ESAAB-E meeting. (Note: Other documents may be provided to the ESAAB-E board members upon request.) If documents are not received and submitted in adequate time for the ESAAB board’s review, the ESAAB-E meeting may be postponed.
* ESAAB Equivalent Board Members have one week to review the documents and provide preliminary comments, issues, and questions. Board members should provide their questions to the ESAAB Secretariat (OPA), who will distribute the comments to the Program Office, FPD, and OPA staff.
* The SC ESAAB Secretariat (OPA) will facilitate the ESAAB-E meeting.
* The FPD (or in some cases the SC Program Manager) presents the CD or BCP approval request to the ESAAB-E board.
* The ESAAB-E board will have the opportunity during the ESAAB-E meeting to ask questions, raise concerns, and make a recommendation for approval to the PME.
* Based on these recommendations, the PME either approves the request or defers approval until questions and/or issues are resolved.

***Deputy Director for Science Programs/Deputy Director for Operations is the PME***

The steps for completing the ESAAB-E meeting, when the Deputy Director for Science Programs or the Deputy Director for Operations is the PME, include:

* The SC Program Manager (in coordination with the FPD) contacts OPA to schedule an ESAAB-E meeting at least two weeks prior to the requested meeting date.
  + At this time, the Program Office should ensure that the Deputy Director of Science Programs or Deputy Director of Operations (depending on which reporting line the project is under) and OPA have been briefed on the project’s request for an ESAAB action.
  + The FPD, in cooperation with the SC Program Manager, prepares a briefing presentation (See Appendix C) and a CD approval document (see Appendix D) or BCP approval form (Appendix F) for use at the ESAAB-E meeting. Documents for the pre-ESAAB meeting are due to the SC ESAAB Secretariat (OPA) one week prior to the meeting.
  + About four/six weeks prior to scheduling the ESAAB-E meeting, appropriate draft pre-requisite documents including the Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP forms, CD-3x Justification Form, etc., should be provided to the SC ESAAB Secretariat (OPA) for review—this should be prior to obtaining signatures and at least four weeks prior to ESAAB-E meeting. OPA comments will be returned to the program office and FPD within seven business days.
  + The program office and FPD should also be prepared to participate in additional pre-meetings or dry-run meetings, as requested by SC management.
* Prior to the ESAAB-E meeting, the program office and FPD should ensure that all necessary reviews have been performed and the required documents per DOE Order 413.3B (Approval Document, Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP form, CD-3X Justification form, etc.) have been reviewed and approved by appropriate personnel.
  + All ESAAB-E documents are due to the ESAAB Secretariat (OPA) at least one week prior to the ESAAB-E meeting.
  + Signed (Adobe; pdf) documents, as well as the final MSWord version should be provided at this time.
  + Documents should contain all Site Office and Program Office signatures and be ready for OPA final review and approval by the SC ESAAB Secretariat (OPA) one week prior to the ESAAB-E meeting.
* ESAAB-E documents (presentation and approval document) will be distributed by the SC ESAAB Secretariat (OPA) to the PME and ESAAB-E board one week prior to the ESAAB-E meeting. (Note: Other documents may be provided to the ESAAB-E board members upon request.) If documents are not received and submitted in adequate time for the ESAAB board’s review, the ESAAB-E meeting may be postponed.
* ESAAB Equivalent Board Members have one week to review the documents and provide preliminary comments, issues, and questions. Board members should provide their questions to the ESAAB Secretariat (OPA), who will distribute the comments to the Program Office, FPD, and OPA staff.
* The SC ESAAB Secretariat (OPA) will facilitate the ESAAB-E meeting.
* The FPD (or in some cases the SC Program Manager) presents the CD or BCP approval request to the ESAAB-E board.
* The ESAAB-E board will have the opportunity during the ESAAB-E meeting to ask questions, raise concerns, and make a recommendation for approval to the PME.
* Based on these recommendations, the PME either approves the request or defers approval until questions and/or issues are resolved.

***Associate Director is the PME***

The steps for completing the ESAAB-E meeting, when an Associate Director for an SC program office is the PME, include:

* The SC Program Manager (in coordination with the FPD) contacts OPA to schedule an ESAAB-E meeting at least two weeks prior to the requested meeting date.
  + At this time, the Program Office should ensure that the Deputy Director of Science Programs or Deputy Director of Operations (depending on which reporting line the project is under) and OPA have been briefed on the project’s request for an ESAAB action.
  + The FPD, in cooperation with the SC Program Manager, prepares a briefing presentation (See Appendix C) and a CD approval document (see Appendix D) or BCP approval form (Appendix F) for use at the ESAAB-E meeting. Documents for the pre-ESAAB meeting are due to the SC ESAAB Secretariat (OPA) one week prior to the meeting.
  + About four/six weeks prior to scheduling the ESAAB-E meeting, appropriate draft pre-requisite documents including the Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP forms, CD-3x Justification Form, etc., should be provided to the SC ESAAB Secretariat (OPA) for review—this should be prior to obtaining signatures and at least four weeks prior to ESAAB-E meeting. OPA comments will be returned to the program office and FPD within seven business days.
  + The program office and FPD should also be prepared to participate in additional pre-meetings or dry-run meetings, as requested by SC management.
* Prior to the ESAAB-E meeting, the program office and FPD should ensure that all necessary reviews have been performed and the required documents per DOE Order 413.3B (Approval Document, Mission Need Statement, Acquisition Strategy, Project Execution Plan, BCP form, CD-3X Justification form, etc.) have been reviewed and approved by appropriate personnel.
  + All ESAAB-E documents are due to the ESAAB Secretariat (OPA) at least one week prior to the ESAAB-E meeting.
  + Signed (Adobe; pdf) documents, as well as the final MSWord version should be provided at this time.
  + Documents should contain all Site Office and Program Office signatures and be ready for OPA final review and approval by the SC ESAAB Secretariat (OPA) one week prior to the ESAAB-E meeting.
* ESAAB-E documents (presentation and approval document) will be distributed by the SC ESAAB Secretariat (OPA) to the PME and ESAAB-E board one week prior to the ESAAB-E meeting. (Note: Other documents may be provided to the ESAAB-E board members upon request.) If documents are not received and submitted in adequate time for the ESAAB board’s review, the ESAAB-E meeting may be postponed.
* ESAAB Equivalent Board Members have one week to review the documents and provide preliminary comments, issues, and questions. Board members should provide their questions to the ESAAB Secretariat (OPA), who will distribute the comments to the Program Office, FPD, and OPA staff.
* The SC ESAAB Secretariat (OPA) will facilitate the ESAAB-E meeting.
* The FPD (or in some cases the SC Program Manager) presents the CD or BCP approval request to the ESAAB-E board.
* The ESAAB-E board will have the opportunity during the ESAAB-E meeting to ask questions, raise concerns, and make a recommendation for approval to the PME.
* Based on these recommendations, the PME either approves the request or defers approval until questions and/or issues are resolved.

**3.2 Special Considerations**

***CD-3x Requests***

For projects seeking a CD-3x approval, a CD-3x Justification Form must be completed and approved by the program Associate Director, as well as the Deputy Director for Science Program or Deputy Director of Operations (depending on the reporting line of the requesting project). The CD-3x Justification Form should be completed and a draft version should be provided to OPA as soon as possible, but no later than four weeks, after it is determined that the project will request a CD-3x. The CD-3x Justification Form template is shown in Appendix G.

***Project Management Risk Committee (PMRC)***

The program office and FPD should be prepared to present ESAAB-E actions for projects with a TPC of $100 million or greater to the PMRC. The SC ESAAB Secretariat (OPA) will work with PM to determine if the ESAAB-E action will be presented at a PMRC meeting, or if the CD/BCP presentation will be reviewed virtually by the PMRC board. The PMRC meeting/review will be coordinated by the SC ESAAB Secretariat (OPA) as the ESAAB-E meeting is being scheduled. Templates for PMRC presentations can be obtained at Max.Gov (see “Briefing Templates” tab) or provided by the SC ESAAB secretariat (OPA).

## **3.3 “Paper” ESAAB Equivalent Approval**

For projects with relatively low monetary value, low risk, and that require non‑controversial decisions (i.e., CD-0, CD-4, performance baseline changes due to positive cost variances, etc.) that need PME approval, a streamlined ESAAB-E, without convening a formal meeting or utilizing the ESAAB-E board, may be performed. The paper ESAAB-E approval process consists of:

* The Program Manager and FPD discusses with OPA the need for a paper ESAAB instead of a formal meeting.
* The Program Manager and FPD drafts an action memorandum to the PME, through OPA and the appropriate concurrence line, to approve the requested action (CD/BCP) without convening a formal meeting. (Appendix C includes a template memorandum.)
* The Program Office submits the document into the SC correspondence system to obtain the necessary concurrences and PME approval.
* The FPD is responsible for updating posting the approved documents in PARS and updating the PARS project account as necessary (add CD information; updated FPD toolbox, etc.).

# **INSTRUCTIONS for SC ESAAB-E Board Members**

The ESAAB-E Board membership includes the following participants:

* Project Management Executive, SC ESAAB-E Board Chairperson
* Office of Project Assessment (OPA)/SC ESAAB-E Secretariat
* Office of Budget (OB)
* Environment, Safety and Health (ESH)
* Office of Safety and Security (OSS)
* Office of Science Laboratories Infrastructure (SLI)
* Non-Proponent SC Federal Program Manager (FPM)\*
* Non-Proponent SC Federal Project Director (FPD)\*
* Other Representative as Required (for example, the ESAAB board reviewing a radiological project will include an expert representative from the DDO)

\*Non-proponent FPMs/FPDs are selected by the SC ESAAB-E Secretariat (OPA) and serve on a rotating basis. These members are independent of the program office/site office of the project being reviewed by the ESAAB-E Board.

The ESAAB-E Secretariat (OPA) will contact ESAAB-E Board Members at least two weeks prior to the ESAAB-E with the designated meeting date and time. Non-proponents members, and “other representatives as required” will be contacted two weeks prior to the meeting to confirm their availability.

The ESAAB-E Secretariat (OPA) will provide the ESAAB-E Board Members with ESAAB materials (presentation and approval document) one week prior to the ESAAB meeting for advance review. Board members may also ask for additional documents or information—requests for additional information should be directed to the ESAAB-E Secretariat (OPA).

Board members should try to resolve issues (especially serious concerns) prior to the ESAAB meeting—questions should be directed to the ESAAB-E Secretariat (OPA) for distribution to the project’s FPM and FPD. OPA will facilitate the resolving of issues prior to the ESAAB-E meeting.

On the day of the ESAAB-E meeting, the ESAAB-E Secretariat (OPA) will facilitate the meeting on behalf of the PME. After introductions and opening remarks, the FPD representing the project will be asked to make their presentation. Board members may also ask questions during the ESAAB-E meeting, but questions are typically held until the end of the FPD’s presentation. Please note that the PME and program office are looking for your personal experience and expertise to help the project and PME to make a more informed decision.

Board members are encouraged to ask questions and/or make comments for improvement. At the end of the board discussion, the ESAAB-E Secretariat (OPA) will ask the board members if they have any final thoughts and also to make their recommendation to the PME to approve/not approve the project’s request.

Following the meeting, the ESAAB-E Secretariat (OPA) will email to the ESAAB-E board members the ESAAB approval document to electronically sign, noting their recommendation to the PME. ESAAB-E members are kindly asked to return their signatures as soon as possible, as the program office and project team is awaiting approval of the action.

Appendix A. Office of Science Project Management Decision Matrix

(Note: Always refer to the latest version of SC Decision Matrix at <https://science.osti.gov/opa/Project-Management/Processes-and-Procedures>)



Appendix B. ESAAB Equivalent Timeline

Schedule ESAAB Equivalent Meeting after CD Review -6 weeks

Pre-Informal Review of Pre-Requisite Documents by OPA -4 weeks

* OPA Preferred Process: Electronic documents should be e-mailed to Casey/Christina for distribution to OPA staff
* Documents must .docx (not be .pdf)

OPA Returns Pre-Requisite Document Comments -3 weeks

Final Pre-Requisite Documents to OPA -2 weeks

(AS, PPEP, PEP)

* Final review of documents by OPA Rep, Kin Chao
* Signatures of Laboratory/Site Office/Program Office Staff
* One week does not allow enough time for review of all individuals

ESAAB Equivalent Documents reviewed by Program -2 weeks

(CD Presentation and Approval Document)

* Recent Presentations have not been ESAAB ready, included extensive comments from board members, and in one case caused a delay of the ESAAB
* OPA recommends that Program Office take this additional week to ensure that the documents are ready for the ESAAB Board

ESAAB Equivalent Documents to Board -1 week (at least)

Obtain OPA Director Approval on AS, PPEP, PEP -1 week (at least)

Comment Resolution with Board -1 week

Conduct ESAAB Equivalent 0

Distribution of ESAAB Equivalent Approval 1-2 days

Appendix C. Content of ESAAB Equivalent Presentations

**Suggested Contents of a CD-0 Presentation**

* The Mission of Office of Science and/or the Mission of SC Program
* Mission Gap or current situation
* Mission Need—high level description of project or what is needed
* Potential approaches
* Cost Range
* Schedule Range
* Funding Profile for High-End Cost Range
* Checklist of CD-0 requirements
* Recommendation
* Backup info if needed

**Suggested Contents of a CD-1 Presentation**

* Mission Need—high level description of project or what is needed
* Alternatives analyzed and the breakdown of their life-cycle costs
* Selected alternative and site and why
* Description of project scope with preliminary high level Key Performance Parameters
* Project organization
* CD-1 TPC Range
* Funding Profile by OPC design, OPC other, TEC design, TEC construction, and TPC
* CD dates including schedule contingency amount
* High Level Risks
* Tailoring—if any
* Checklist of CD-1 requirements
* Recommendation
* Backup info if needed

**Suggested Contents of a CD-2 Presentation**

* Project Overview
* Description of project scope with Key Performance Parameters
* Project organization
* Total Project Cost and breakdown of TPC by high level WBS including contingency
* Funding Profile by OPC design, OPC other, TEC design, TEC construction, and TPC
* CD dates and Summary critical path schedule with schedule contingency
* High Level Risks
* Tailoring —if any changes
* Checklist of CD-2 requirements
* Recommendation
* Backup info if needed

**Suggested Contents of a CD-3 Presentation**

* Project Description (renderings, photos, etc.)
* Acquisition status
* Updated or latest CD dates, cost data, funding profile
* High Level Risks
* Tailoring—if any changes
* Checklist of CD-3 requirements
* Recommendation
* Backup info if needed

**Suggested Contents of a CD-4 Presentation**

* Project Description
* Key Performance Parameters established at CD-2 baseline and achieved at CD-4
* Final cost by WBS (include any cost issues remaining such as claims and disputes)
* CD Dates updated with initial and actual dates
* Lessons Learned
* Checklist of CD-4 requirements
* Recommendation
* Backup information if needed

**Suggested Contents of a BCP Presentation**

* Project Overview
* Purpose of the ESAAB Equivalent Meeting
* Causes of the BCP
* Impact of the BCP—Compare changes to TPC, CD dates, Scope, Funding profile from CD-2 to current proposals
* High level risks and adequacy of contingency amount
* Current status of project (i.e., % project complete based on CD-2 baseline vs. new proposed baseline)
* Checklist of BCP requirements (i.e., IPRs, BCP form completed and appropriate signatures prepared, changes made to project, etc.)
* Recommendation
* Backup info if needed

Appendix D. Contents of ESAAB Approval Documents

**Approval of CD-0, Approve Mission Need**

**For The XX Project**

**Office of XX**

A. Purpose of ESAAB Equivalent Board Meeting

B. Mission of DOE/SC/Program

C. Mission Gap

D. Mission Need

E. Cost Range Forecast

F. Schedule Forecast

G. Proposed Funding Profile for TPC High End Range ($M)

Submitted by:

Program Manager

Division Director (if applicable)

Associate Director

Deputy Director for Science Programs or Deputy Director of Operations

Concurrence:

Director, Office of Project Assessment

Approval:

Director, Office of Science

**Approval CD-1, Approve Alternative Selection**

**For The XX Project**

**Office of XX**

1. Purpose of ESAAB Equivalent Board Meeting
2. Mission Need
3. Alternative Analysis and Selected Alternative
4. Preliminary Project Scope Description
5. Cost Range Forecast
6. Schedule Forecast
7. Proposed Funding Profile for TPC High End Range ($M)
8. Tailoring–if any

Submitted by:

Federal Project Director

Deputy Federal Project Director (if applicable)

Site Office Manager

Program Manager

Division Director (if applicable)

Associate Director (if DDSP/DDO or higher is PME)

Deputy Director for Science Programs or Deputy Director of Operations (if SC Director or higher is PME)

Director, Office of Science (if Under Secretary is the PME)

**Approval CD-2, Approve Performance Baseline**

**For The XX Project**

**Office of XX**

1. Purpose of ESAAB Equivalent Board Meeting
2. Project Scope Baseline including Key Performance Parameters
3. Total Project Cost including contingency
4. Schedule Baseline including contingency
5. Funding Profile with Summary Detail ($M)
6. Tailoring–if any
7. Discussion of Major Issues and Risks

Submitted by:

Federal Project Director

Deputy Federal Project Director (if applicable)

Site Office Manager

Program Manager

Division Director (if applicable)

Associate Director (if DDSP/DDO or higher is PME)

Deputy Director for Science Programs or Deputy Director of Operations (if SC Director or higher is PME)

Director, Office of Science (if Under Secretary is the PME)

**Approval CD-3, Approve Start of Construction**

**For The XX Project**

**Office of XX**

1. Purpose of ESAAB Equivalent Board Meeting
2. Project Scope Baseline including Key Performance Parameters
3. Update of Total Project Cost breakdown including contingency
4. Update of Schedule Baseline including contingency
5. Update of Funding Profile with Summary Detail ($M)
6. Tailoring–if any
7. Update of Major Issues and Risks

Submitted by:

Federal Project Director

Deputy Federal Project Director (if applicable)

Site Office Manager

Program Manager

Division Director (if applicable)

Associate Director (if DDSP/DDO or higher is PME)

Deputy Director for Science Programs or Deputy Director of Operations (if SC Director or higher is PME)

Director, Office of Science (if Under Secretary is the PME)

**Approval CD-4, Approve Project Completion**

**For The XX Project**

**Office of XX**

1. Purpose of ESAAB Equivalent Board Meeting
2. Project Scope Baseline including Key Performance Parameters at CD-2 and what is achieved at CD-4
3. Total Project Cost established at CD-2 and final TPC
4. Update of Schedule Baseline
5. Major Lessons Learned
6. Status of Project Closeout Activities and remaining contingency

Submitted by:

Federal Project Director

Deputy Federal Project Director (if applicable)

Site Office Manager

Program Manager

Division Director (if applicable)

Associate Director (if DDSP/DDO or higher is PME)

Deputy Director for Science Programs or Deputy Director of Operations (if SC Director or higher is PME)

Director, Office of Science (if Under Secretary is the PME)

Appendix E. The “Paper” ESAAB

MEMORANDUM FOR: PROJECT MANAGEMENT EXECUTIVE

THROUGH: DIRECTOR, OPA

FROM: ASSOCIATE DIRECTOR

SUBJECT: ACTION: Approve Critical Decision X or Approve Project Y Baseline Change for the \_\_\_\_\_\_\_\_\_\_\_\_Project at the \_\_\_\_\_\_\_\_\_\_\_\_\_ Laboratory

**ISSUE**: Whether to approve the XX project needs to obtain approval of CD-x through the ESAAB process. However, because of the small size of the project, it is requested that the PME approves CD-x without formally convening an ESAAB meeting …

**BACKGROUND**: The scope of the XX project is to design… The estimated cost of the project is $10M-$20M with an approximate completion date of Month and Year …

According to DOE Order 413.3B, to obtain CD-X approval, the project must complete xx and xx and convene an ESAAB meeting as part of the CD approval process …

**DISCUSSION**: Because of the small size of this project and risks for the projects are low it is not necessary to convene a full ESAAB meeting.

**SENSITIVITIES**:

**POLICY IMPACT**:

**URGENCY:** The CD-X approval is requested as soon as possible to facilitate the

procurement process and reduce schedule risks.

**RECOMMENDATION**: That you approve CD-x for the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ project.

APPROVE: \_\_\_\_\_ DISAPPROVE: \_\_\_\_\_ NEEDS DISCUSSION: \_\_\_\_\_ DATE: \_\_\_\_\_\_

Appendix F. Baseline Change Proposal (BCP) Form1

Project ID Number: Project Title: Project Title:

BASELINE CHANGE PROPOSAL (BCP) FORM

|  |  |
| --- | --- |
| 1. BCP Number: | 1. BCP Title: |
| 1. DOE Program: | 1. Project Location: |
| 1. Point of Contact: | 1. Phone: |
| 1. Email: |  |
| 1. Directed Change Causes (Check all that apply):   \_Congressional Budget Rescission/Cut  \_Regulatory Change  \_DOE Policy Change | 1. Other causes of Baseline Change (Check all that apply):   \_OMB Budget Cut/Rescission  \_DOE Budget Cut/Rescission  \_Technical Challenges  \_Scope Change  \_Funding Partner Cut/Rescission  \_Other- Please explain below |
| 1. Detail the Causes of Baseline Change : | |
| 1. Change Description and how the project is impacted: | |

This form is recommended for those BCPs resulting from a Deviation that requires and ESAAB or ESAAB Equivalent Board meeting. For changes below the Performance Baseline criteria, the project may use BCP and change control process established for the project.

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Impact on Cost Baseline:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM | Baseline Cost (As of \_\_\_\_\_\_\_) | Proposed Cost | Change |
| TEC |  |  |  |
| OPC |  |  |  |
| Contingency |  |  |  |
| TPC |  |  |  |
| 1. Impact on Funding Profile (BA):   Prior FY FY0X FY0Y FY0Z Total  Baseline ($M)  DOE OPC  DOE TEC  DOE TPC  Proposed ($M)  DOE OPC  DOE TEC  DOE TPC  Change ($M)  DOE OPC  DOE TEC  DOE TPC | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Explanation of Impact on Cost and Funding Baseline:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM   |  |  |  |  |  | | --- | --- | --- | --- | --- | | WBS | Description | Current Budget | Proposed Changes | New Budget | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Impact on Schedule Baseline:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM   |  |  |  |  | | --- | --- | --- | --- | | Milestone (No. & Description) | Baseline(Month/Year) | Proposed (Month/Year) | Change | |
| 1. Explanation of Impact on Schedule Baseline: |
| 1. Impact on Scope Baseline: |
| 1. Explanation of Impact on Scope Baseline: |
| 1. Other Impacts(Health, Safety, Environment, etc): |
| 1. Interim or Corrective Actions: |

|  |
| --- |
| APPROVALS  Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM |
| 1. Submitted by:   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Project Manager, [Laboratory]  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Project Director, [Laboratory]  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Additional Laboratory Staff as Needed [Laboratory]  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Laboratory Director, [Laboratory]  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Federal Project Director [Site Office], DOE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Manager, [Site Office], DOE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Program Manager  [Program Office], Office of Science, DOE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Additional Approvers as needed     1. Concurrence:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Director  Office of Project Assessment, Office of Science, DOE  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  [Name], Deputy Director  [As determined by SC Decision Matrix]  Office of Science, DOE |

|  |
| --- |
| 1. ESAAB Board Recommendations:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM  The Undersigned “Do Recommend” (Yes) or “Do Not Recommend” (No) approval of the \_\_\_\_\_\_ Project Baseline Change Proposal.  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  ESSAB Secretariat, Office of Project Assessment (OPA)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Office of Budget (OB)    \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Environment, Safety and Health  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Safety and Security (SSO)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Science Laboratories Infrastructure (SLI  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Non-Proponent SC Program Office  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Yes\_\_No\_\_  Representative, Non-Proponent FPD |

|  |
| --- |
| 1. Project Management Executive Approval:   Project ID Number: Project Title: Project Title:  BASELINE CHANGE PROPOSAL (BCP) FORM |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_  [Name] Date  Project Management Executive |

Appendix G. CD-3x Justification Form

**CD-3x Principles, Criteria, and Process**

***Principles***

The principles behind CD-3x is that for some projects, having the authority to procure materials or to perform work early can reduce significant cost, schedule, and risk. Because of these benefits, DOE Order 413.3B allows long-lead procurement (LLP) and activities such as site preparation, fabrication of components, and other activities. The challenge with long lead procurement is that project design must be sufficiently mature or it could lead to changes resulting in activities and procurements that becomes useless or incompatible. Another issue is that project teams can become less disciplined with establishing and committing to a project baseline.

***Criteria***

As a result, there are criteria that a project must meet in order to have CD-3x authority. These criteria and requirements include using and Earned Value Management System (EVMS), having ESAAB meetings, conducting of Independent Project Review (IPR), and approval by the appropriate Deputy Director. These are the same rigors and requirements as any Critical Decisions (CD-1 to CD-4). A budget document, such as a project data sheet (PDS), should be submitted within the budget process requesting construction funds to procure long lead items or indicating the use of Project Engineering Design (PED) funds for long lead procurement. This is the only instance when a CD action may be taken out of sequence (i.e., CD-3a in advance of CD-2).

SC has always used the IPR and a review committee consisting of subject matter experts to determine if the CD-3x request is reasonable. The experienced review committee members are asked to determine if the designs are mature, if the total risk to the project will be significantly reduced, or if there will be cost and schedule savings.

There are no quantitative criteria for authorization of CD-3x in DOE Order 413.3B or for SC. This is because it is difficult to quantify certain items such as benefits to science community for completing the project six months early, or to predict the probability and extent of having unknown political, environmental, or economic events (i.e., trade war, oil embargo, earthquakes, how long COVID-19 will last, etc.). In fact, having long lead procurements reduces the impacts from such events.

Finally, the long lead procurement approach has been used by SC for decades and for dozens of projects. The CD-3x approach has been generally successful as evidence by SC history of project success.

***Process***

The sponsoring program must provide a completed *CD-3x Justification Form* for sponsoring Program Office concurrence and SC-1 approval prior to undertaking a CD-3x IPR.

***Special Approval for CD-3x below $20 million.***

For CD-3x requests below $20 million, an ESAAB Equivalent Board will not be convened, but rather the CD-3x approval document will be approved by the SC Deputy Director (Principal Deputy Director, Deputy Director for Science Programs, or Deputy Director for Field Operations) whose line in which the project reports—the other two Deputy Directors will concur on the approval document along with site office, program office, and Office of Project Assessment staff.

The CD-3x request will be presented using the *CD-3x justification form*. If senior management requires additional information, the Federal Project Director and/or Program Manager may be asked to make a formal presentation prior to the approval of the CD-3x approval document.

**DOE/SC (OPA)**

**CD-3x Justification Form**

|  |  |  |
| --- | --- | --- |
| **Project Name** |  | |
| **Project Location** |  | |
| **Project TPC** |  | |
| **Cost of CD-3a Scope** |  | |
| **CD-3a Need-By Date** |  | |
|  | | | |
|  |  | **Concurrence** |
|  |  |  |
| **Program Associate Director** |  |  |
| **Deputy Director of Science Programs or**  **Deputy Director of Operations** |  |  |

**Summary of CD-3a Request (include whether the CD-3a scope has been identified in the most current construction project data sheet)**

**Why is this CD-3a necessary?**

**Can this CD-3a be delayed?**

**When will the overall project be baselined, i.e., what is the timeframe for CD-2?**

**Why not proceed with CD-2/CD-3?**

**What are the impacts if CD-3a is not approved at this time?**

**Has the use of “subprojects” been considered for the overall project?**

**CD-3a Requirements (Derived from DOE Order 413.3b CD-3 Requirements, however, additional input that provides further detail can be inserted as necessary)**

|  |  |
| --- | --- |
| **Requirement** | **Status** |
| Final Design Report for LLP |  |
| Project Execution Plan |  |
| Integrated Safety Management Plan |  |
| Quality Assurance Program |  |
| NEPA |  |
| Risk Management Plan and Registry |  |
| Preliminary Hazard Analysis |  |
| Certified EVMS |  |

**Backup Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **PROJECT STATUS** | | | |
| Project Type | Major Item of Equipment | |
| CD-0 | Planned: | Actual: |
| CD-1 | Planned: | Actual: |
| CD-1 | Planned: | Actual: |
| CD-3a | Planned: | Actual: |
| CD-2 | Planned: | Actual: |
| CD-3 | Planned: | Actual: |
| CD-4 | Planned: | Actual: |
| TPC Percent Complete | Planned: % | Actual: % |
| TPC Cost to Date | $M |  |
| TPC Committed to Date | $M |
| TPC | $M |
| TEC | $M |
| Contingency Cost (w/Mgmt Reserve) | $M |  |
| Contingency Schedule on CD-4 | months |  |
| CPI Cumulative | 1 |  |
| SPI Cumulative |  |

***Funding Profile Table***

***Additional Information as Needed***