

NNSA POLICY

NAP 413.3A

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RESPONSIBILITIES FOR INDEPENDENT COST ESTIMATES



**NATIONAL NUCLEAR SECURITY ADMINISTRATION
Office of Cost Estimating and Program Evaluation**

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RESPONSIBILITIES FOR INDEPENDENT COST ESTIMATES

1. **PURPOSE.** To establish policy, roles, and responsibilities for conducting Independent Cost Estimates (ICEs) and Independent Cost Reviews (ICRs) on Acquisition Programs and Capital Asset Projects within the National Nuclear Security Administration (NNSA).
2. **AUTHORITY.** This NNSA Policy (NAP) is written under the Administrator's authority to set policy established pursuant to 50 United States Code (U.S.C.) 2402(d).
3. **CANCELLATION.**
 - a. ACD 413.1, *Centralizing Cost Estimating Activities in the National Nuclear Security Administration*, dated 12-09-19
 - b. NAP-413.3, *Responsibilities for Independent Cost Estimates*, dated 02-13-19
 - c. BOP-413.3, *Independent Cost Estimates Procedure*, dated 02-27-14
4. **APPLICABILITY.**
 - a. **Federal.** Applies to all NNSA federal elements.
 - b. **Contractors.** Does not apply to contractors.
 - c. **Equivalencies/Exemptions.** In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 U.S.C. sections 2406 and 2511, and to ensure consistency throughout the joint Navy/DOE Naval Nuclear Propulsion Program, the Deputy Administrator for Naval Reactors (Director) will implement and oversee requirements and practices pertaining to this Directive for activities under the Director's cognizance, as deemed appropriate.
5. **SUMMARY OF CHANGES.**
 - a. Updates Requirements.
 - b. Updates Appendix 1: NAP defined ICE and ICR responsibilities.
6. **BACKGROUND.** ICEs and ICRs offer NNSA the ability to validate program baseline estimates by providing objective comparisons for, and assessments of, the reasonableness of the baseline estimate, those programs, and the program/project cost threshold for conducting ICE/ICR and milestones. ICEs and ICRs are recognized as a best practice by both federal and industry organizations, including the Government Accountability Office (GAO), the Department of Defense (DOD), and the Defense Acquisition University (DAU). The GAO *Cost Estimating and Assessment Guide* states: "A realistic cost estimate allows better decision making, in that an adequate budget can accomplish the tasks that ultimately increase a program's probability of success."

Legislation codified in 50 U.S.C. 2411 and 50 U.S.C. 2537 established the NNSA Office of Cost Estimating and Program Evaluation (CEPE), defined Major Atomic Energy Defense Acquisition (MAEDA) Programs, and specified when ICEs are performed on those programs.

7. REQUIREMENTS. ICEs and ICRs must be conducted, when required, at project and program milestones, such as Critical Decision (CD) points or Phase 1-7/Phase 6.X process phases, and at the request of the Administrator.
 - a. ICEs and ICRs must be conducted for capital asset acquisition projects covered by DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets* (or successor order), with a total estimated cost greater than the General Plant Project (GPP) threshold and based on criteria defined in DOE Order 413.3B.
 - b. ICEs and ICRs must be conducted for programs managed under the Phase 1-7 or Phase 6.X acquisition process at the acquisition milestones mandated by 50 U.S.C. 2537.
 - c. ICEs and ICRs must be conducted for programs meeting the definition of a MAEDA program where the total project or program cost is greater than \$500 million or the total lifetime cost is greater than \$1 billion.
8. RESPONSIBILITIES.
 - a. Director, Office of Cost Estimating and Program Evaluation (CEPE).
 - (1) Conducts ICRs and ICEs that are required by statute, DOE/NNSA policy, or at the request of the Administrator.
 - (2) For DOE Order 413.3B projects, conducts ICEs and ICRs at CD-0 through CD-4. For projects greater than GPP threshold and less than \$100M, CEPE conducts the ICEs and ICRs at CD-0 through CD-4. For projects with estimated total project costs of \$100M and greater, CEPE conducts ICEs and ICRs only for CD-0 and CD-1; the ICEs at CD-2 through CD-4 must be conducted by the DOE Office defined in DOE Order 413.3B (or successor order).
 - (3) For programs managed under the Phase 1-7 or Phase 6.X process, conducts the statutory ICEs and ICRs at the acquisition milestones mandated by 50 U.S.C. 2537.
 - (4) Approves, with the Federal Program Manager or Federal Project Director, the cost analysis requirements description (CARD).
 - (5) After reconciliation provides a memorandum on the result of the ICR or ICE to the Administrator and the appropriate Deputy Administrator or Associate Administrator.

b. Federal Program Managers and Federal Project Directors.

Provide data and documentation in support of ICEs and ICRs as requested.

c. Management and Budget (NA-MB).

Provide cost estimating activities to support the Federal Program Managers and Federal Project Directors.

9. DEFINITIONS. See Appendix C.

10. REFERENCES.

a. Federal Laws and Regulations.

(1) 50 United States Code Section 2411, *Director for Cost Estimating and Program Evaluation*

(2) 50 United States Code Section 2537, *Selected Acquisition Reports and Independent Cost Estimates and Reviews of Certain Programs and Facilities*

(3) 50 United States Code Section 2753, *Notification of Cost Overruns for Certain Department of Energy Projects*

(4) 10 United States Code Section 499a, *Collection, Storage, and Sharing of Data Relating to Nuclear Security Enterprise and Nuclear Forces*

b. Government Accountability Office.

GAO-20-195G, *GAO Cost Estimating and Assessment Guide*

c. DOE.

DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, dated 04-12-18

d. NNSA.

Supplemental Directive 452.3-2, *Phase 6.x Process*, dated 01-19-17

11. CONTACT. Director, Office of Cost Estimating and Program Evaluation, 202-586-6910.

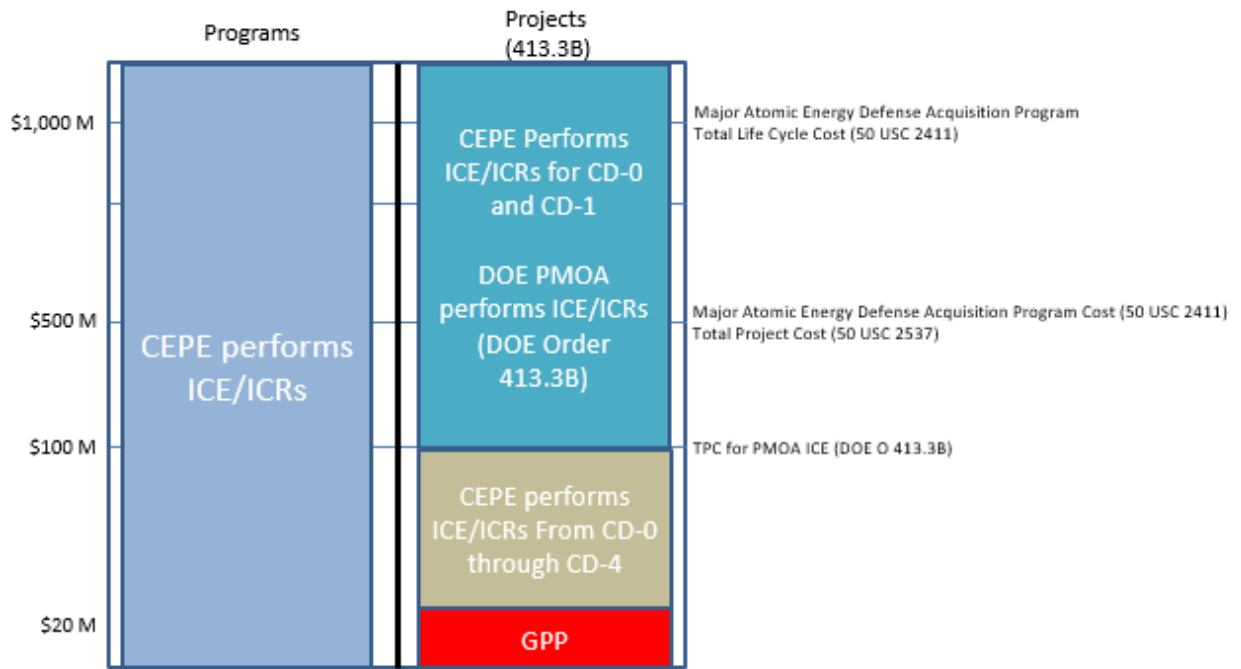
BY ORDER OF THE ADMINISTRATOR:


Charles P. Verdon
Acting Administrator

Appendixes:

- A. NAP Defined ICE and ICR Responsibilities
- B. ICE and ICR Process
- C. Definitions

APPENDIX A: NAP Defined ICE and ICR Responsibilities



APPENDIX B: INDEPENDENT COST ESTIMATE (ICE) AND INDEPENDENT COST REVIEW (ICR) PROCESS

1. REQUIREMENTS. This appendix applies to the ICEs and ICRs on programs/projects conducted by the Office of Cost Estimating and Program Evaluation (CEPE).
 - a. The Federal Program Office/Federal Project Director (FPO/FPD) schedule must include sufficient time for independent reviews of all cost estimates as required. The notional timelines for submission are outlined in Section 3.
 - b. Guidance and oversight must be provided by the Cost Integrated Product Team (IPT). The Cost IPT must be chaired by CEPE and include the Federal Program Manager (FPM), program/project cost group representative, NA-MB, and other stakeholders as needed.
 - c. The following deliverables must be produced:
 - (1) ICE and ICR Notifications must be sent to CEPE when the program is at least 210 days before a program milestone and requires an ICE and ICR.
 - (2) Cost Analysis Requirements Description (CARD) must be consistent with guidance developed by CEPE. The CARD must contain the system purpose, detailed technical system and performance characteristics, work breakdown structure, description of legacy or similar systems, quantities, program schedule, system test and evaluation plan, staffing requirements, and other support and sustainment requirements.
 - (3) Program/Project Cost Estimate must be developed and submitted to CEPE no later than 60 days before a program milestone, or as determined by the Cost IPT.
 - (4) ICE and ICR Memorandums on the results of the ICE and ICR must be sent to the Administrator and the Deputy Administrator or Associate Administrator (DA/AA), as appropriate.
 - d. The ICE and ICR process must be consistent with published Government Accountability Office (GAO) best practices on cost estimating. When GAO best practices cannot be followed, any deviations must be justified and documented as part of the cost estimate reporting.
2. RESPONSIBILITIES.
 - a. Director, Office of Cost Estimating and Program Evaluation (CEPE).
 - (1) Conducts ICRs and ICEs that are required by statute, DOE/NNSA policy, or at the request of the Administrator.
 - (2) Approves the CARD with the FPM/FPD.

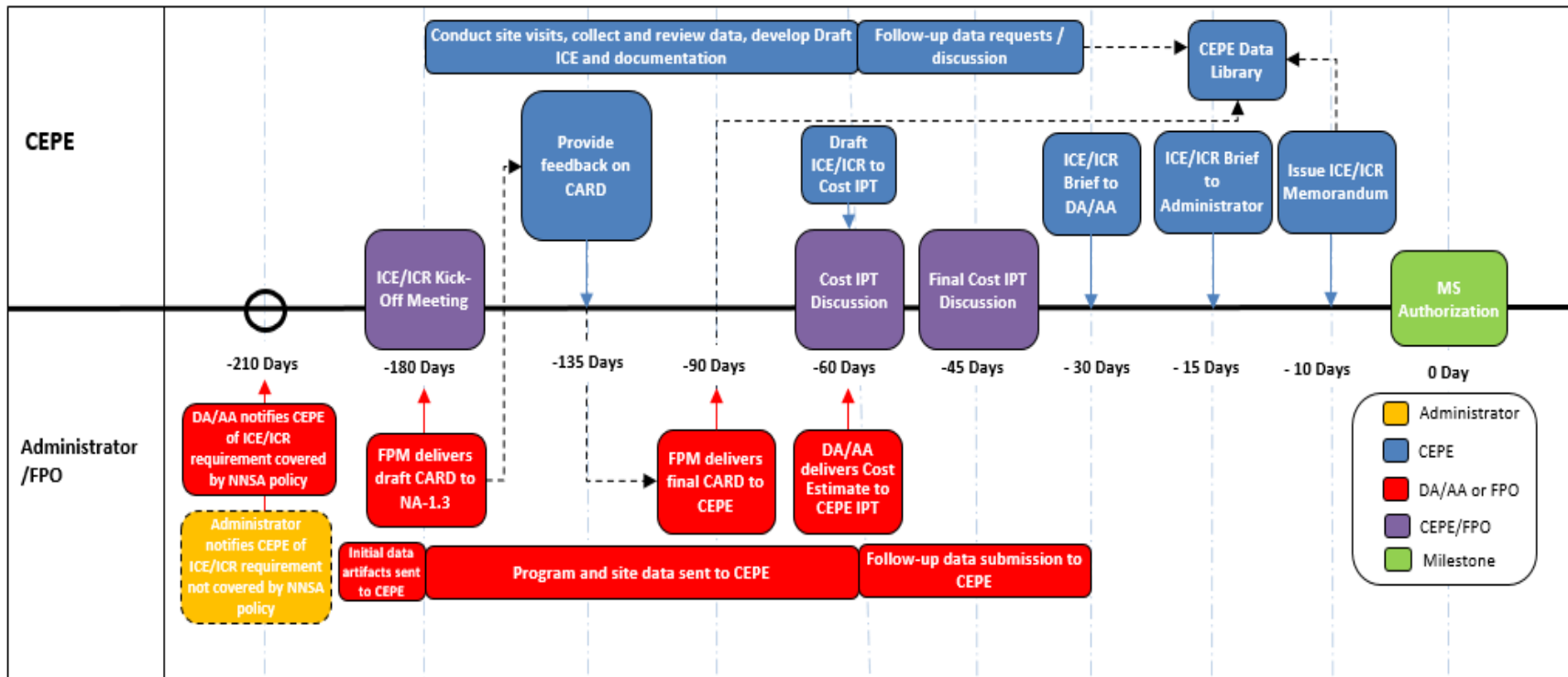
- (3) Provides a memorandum on the results to the Administrator.
 - b. Deputy Administrator or Associate Administrator (DA/AA).
Notifies CEPE when a program milestone requires an ICE and ICR.
 - c. Federal Program Manager/Federal Project Director (FPM/FPD).
 - (1) Provides data and documentation in support of current and future ICEs and ICRs consistent with guidance developed by CEPE.
 - (2) Coordinates schedules to accommodate ICEs and ICRs as needed prior to milestone decisions.
 - (3) Develops a CARD.
 - (4) Approves the CARD with the Director of CEPE.
 - (5) Provides program/project cost estimates to CEPE.
 - d. Management and Budget (NA-MB)
Provides cost estimating activities to support the Federal Program Managers and Federal Project Directors.
 - e. Cost Integrated Product Team (IPT).
 - (1) Integrates and synchronizes cost efforts related to the program prior to a program milestone.
 - (2) Defines the purpose of the estimate.
 - (3) Develops the estimate plan.
 - (4) Ensures that data is shared between stakeholders and that deliverable dates are met in a timely manner.
3. PROCESS.
- a. Figure 1: Timeline for the Preparation of the NNSA ICE and ICR sets forth the typical timeline of events and deadlines to support the completion of an ICE and ICR. This timeline may be tailored by the Cost IPT, depending upon the program and the information needed to support the decision maker.
 - b. At least 210 days before the program milestone the DA/AA notifies CEPE of a program's upcoming event that requires an ICE and ICR that is covered by NNSA policy.

- c. A kick-off meeting, co-chaired by a CEPE representative and the FPM, is held no later than 180 days before the program milestone. CEPE and the FPM develop an agenda for discussion including requirements for the cost estimates, alternatives to consider, and the assumptions on which the cost estimates will be based.
- d. Following the kick-off meeting and continuing until the program milestone representatives from CEPE and FPM conduct site visits and collect and review program data consistent with guidance developed by CEPE.
- e. The FPM prepares and delivers the draft CARD to CEPE no later than 180 days before the program milestone.
- f. No later than 45 days after receipt of the draft CARD (usually at least 135 days before the program milestone) CEPE provides feedback to the FPO stating that the CARD is sufficiently or insufficiently developed to continue with preparation of the cost estimates.
- g. The FPM provides a final copy of the CARD to CEPE at least 90 days before the scheduled program milestone which is placed into the electronic CEPE Data Library. The Director of CEPE and the FPM approve the final CARD.
- h. In accordance with GAO best practices CEPE conducts a sensitivity analysis in order to identify the effects of changing key cost driver assumptions and factors. The sensitivity analysis provides a range of possible costs, a point estimate, and a method for performing what-if analyses.
- i. In accordance with GAO best practices the ICE and ICR reflects the degree of uncertainty so that a level of confidence can be given about the estimate. CEPE conducts quantitative risk and uncertainty analyses in order to calculate a confidence interval or range of possible costs.
- j. The DA/AA delivers the final signed Program Cost Estimate and for the ICR, the full life-cycle cost estimates (LCCEs) for each option to CEPE, and the Cost IPT at least 60 days before the program milestone or as determined by the Cost IPT. Copies of these documents are submitted to the CEPE Data Library.
- k. No later than 60 days before the program milestone CEPE delivers the draft ICE and ICR to the Cost IPT. During this time CEPE, the DA/AA, and FPO representatives have ongoing discussions with the Cost IPT concerning the cost estimating strategies and methodologies used to develop the ICE and ICR and the DA/AA Program Cost Estimate or LCCEs.
- l. No later than 45 days before the program milestone representatives from CEPE, FPO, and the DA/AA meet with the Cost IPT to compare the results of the final ICE and ICR and the DA/AA Program Cost Estimate or LCCEs and address any data inaccuracies. CEPE and the FPO will lead the reconciliation process to identify major discrepancies between the two estimates that will be reconciled and

briefed to the DA/AA and the Administrator as well as captured in an ICR and ICE Memorandum. Reconciliation also addresses changes to the proposed budget in the Future Years Nuclear Security Program (FYNSP) where applicable.

- m. A CEPE representative provides a summary of the ICE and ICR to the DA/AA no later than 30 days before the program milestone as appropriate.
- n. A CEPE representative provides a summary of the ICE and ICR to the Administrator no later than 15 days before the program milestone as appropriate.
- o. No later than 10 days before the program milestone CEPE issues its ICE and ICR memorandum; a copy of which is placed in the CEPE Data Library.
- p. CEPE uses the information submitted to the CEPE Data Library when preparing its annual report to Congress. The annual report summarizes the cost estimation and analysis activities of the NNSA during the previous year and assesses the progress of the NNSA in improving the accuracy of its cost estimates and analyses.

Figure 1: Timeline for the Preparation of the NNSA ICE and ICR



APPENDIX C: DEFINITIONS

- a. Acquisition Program. A defined duration, funded effort from conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal to provide a new, improved, or continuing weapon and weapon systems or other products to satisfy an NNSA mission requirement or capability gap, intended for use in, or in support of, NNSA missions.
- b. Baseline. A quantitative definition of cost, schedule, and technical performance that serves as a base or standard for measurement and control during the performance of an effort; the established plan against which the status of resources and the effort of the overall program, field program(s), project(s), task(s), or subtask(s) are measured, assessed, and controlled. Once established, baselines are subject to change control discipline.
- c. Capital Asset Acquisition Project. A project with defined start and end points required in the acquisition of capital assets. The project acquisition cost of a capital asset includes both its purchase price and all other costs incurred to bring it to a form and location suitable for its intended use. It is independent of funding type. It excludes operating expense funded activities such as repair, maintenance or alterations that are part of routine operations and maintenance functions and do not exceed the general plant project threshold.
- d. Cost Analysis Requirements Description (CARD). A description of the relevant features of the acquisition program or project and of the system itself. It is the common description of the technical and programmatic features of the program that is used by the teams when preparing the ICE or program office cost estimates. It is intended to define the program to a sufficient level of detail such that no confusion exists between the many parties who may be concerned with estimating the program's cost.
- e. Federal Project Director (FPD). Responsible and accountable for directing a capital asset project in accordance with DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*.
- f. Federal Program Manager (FPM). An individual in the headquarters organizational element responsible for managing a program and its assigned projects. The FPMs ensure that all the projects are properly phased, funded over time, and that each project manager is meeting their key milestones. FPMs serve as the project director's advocate, ensure proper resourcing, and facilitate the project execution process. They predict programmatic risks and put mitigation strategies in place so that projects are not affected.
- g. Independent Cost Estimate (ICE). A cost estimate prepared by an organization independent from the government line manager's authority and the contractor organization responsible for the project or program, using the same detailed technical and

procurement information to develop the program or project estimate in accordance with GAO best practices.

- h. Independent Cost Review (ICR). An evaluation of a program's or project's cost estimate that examines the reasonableness of the estimate quality, assumptions, and risks. The ICR is prepared by an organization independent from the government line manager's authority and the contractor organization responsible for the project or program.
- i. Life-Cycle Cost Estimate (LCCE). The cost to the Government of acquisition and sustainment of a system over its useful life. It includes the cost of development, acquisition, operations, and support (to include manpower), and where applicable, disposal.
- j. Major Atomic Energy Defense Acquisition (MAEDA) Program. An atomic energy defense acquisition program of which the total project cost is more than \$500 million or the total lifetime cost is more than \$1 billion.
- k. Phase 6.X Process. Provides the framework for nuclear weapons activities (including life extension programs), such as routine maintenance, stockpile evaluation, surveillance, baselining, and annual certification.
- l. Total Project Cost/Total Program Cost (TPC). For projects following DOE Order 413.3B (or successor order), TPC is all costs between CD-0 and CD-4 specific to a project incurred through the startup of a facility, but prior to the operation of the facility. For programs following the 6.X process, the TPC will cover all costs from phase 6.1 through phase 6.6. For other acquisition programs, the TPC is the cost of conceptualization, initiation, design, development, test, contracting, and production prior to operation and disposal.