NNSA POLICY LETTER

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RESPONSIBILITIES FOR INDEPENDENT COST ESTIMATES

National Nuclear Security Administration

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 and responsibilities for conducting Independent Cost Estimates (ICEs) and Independent Cost Reviews (ICRs) within the U.S. Department of Energy's National Nuclear Security Administration (DOE/NNSA).

2. CANCELLATION. NAP-28, *Responsibilities for Independent Cost Estimates,* dated 2-24-16.

3. APPLICABILITY.

   a. Federal. This applies to all NNSA Elements.

   b. Contractors. Does not apply to contractors.

   c. Equivalency. In accordance with the responsibilities and authorities assigned by Executive Order 12344, codified at 50 USC sections 2406 and 2511, and to ensure consistency through 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.

4. SUMMARY OF CHANGES.

   a. Added references.

   b. Added definitions/acronyms.

   c. Modified contact information (refer to Section 10).

   d. Added ICE/ICR process (refer to Appendix 2).

5. BACKGROUND. Independent Cost Estimates and Independent Cost Reviews offer NNSA the ability to verify and validate program baseline estimates by providing unbiased and objective comparisons for, and assessments of, the reasonableness of the baseline estimate. ICEs and ICRs have been 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 affirms that, "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."

   Recent 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 to be performed on those programs. MAEDA programs do not fall under DOE Order 413.3.B, *Program and Project Management for the Acquisition of Capital Assets* and its associated Guides and NNSA Business Operating Procedures, and necessitate the creation of this

NAP. This NAP establishes roles and responsibilities for conducting ICEs and ICRs on acquisition programs and capital asset projects.

6. REQUIREMENTS. The following organizations will conduct ICEs or ICRs when required at project and program milestones, such as Critical Decision points or 6.X process phases, and at the request of the Administrator:

   a. Acquisition and Program Management (NA-APM) will conduct the ICE and ICR for capital asset acquisition projects covered by DOE Order 413.3B (or successor order) with an estimated total project cost between $10 million and $100 million. For projects with an estimated total project cost greater than $100 million, the ICEs and ICRs will be conducted by the DOE Office defined per DOE Order 413.3B (or successor order).

   b. The appropriate Deputy Administrator or Associate Administrator will conduct the ICE or ICR for acquisition programs where the total project or program cost is less than $500 million and are not covered by DOE Order 413.3B (or successor order). That ICE or ICR will be provided to CEPE for review and approval. When directed by the Administrator, CEPE will conduct the NNSA ICE or ICR on these programs.

   c. CEPE will conduct the NNSA ICE and ICR for programs meeting the definition for 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 (see process in Appendix 2). The appropriate Deputy Administrator or Associate Administrator may perform their own independent cost estimate as needed, such as for the annual Stockpile Stewardship and Management Plan (SSMP, or its successor).

7. RESPONSIBILITIES.

   a. Director of Cost Estimating and Program Evaluation is responsible for maintaining this NAP and establishing BOPs and instructions for its implementation.

   b. Deputy Administrators and Associate Administrators are responsible for providing to CEPE the ICEs and ICRs conducted under this policy.

   c. Associate Administrator for Acquisition and Project Management (NA-APM) is responsible for conducting ICEs and ICRs for capital asset construction and Major Items of Equipment projects in accordance with this policy and for maintaining BOPs specific to ICEs and ICRs on capital asset acquisition projects.

   d. Federal Program Managers and Federal Project Directors are responsible to provide data and documentation in support of ICEs and ICRs as requested, and coordinate schedules to accommodate ICEs and ICRs as needed, to meet milestone decisions. For programs meeting the definition of a MAEDA program,

the Federal Program Manager will provide a cost analysis requirements description (CARD).

8. 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 life extension programs and new nuclear facilities

(3) 50 United States Code Section 2753, Notification of cost overruns for certain Department of Energy projects

b. Government Accountability Office

GAO-09-3SP, *GAO Cost Estimating and Assessment Guide*

c. DOE

(1) DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*

(2) Nuclear Weapons Council, *Procedural Guideline for the Phase 6.X Process*, dated 4-19-00

d. NNSA

BOP-06.03, *Independent Cost Estimates Procedure*

9. DEFINITIONS/ACRONYMS.

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 product to satisfy 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 form and a 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 and/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. **Cost Estimating Risk (CER)** – The risk reflects one's confidence in the input parameters used to develop a cost estimate. Cost estimating risk arises from the inaccuracies inherent in the programmatic assumptions or technical data used as inputs to CERs.

f. **Cost Estimating Uncertainty** – The uncertainty reflects one's confidence in the point estimate. Cost estimating uncertainty arises from the inaccuracies inherent in the cost estimating methodologies.

g. **Earned Value Management (EVM)** – A project performance method that utilizes an integrated set of performance measurements (e.g., scope, cost, and schedule) to assess and measure project performance and progress, and estimate cost and schedule impacts at completion.

h. **Federal Program Manager (FPM)** – An individual in the headquarters organizational element responsible for managing a program and its assigned projects. They ensure that all the projects are properly phased, funded over time, and that each project manager is meeting their key milestones. They are the project manager's advocate, ensure proper resourcing, and facilitate the execution process. They predict programmatic risks and put mitigation strategies in place so that projects are not affected.

i. **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 and/or project estimate in accordance with GAO best practices.

j. **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, also prepared by an organization independent from the

government line manager's authority and the contractor organization responsible for the project or program.

k. **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. For defense systems, LCCE is also called Total Ownership Cost (TOC).

l. **Major Atomic Energy Defense Acquisition (MAEDA) Program** – An atomic energy defense acquisition program of which the total project cost is more than $500 million and/or the total lifetime cost is more than $1 billion. The term 'major atomic energy defense acquisition program' does not include a project covered by DOE Order 413.3B (or a successor order) for the acquisition of capital assets for atomic energy defense activities.

m. **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.

n. **Total Lifetime Cost (TLC)** – Is equivalent to the lifecycle cost for projects and programs. The TLC includes the costs of conceptualization, initiation, design, development, test, contracting, production, deployment, logistics support, modification, and disposal.

o. **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.

p. **Work Breakdown Structure (WBS)** – A numeric structure incorporating logic to capture scope, cost, and schedule of work. The WBS mentioned in this document will be standardized and common across the nuclear security enterprise and will include Work for Others and other Department of Energy programs to identify total site costs and scope. A program WBS provides a framework for program and technical planning, cost estimating, resource allocations, performance measurements, and status reporting. The WBS should define the total system to be developed or produced; display the total system as a product-oriented family tree composed of hardware, software, services, data, and facilities; and relate the elements of work to each other and to the end product.

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

BY ORDER OF THE ADMINISTRATOR:

Frank G. Klotz
Administrator

Appendixes:
1. NAP Defined ICE/ICR Responsibilities
2. Independent Cost Estimate and Independent Cost Review Process

APPENDIX 1: NAP DEFINED ICE/ICR RESPONSIBILITIES

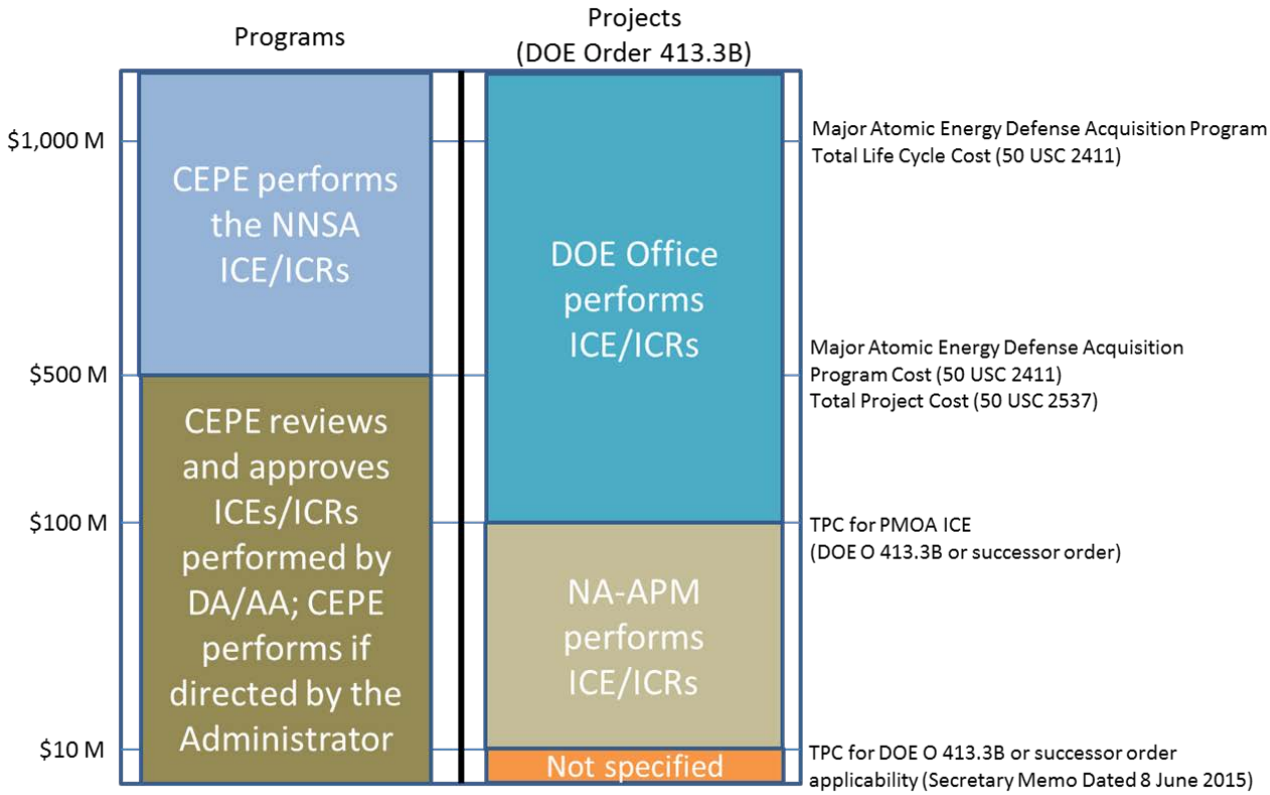

FIGURE 1. Areas of responsibilities for ICE/ICRs

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APPENDIX 2: INDEPENDENT COST ESTIMATE AND INDEPENDENT COST REVIEW PROCESS

1. REQUIREMENTS. This appendix applies to the NNSA ICEs and ICRs on programs conducted by CEPE. For capital asset acquisition projects that fall under DOE Order 413.3B (or successor order), refer to BOP-06.03, *Independent Cost Estimates Procedure*.

   a. The Federal Program Office (FPO) program 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 will 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 cost group representative, and other stakeholders as needed.

   c. The following deliverables must be produced:

      (1) ICE/ICR Notification must be sent to CEPE when the program is at least 210 days before a program milestone and requires an ICE or 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 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/ICR Report on the results of the ICE or ICR must be sent to the Administrator and the Deputy Administrator or Associate Administrator (DA/AA) as appropriate.

   d. The ICE/ICR process must be consistent with published 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 of Cost Estimating and Program Evaluation (CEPE):

      (1) Develops ICEs and ICRs;

      (2) Approves the CARD with the FPM; and

(3) Provides a report on the results of the ICR or ICR to the Administrator and the DA/AA.

b. Deputy Administrator or Associate Administrator (DA/AA):

(1) Develops program cost estimates;

(2) Notifies CEPE when their program is at least 210 days before a program milestone and requires an ICR or ICR; and

(3) Provides the program cost estimate to CEPE no later than 60 days before a program milestone or as determined by the cost IPT.

c. Federal Program Manager (FPM):

(1) Provides data and documentation in support of current and future ICEs/ICRs consistent with guidance developed by CEPE;

(2) Coordinates schedules to accommodate ICEs/ICRs as needed prior to milestone decisions;

(3) Develops a CARD; and

(4) Approves the CARD with the Director of CEPE.

d. 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; and

(4) Ensures that data is shared between stakeholders and that deliverable dates are met in a timely manner.

3. PROCESS.

a. Figure 1 sets forth the typical timeline of events and deadlines to support the timely completion of an ICE/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 must notify CEPE of a program's upcoming event that requires an ICE or ICR that is covered by NNSA policy. The Administrator will notify CEPE of an ICE or ICR requirement that is not covered by NNSA policy.

c. A kick-off meeting is held no later than 180 days before the program milestone. Before the kick-off meeting, CEPE and the FPM will develop an agenda of information to discuss, to include requirements for the cost estimates, alternatives to consider, and the assumptions on which the cost estimates will be based. A CEPE representative and the FPM must co-chair the kick-off meeting.

d. The FPO will prepare and deliver the draft CARD to CEPE no later than 180 days before the program milestone.

e. No later than 45 days after receipt of the draft CARD (usually at least 135 days before the program milestone), CEPE will provide feedback to the FPO stating that the CARD is sufficiently or insufficiently developed to continue with preparation of the cost estimates.

f. Following the kick-off meeting and continuing until the program milestone, representatives from CEPE and FPO will conduct site visits, and collect and review program data consistent with guidance developed by CEPE.

g. A final copy of the CARD must be provided to CEPE by the FPO at least 90 days before the scheduled program milestone and placed into the electronic CEPE Data Library. The Director of CEPE and the FPM must jointly approve the final CARD.

h. In accordance with GAO best practices, CEPE will conduct a sensitivity analysis in order to identify the effects of changing key cost driver assumptions and factors. The sensitivity analysis will provide a range of possible costs, a point estimate, and a method for performing what-if analysis.

i. In accordance with GAO best practices, the ICE will reflect the degree of uncertainty, so that a level of confidence can be given about the estimate. CEPE will conduct quantitative risk and uncertainty analysis in order to calculate a confidence interval or range of possible costs.

j. The DA/AA must deliver the final, signed Program Cost Estimate to CEPE and the Cost IPT at least 60 days before the program milestone or as determined by the Cost IPT. For an ICR, the DA/AA must deliver 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 must be submitted to the CEPE Data Library.

k. No later than 60 days before the program milestone, CEPE must deliver the draft ICE or ICR to the Cost IPT. During this time, CEPE, DA/AA, and FPO representatives will have ongoing discussions with the Cost IPT concerning the cost estimating strategies and methodologies used to develop the ICE/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 will meet with the Cost IPT to compare and discuss the results of the final ICE/ICR and the DA/AA Program Cost Estimate or LCCEs, and address any data inaccuracies.

m. A CEPE representative will provide a summary brief of the ICE or ICR to the DA/AA no later than 30 days before the program milestone as appropriate.

n. A CEPE representative will provide a summary brief of the ICE or 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 must issue its ICE or ICR report, a copy of which must be placed into 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/ICR