



U.S. DEPARTMENT OF  
**ENERGY**



# Cost Estimating and Program Evaluation Activities and Major Atomic Energy Defense Acquisition Program Status

Report to Congress  
May 2015

National Nuclear Security Administration  
United States Department of Energy  
Washington, DC 20585

# Message from the Administrator

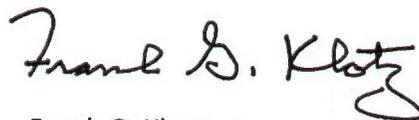
Accurately estimating costs, assessing alternatives, and evaluating National Nuclear Security Administration (NNSA) program performance are vital to national security and the responsible expenditure of taxpayer dollars. The Office of Cost Estimating and Program Evaluation will provide rigorous program analysis, prudent fiscal guidance, and independent advice to NNSA and DOE to enable improved mission planning and performance. The establishment, maturation, and support of this office will help NNSA monitor closely all major atomic energy defense acquisition projects.

This report is being provided to the following Members of Congress:

- **The Honorable John McCain**  
Chairman, Senate Committee on Armed Services
- **The Honorable Jack Reed**  
Ranking Member, Senate Committee on Armed Services
- **The Honorable Mac Thornberry**  
Chairman, House Armed Services Committee
- **The Honorable Adam Smith**  
Ranking Member, House Armed Services Committee

If you have any questions or need additional information, please contact Mr. Clarence Bishop, Associate Administrator for External Affairs, at (202) 586-7332.

Sincerely,



Frank G. Klotz  
Under Secretary for Nuclear Security  
Administrator, NNSA

## Executive Summary

NNSA formally established the Office of Cost Estimating and Program Evaluation in September 2014. In coordination with the Department of Defense, Office of Cost Assessment and Program Evaluation and in consultation with Congressional staff, NNSA created an implementation plan and is standing up the office in accordance with that plan.

For Fiscal Year (FY) 2015, NNSA's major atomic energy defense acquisition (MAEDA) programs include the W76-1 Life Extension Program (LEP); B61-12 LEP; W88 Alteration 370; W80-4 LEP; and first Interoperable Warhead (IW-1) LEP. Capital asset acquisition projects are excluded from this report, in accordance with the definition of "major atomic energy defense acquisition program" in section 3221(h) of the National Nuclear Security Administration Act (50 U.S.C. 2411(h)).



# **COST ESTIMATING AND PROGRAM EVALUATION ACTIVITIES AND MAJOR ATOMIC ENERGY DEFENSE ACQUISITION PROGRAM STATUS**

## **Table of Contents**

I.	Legislative Language .....	1
II.	CEPE Activities in 2014.....	1
III.	MAEDA Program Status .....	2
IV.	Conclusion.....	3

## I. Legislative Language

This report responds to section 2411(g) of Title 50, United States Code (section 3112 of the National Defense Authorization Act for Fiscal Year 2014 (Public Law 113-66)), wherein it is stated:

*(g) REPORTS BY DIRECTOR.—The Director shall submit to Congress at or about the time that the budget of the President is submitted to Congress pursuant to section 1105(a) of title 31, United States Code, for each of fiscal years 2015 through 2018, a report that includes the following:*

- (1) A description of activities conducted by the Director during the calendar year preceding the submission of the report that are related to the duties and activities described in this section.*
- (2) A list of all major atomic energy defense acquisition programs and a concise description of the status of each program and project in meeting cost and critical schedule milestones.*

Section 2411(h) defines major atomic energy defense acquisition (MAEDA) program as follows:

*(1) MAJOR ATOMIC ENERGY DEFENSE ACQUISITION PROGRAM.—*

*(A) IN GENERAL.—Except as provided in subparagraph (B), the term “major atomic energy defense acquisition program” means an atomic energy defense acquisition program of the Administration—*

- (i) the total project cost of which is more than \$500,000,000; or*
- (ii) the total lifetime cost of which is more than \$1,000,000,000.*

*(B) EXCLUSION OF CAPITAL ASSETS ACQUISITION PROJECTS.—The term “major atomic energy defense acquisition program” does not include a project covered by Department of Energy Order 413.3 (or a successor order) for the acquisition of capital assets for atomic energy defense activities.*

## II. CEPE Activities in 2014

The Office of Cost Estimating and Program Evaluation (CEPE) was formally established in September 2014. To date the following activities have been accomplished:

- Established CEPE in the Office of the Administrator in September 2014.
- In coordination with the Department of Defense, Office of Cost Assessment and Program Evaluation and in consultation with Congressional staff, NNSA created an implementation plan and is standing up the office in accordance with that plan.

- Initiated activities for hiring CEPE staff in accordance with the implementation plan. The NNSA has selected a Director for the office and seven Federal staff are onboard. CEPE plans to have 18 Federal staff by the end of FY 2017.

### **III. MAEDA Program Status**

NNSA's current MAEDA programs consist of nuclear weapon systems undergoing life extensions or major alterations. Consolidated Nuclear Security LLC, the new contractor at Pantex and Y-12, is implementing an improved cost management system that will reduce total NNSA operating costs. While the total changes to NNSA net to zero, costs allocated to the LEPs have increased. Preliminary impact estimates were added to the FY 2016 President's Budget Request, and NNSA is pursuing final estimates which will be included in future SARs.

#### ***W76-1 LEP***

The W76-1/Mk4A LEP entails refurbishment of the W76-0/Mk4 warhead currently deployed on Trident II (D5) submarine-launched ballistic missiles. It will extend the warhead's life an additional 30 years. The W76-1 LEP is planned in coordination with the Department of Defense and is timed to support the Department of the Navy Trident Missile LEP.

The W76-1 LEP is currently in Full Scale Production (Phase 6.6). The LEP is on track to complete production in FY 2019, with program close-out in FY 2020. The baseline total cost for the LEP is \$1.856 billion (Base Year 2002 dollars), and the current estimated cost is \$3.027 billion (Base Year 2002 dollars).

#### ***B61-12 LEP***

The B61 is a multi-purpose nuclear gravity bomb. The B61-12 LEP scope will incorporate a tail-kit assembly provided by the Air Force. The LEP enables the retirement of the B61 Mod 3, 4, 7, and 10 bombs.

The B61-12 LEP is currently in Development Engineering (Phase 6.3), with transition to Production Engineering (Phase 6.4) scheduled to occur in FY 2016. First Production Unit (FPU, Phase 6.5) is scheduled to occur in FY 2020. The program is currently on track to meet the Phase 6.4 and 6.5 milestones in its baseline schedule. The baseline total cost for the LEP is \$6.581 billion (Base Year 2012 dollars), and the current estimated cost is \$6.549 billion (Base Year 2012 dollars).

#### ***W88 Alteration 370 (W88 ALT 370)***

The W88-0/Mk5 warhead is deployed on Trident II (D5) submarine-launched ballistic missiles. The W88 ALT 370 replaces the warhead's arming, fuzing, and firing subsystem, enhances nuclear safety, and supports future alternatives for Nuclear Explosive Package LEPs. Consistent

with the President's FY 2016 Budget Request, this Alteration will now include a refresh of the warhead's conventional high explosives (CHE).

The W88 ALT 370 is currently in Development Engineering (Phase 6.3), with transition to Production Engineering (Phase 6.4) scheduled to occur in FY 2016. The program is currently on track to meet the Phase 6.4 milestone and baseline schedule. The baseline total cost for the LEP is \$1.341 billion (Base Year 2013 dollars), and the current estimate cost is \$1.841 billion (Base Year 2013 dollars). Defense Programs is performing an estimate of including the CHE refresh scope which will be used to update the integrated program in a future SAR.

### ***W80-4 LEP***

The W80 warhead is deployed on the Air-Launched Cruise Missile. To support the development of the Air Force's Long Range Stand Off (LRSO) program, NNSA is undertaking the W80-4 LEP to provide a warhead for the new platform. NNSA will consider reuse, refurbishment, and replacement options for nuclear and non-nuclear components.

The W80-4 LEP is currently in Concept Assessment (Phase 6.1), with transition to Feasibility Study and Down Select expected in the fourth quarter of FY 2015. Consistent with the President's FY 2016 Budget Request, the NNSA and the Air Force plan to achieve FPU by FY 2025. As the program is in Phase 6.1, the NNSA has not yet established a cost or schedule baseline for this LEP.

### ***First Interoperable Warhead (IW-1) LEP***

Interoperable warheads have a common nuclear explosive package integrated with non-nuclear systems that maximize the use of common and adaptable components. The first interoperable warhead, IW-1, is planned to be the W78/88-1 life-extended warhead for use in both Air Force and Navy aeroshells.

The IW-1 LEP entered Feasibility Study and Down Select (Phase 6.2) in June 2012, but has been deferred due to budget constraints until FY 2020, with a FPU currently planned for FY 2030. The NNSA has yet to establish a cost or schedule baseline for this LEP.

## **IV. Conclusion**

NNSA will ensure the CEPE Director has sufficient personnel with competence in technical, budgetary, cost estimation, technology readiness, and other relevant matters to fulfill congressional requirements, in accordance with a fully-coordinated, long-term plan coordinated between NNSA and DOD's Office of Cost Assessment and Program Evaluation.