



## Agency Priority Goal Action Plan

# Maintain and Modernize the U.S. Nuclear Weapons Stockpile

### Goal Leader:

Dr. Charles Verdon, NNSA, Deputy Administrator for Defense Programs

Theme(s): National Defense

# Overview

---

## Goal Statement

- Maintain and modernize the U.S. nuclear weapons stockpile and dismantle excess nuclear weapons to meet the national security requirements, as assigned by the President, through the Nuclear Posture Review (NPR). DOE will:
  - By Sept. 30, 2018, complete at least 90% of W76-1 production unit builds and achieve B61-12 system final design review
  - By Sept. 30, 2019, achieve 100% of W76-1 production unit builds, and update the plan for future life extension programs (LEPs) in NNSA strategic planning documents as outlined in the NPR.

## Challenges

- Manage the significantly increasing workload through the NNSA design and production complex to meet NNSA-Department of Defense(DOD) warhead delivery requirements
  - Meet planned future warhead production requirements while simultaneously modernizing much of the production complex
  - Address need to update electrical designs for some B61-12 components, while minimizing impact on future warhead development production plans.
- Significant time to obtain Q-clearances for new workforce personnel, complex wide

## Opportunities

- Modernizing the nuclear weapons stockpile maintains the safety, security, and effectiveness of the Nation's nuclear deterrent

# Goal Structure & Strategies

---

NNSA's warhead modernization strategy envisions a modern, flexible, and resilient future stockpile by modernizing existing warheads and the pursuit of modest supplements to the stockpile to raise adversaries' threshold for nuclear weapons use, assure allies, and provide options to meet U.S. objectives should deterrence fail. With this strategy, NNSA will consider flexibility-enabling design strategies and features that promote future system modernizations to be accomplished at lower costs and with greater speed. The Nation will be postured to respond to the adversaries' capabilities, stockpile aging, and shortfalls in U.S. hedge capabilities.

# Summary of Progress – Final

---

As of September 30, 2019 DOE/NNSA:

- W76-1 Life Extension Program (LEP)
  - Completed 100% of W76-1 production unit builds in Q1 FY 2019, and
  - Delivered 100% percent of the total warheads to the Navy on schedule
  
- B61-12 LEP
  - B61-12 LEP System Level Final Design Review completed
  - Completed 13 additional system qualification flight tests on USAF F-15E, F-16 C/D, Mid-Life Update (MLU), and B-2A, as well as initiated testing on the F-35
  - Successfully initiated Tailkit Assembly (TKA) Initial Operational Test & Evaluation (IOT&E)
  - System qualification of the B61-12 is continuing with the completion of over 93 of 112 Component First Production Units (FPUs) as of the end of Q4 FY 2019
  - Due to the need to replace commercial off-the-shelf (COTS) capacitors in some B61-12 electrical assemblies, FPU is rescheduled for Q1 FY 2022
  - Revised Initial Operational Capability (IOC) dates confirmed with the DoD
  
- Delivered the FY 2020 Stockpile Stewardship and Management Plan (SSMP) to Congress in July 2019

# Statement of Goal Achievement and Next Steps

---

## Goal Statement

- Maintain and modernize the U.S. nuclear weapons stockpile and dismantle excess nuclear weapons to meet the national security requirements, as assigned by the President, through the Nuclear Posture Review (NPR). DOE will:
  - By Sept. 30, 2018, complete at least 90% of W76-1 production unit builds and achieve B61-12 system final design review. **Met**
  - By Sept. 30, 2019, achieve 100% of W76-1 production unit builds, and update the plan for future life extension programs (LEPs) in NNSA strategic planning documents as outlined in the NPR. **Met**

APG Status: **Achieved**

## Next Steps:

- Does DOE have an FY 2020-2021 APG in this topic area? No. DOE does have an FY 20-21 APG in the area of Nuclear Stockpile Annual Assessment.

If no, does DOE have an annual performance measure in this topic area? NNSA has a number of annual performance measures monitoring the status of the LEPs and modernization projects.

# Key Milestones

- W76-1 LEP

Milestone Summary			
Key Milestone	Milestone Due Date	Milestone Status	Owner
Produce 100 percent of the W76-1 warheads	Q1 FY 2019	Complete	NNSA, Defense Programs
Deliver the refurbished W76-1 warheads on schedule to the Navy	Q3 FY 2019	Complete	NNSA, Defense Programs

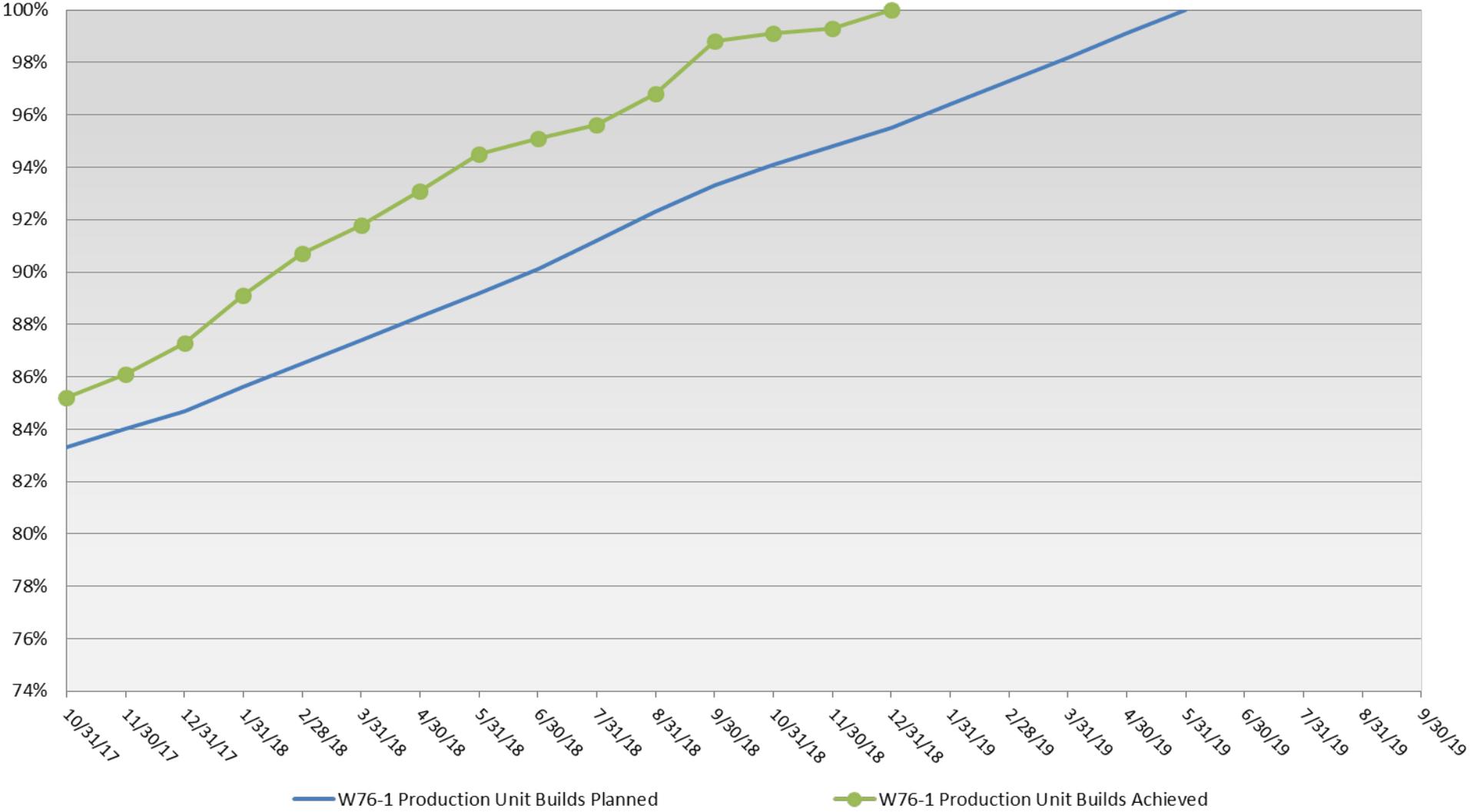
# Key Milestones

- B61-12 LEP

Milestone Summary			
Key Milestone	Milestone Due Date	Milestone Status	Owner
B61-12 LEP System Level Final Design Review	Q4 FY 2018	Complete	NNSA, Defense Programs
Completed B61-12 LEP System Final Design Reviews for major components and successfully initiated component activities at the DOE/NNSA nuclear weapon production facilities	Q4 FY 2018	Complete	NNSA, Defense Programs
B61-12 LEP will ship the 1 <sup>st</sup> production Type 3 Trainers to the United States Air Force	Q3 FY 2019	Complete	NNSA, Defense Programs
B61-12 LEP will conduct final Aircraft Monitor and Control (AMAC), and Full Weapon System Drops to certify aircraft compatibility on the F-15E	Initial: Q3 FY 2019 Revised: Q2 FY 2020	Due to USAF equipment delays, tests have been rescheduled and Final Weapon System Drop (FWSD) will be completed by Q2 FY 2020	NNSA, Defense Programs
B61-12 LEP will complete the Nuclear Explosive Safety Study, NNSA Readiness Review, and receive approval for Pantex Nuclear Explosive Operations	Q4 FY 2019	Complete	NNSA, Defense Programs
Achieve First Production Unit for the B61-12 LEP	Initial: Q2 FY 2020 Revised: Q1 FY 2022	Rescheduled FPU due to COTS capacitor replacement	NNSA, Defense Programs

# Key Indicators (W76-1 Life Extension Program)

## W76-1 Life Extension Program Production



# Data Accuracy and Reliability (W76-1 Life Extension Program)

---

When the Nuclear Weapons Council revised the Program of Record in 2013, NNSA updated the remaining schedule and cost. NNSA accurately projected W76-1 Production completion in Q3 FY 2019, and leveraged process improvements and efficiencies to complete the final W76-1 LEP warhead assembly in Q1 FY 2019 – two quarters ahead of its external commitment.

# Additional Information

---

## Contributing Programs

### Organizations:

- NNSA Enterprise – Headquarters and field offices, Lawrence Livermore National Laboratory, Los Alamos National Laboratory, Kansas City National Security Campus, Nevada National Security Site, Pantex Plant, Sandia National Laboratories, Savannah River Site, and Y-12 National Security Complex

### Program Activities:

- Defense Programs (NA-10)
- Acquisition and Project Management (NA-APM)
- Cost Estimating and Program Evaluation (NA-1.3)
- Information Management (NA-IM)
- Management and Budget (NA-MB)
- Safety, Infrastructure, and Operations (NA-50)

### Other Federal Activities:

- DOE Office of Science Laboratories
- Interagency Partnerships – DOE/NNSA partners with the Departments of Defense and Nuclear Weapons Council, State, and Homeland Security, and the U.S. Intelligence Community

## Stakeholder / Congressional Consultations

NNSA proactively engages Congress, its committees and staff, and state and local stakeholders to sustain its ongoing relationship and openly communicate its mission, goals, and budget.