

The W87-1 will replace the aging W78 warhead to maintain safety, security, and effectiveness of the ICBM leg of the nuclear triad.

OVERVIEW

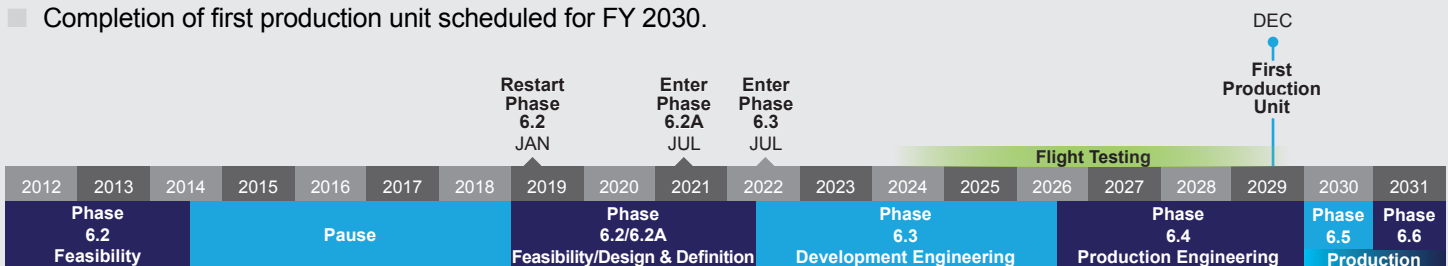
NNSA resumed work on a W78 warhead replacement, designated as the W87-1, in fiscal year (FY) 2019. The W87-1 is planned to be fielded on the U.S. Air Force (USAF) Ground Based Strategic Deterrent. The warhead is named the W87-1 to reflect that it has a similar design to the W87-0. The W87-1 is based on previously tested nuclear components and will include an insensitive high explosive primary that includes advanced safety features. The W87-1 will provide enhanced safety and security compared to the legacy W78 but does not provide new military capabilities. The W87-1 will be certified without the need for additional underground nuclear testing.

ACCOMPLISHMENTS AND CURRENT STATUS

In January 2019, the W87-1 Modification Program restarted Phase 6.2, Feasibility Study and Design Options. In FY 2019, NNSA completed a study on the feasibility of deploying the W87-1 in a U.S. Navy flight body. In FY2020-FY2021 NNSA evaluated warhead technologies, progressed maturity of select technologies, conducted feasibility study of design options, continued program management and control implementation, established formal risk reporting and management, conducted requirements analysis, completed customer requirements review, integrated with USAF acquisition programs, conducted systems engineering, and began early system test and qualification planning.

FUTURE MILESTONES

- Anticipated entrance into Phase 6.3 in the 4th quarter of FY 2022.
- Completion of first production unit scheduled for FY 2030.



NNSA NUCLEAR SECURITY ENTERPRISE ROLES

Lawrence Livermore National Laboratory and Sandia National Laboratories are the physics and engineering laboratories for the W87-1 Modification Program. Additional production activities are performed at the following sites:

- Kansas City National Security Campus** is responsible for producing non-nuclear component assemblies including firing, safing, and use control components.
- Y-12 National Security Complex** is responsible for producing components for the warheads secondary.
- Savannah River Site** is responsible for testing, evaluating, and replenishing the gas transfer system and will be producing plutonium pits.
- Pantex Plant** is responsible for producing high explosives and final assembly of the complete W87-1 warhead for delivery to the U.S. Air Force.
- Los Alamos National Laboratory** is responsible for producing detonators and plutonium pits.