

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

OVERVIEW

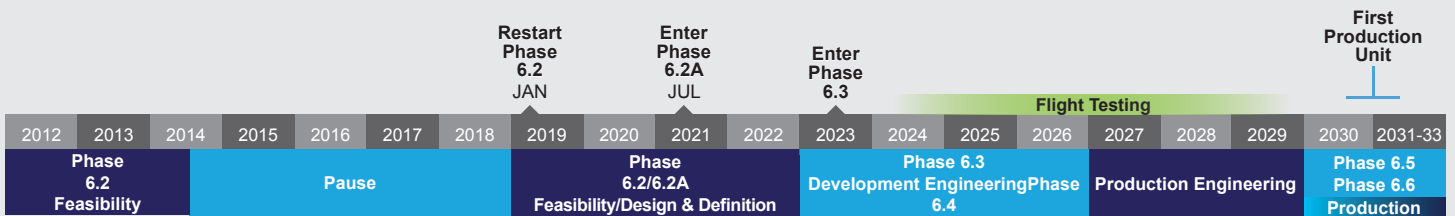
NNSA resumed work on a W78 warhead replacement, designated as the W87-1, in fiscal year (FY) 2019. The W87-1 is planned to be fielded on the U.S. Air Force (USAF) Ground Based Strategic Deterrent. The W87-1 is planned to be fielded on the USAF Sentinel, formerly known as the Ground Based Strategic Deterrent (GBSD). 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. The W87-1 Modification Program will replace the aging W78 warhead using a modified existing legacy W87-0 design and will deploy new technologies that improve safety and security, address material obsolescence, and improve warhead manufacturability.

FUTURE MILESTONES

- Anticipated entrance into Phase 6.4 in FY 2027.
- Completion of first production unit scheduled for FY 2030-2032.



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 USAF.
- Los Alamos National Laboratory** is responsible for producing detonators and plutonium pits.