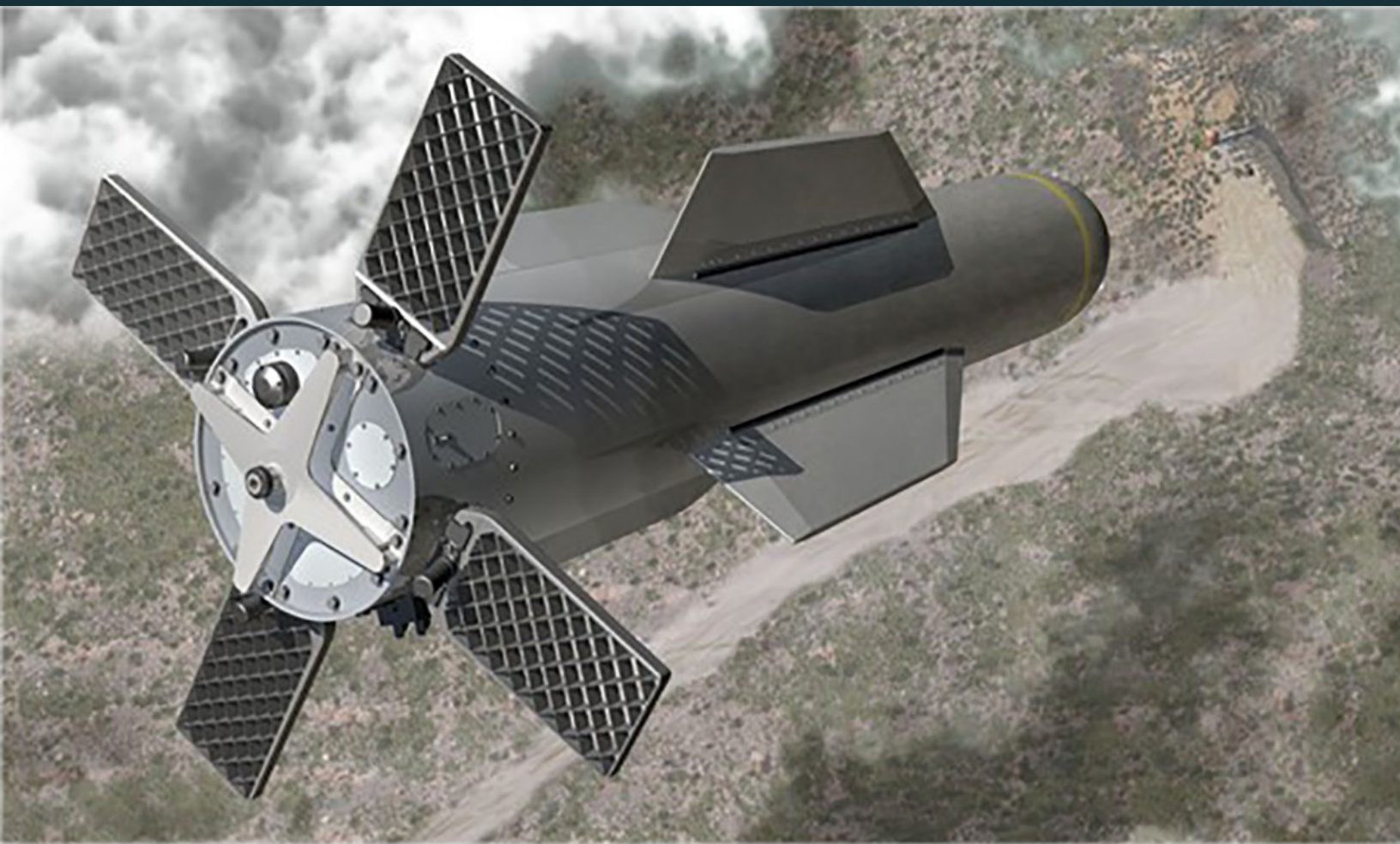


Massive Ordnance Penetrator (MOP) Modification



In FY24, the Air Force concluded subscale lethality testing, conducted an end-to-end full-scale test of the smart fuze, and completed testing of a fix to an integration issue with the B-2. The Air Force has not fully funded the final full-scale tests required to support fielding of the Large Penetrator Smart Fuze (LPSF) enabled GBU-57 Massive Ordnance Penetrator (MOP).

SYSTEM DESCRIPTION

The GBU-57 MOP is a large,

GPS-guided, penetrating weapon designed to attack hard and deeply buried targets (HDBTs) such as bunkers and tunnels. The LPSF integrates advanced smart fuze

capability into the MOP warhead, providing increased probability of kill against HDBTs by mitigating the risk of target intelligence uncertainty.

MISSION

Combatant commanders will use MOP to achieve national security objectives with a low-observable, platform-deliverable, conventional HDBT-defeat capability.

PROGRAM

The GBU-57 MOP Modification is an Acquisition Category II program. The Air Force established the LPSF Quick Reaction Capability program in August 2018 to respond to a validated urgent operational need, to integrate and qualify a smart fuze capability into the MOP that had been previously fielded as the Enhanced Threat Response weapon modifications. This upgrade, known as MOP Modification, provides the capability to hold at risk additional high-value HDBTs with limited threat intelligence.

The MOP Modification program intends to finalize the smart fuze software, improve weaponeering tactics, and validate through demonstration, lower-risk smart fuze capability against a full-scale, high-fidelity underground target.

Due to program funding reprioritization, Defense Threat Reduction Agency (DTRA) contract challenges that affected the ability to construct targets to support testing, and modifications to the delivery platform, the MOP Modification program was unable to execute planned testing in FY21 and FY22. The Air Force rescheduled the test events into FY23 and FY24. Changes made by

DTRA to expedite the contracting and test plan review process have resulted in no material headway, and delays continue. While significantly delayed, the program was able to execute testing at the end of FY23 and in FY24. Despite the delays in test execution and reductions in subscale testing, the program is proceeding with key performance milestones.

The program office is planning to submit a TEMP in 1QFY25 to DOT&E for approval to formalize the test program and resource requirements. The TEMP will articulate the resources required to complete the LPSF MOP Modification test effort.

» MAJOR CONTRACTOR

- Boeing Defense, Space & Security – St. Louis, Missouri

TEST ADEQUACY

Subscale lethality testing was reduced in scope (by approximately 50 percent) due to funding redirection from the Air Force and test execution cost growth within DTRA. The reduced subscale test effort concluded in September 2024. The DoD has limited test locations that allow for subscale and full-scale test bed construction, leading to high-demand and expensive, long-lead time, and custom-tailored test beds.

The Air Force conducted two full-scale tests in FY24 to verify fixes to a B-2 integration issue. The second of the two full-scale test events

also used the LPSF in a full-scale testbed.

PERFORMANCE

» LETHALITY, SUITABILITY, AND SURVIVABILITY

DOT&E sent a classified memorandum to the SECDEF in August 2024, providing an update on the MOP integration with the B-2. DOT&E will provide a classified report on the LPSF following the conclusion of the MOP Modification testing in FY28.

RECOMMENDATIONS

The Air Force should:

1. Submit to DOT&E a TEMP that reflects a resource plan to complete the remaining LPSF T&E activities.
2. Revalidate the urgent operational need requirement from July 2018 for the LPSF Quick Reaction Capability program, as recommended in the FY23 Annual Report.
3. Fully fund the remaining full-scale test events.

DTRA should:

1. Continue to streamline contracting and test plan review processes to minimize delays and cost growth for target construction and test execution, as recommended in the FY22 and FY23 Annual Reports.