

Massive Ordnance Penetrator (MOP) Modification



The Air Force conducted sub-scale lethality testing and retested a fix to an integration issue with the B-2. The Air Force postponed fielding of the Large Penetrator Smart Fuze (LPSF)-enabled Massive Ordnance Penetrator (MOP) due to delays in target construction. The test effort will continue until required testing is complete.

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 GBU-57 warhead is intended to be more lethal than its predecessors, the GBU-28 and GBU-37. 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. The B-2 Spirit is the only aircraft capable of employing the MOP.

MISSION

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

PROGRAM

The MOP is an Acquisition Category IC program as of August 2017. The Air Force established the LPSF Quick Reaction Capability program in August 2018 to respond to an urgent operational need, validated in July 2018, 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 Mod phase of the 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 Mod program was unable to execute planned testing in FY21 and FY22. The Air Force rescheduled the test events and DTRA expedited the contracting and test plan review process.

The program is planning to submit a Test and Evaluation Master Plan (TEMP) in 1QFY24 for DOT&E approval to formalize the test program and resource requirements. The TEMP articulates the resources required to complete the LPSF MOP Mod test effort.

» MAJOR CONTRACTOR

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

TEST ADEQUACY

No significant LPSF MOP testing was conducted in FY23.

PERFORMANCE

» LETHALITY, SUITABILITY, AND SURVIVABILITY

DOT&E provided a classified assessment of the Enhanced Threat Response weapon modifications in the November 2017 early fielding report of the currently fielded MOP configuration.

RECOMMENDATIONS

The Air Force should:

1. Revalidate the urgent operational need requirement from July 2018 for the LPSF Quick Reaction Capability program.

DTRA should:

1. As recommended in the FY22 Annual Report, continue the contracting and test plan review processes to minimize delays and cost growth for target construction and test execution.