

## Massive Ordnance Penetrator (MOP)

### Executive Summary

- In February 2015, the Air Force successfully completed one weapon drop from the B-2 aircraft on a representative target, and in April 2015, completed one weapon drop from the B-2 aircraft on a concrete slab. These tests, conducted at the White Sands Missile Range (WSMR), New Mexico, demonstrated weapon effectiveness after the Air Force incorporated planned enhancements and completed the Enhanced Threat Reduction (ETR) Phase 2 testing.
- DOT&E published a classified Early Fielding Report summarizing the ETR Phase 2 test results in April 2015.

### System

- The GBU-57 Massive Ordnance Penetrator (MOP) is a large, GPS-guided, penetrating weapon with the ability to attack deeply-buried and hardened bunkers and tunnels. The warhead case is made from a special high-performance steel alloy and its design allows for a large explosive payload while maintaining the integrity of the penetrator case during impact.
- The B-2 Spirit is the only aircraft in the Air Force programmed to employ the MOP.
- The GBU-57 warhead is more powerful than its predecessors, the BLU-109 and GBU-28.
- The MOP is an Air Force-led, Quick Reaction Capability that is a Secretary of Defense special interest effort and is under DOT&E oversight.



### Mission

Combatant Commanders use MOP to conduct pre-planned, day or night attacks against defended point targets vulnerable to blast and fragmentation effects and requiring significant penetration, such as hardened and deeply-buried facilities.

### Major Contractor

The Boeing Company, Defense, Space & Security – St. Louis, Missouri

### Activity

- In January/February 2015, the Air Force conducted one live weapon drop at WSMR, on a representative target to evaluate weapon effectiveness. An Air Force B-2 aircraft flew two missions to complete the drop; telemetry problems prevented weapon release on the first mission.
- In April 2015, the Air Force conducted an inert weapon drop at WSMR on a concrete slab target. This testing was to evaluate the effect of the ETR Phase 2 modifications to the weapon. An Air Force B-2 aircraft flew one mission to complete the drop.
- Both flight tests were successful and completed the ETR Phase 2 test.
- DOT&E submitted a classified Early Fielding Report in April 2015 detailing the results of ETR Phase 2.

### Assessment

- A problem with telemetry data prevented weapon release in the planned January 2015 test. The program successfully completed the test in February 2015.
- Both of the flight tests were successful and demonstrated weapon effectiveness with ETR Phase 2 modifications.
- The Air Force will continue with ETR Phase 3 testing in FY16.

### Recommendations

- Status of Previous Recommendations. There were no previous recommendations for this program.
- FY15 Recommendations. None.

# FY15 AIR FORCE PROGRAMS