

MQ-9 Reaper Hunter Killer Armed Unmanned Aircraft System (UAS)

Executive Summary

- The Air Force Operational Test and Evaluation Center (AFOTEC) completed and reported on the MQ-9 IOT&E assessing the MQ-9 as effective and suitable. DOT&E analysis is still ongoing.
- The Air Force is employing the MQ-9 in Operation Enduring Freedom.
- The MQ-9 effectively delivered Hellfire missiles and 500-pound laser-guided munitions in combat.
- The MQ-9 was not assessed for its intelligence, surveillance, and reconnaissance capability in the IOT&E.
- Based on the observed limitations during IOT&E and combat operations, FOT&E of the MQ-9 system will be required to fully assess and characterize its effectiveness, suitability, and unassessed Key Performance Parameters.

System

- The MQ-9 is a remotely piloted, armed, unmanned air vehicle (UAV) that uses optical, infrared, and radar sensors to attack ground targets.
- This system includes ground stations for launch/recovery and mission control of sensors and weapons.
- This MQ-9 is a medium-sized UAV that has an operating ceiling up to 50,000 feet, an internal sensor payload of 800 pounds, an external payload of 3,000 pounds, an endurance of approximately 14 hours, and stronger landing gear than its predecessor, the MQ-1 Predator.
- The MQ-9 shares command and control characteristics with the MQ-1 Predator.
- The MQ-9 is commanded by ground elements via Ku-band satellite and C-band line-of-sight data links.
- It carries Hellfire II anti-armor missiles (AGM-114) and 500-pound laser-guided bombs (GBU-12).

Activity

- AFOTEC completed and reported on the MQ-9 IOT&E in August 2008.
- Government-led developmental testing continued through FY08. Significant efforts included developmental testing of incremental operational flight program (OFP) improvements, takeoff and landing procedures, weapons integration testing, and sensor improvement testing.
- The Program Office completed an Integrated System Evaluation (ISE) in 2QFY08 in order to support the decision to proceed with the IOT&E.



Mission

- The combatant commander uses the MQ-9 onboard sensors and weapons to conduct armed reconnaissance and pre-planned strikes. Units equipped with MQ-9s can find, fix, track, target, engage, and assess critical emerging targets (both moving and stationary).
- MQ-9 units can also conduct aerial intelligence gathering, reconnaissance, surveillance, and target acquisition for other airborne platforms.

Prime Contractor

- General Atomics

- The MQ-9 employed Hellfire missiles and 500-pound laser-guided bombs effectively in combat.

Assessment

- The MQ-9 demonstrated an initial combat capability during the observed ISE in the delivery of Hellfire missiles and GBU-12 bombs. The Air Force executed the combat capability demonstrated in the ISE in a scripted scenario.
- The MQ-9 demonstrated a lack of an ability to attack targets in obscured environmental conditions.

AIR FORCE PROGRAMS

- Based on the observed limitations during IOT&E and combat operations, FOT&E of the MQ-9 system will be required to fully assess and characterize its effectiveness, suitability, and unassessed Key Performance Parameters.
- The MQ-9 was not assessed for its intelligence, surveillance, and reconnaissance capability in the IOT&E.
- FY08 Recommendations. The Air Force should:
 1. Submit an updated TEMP reflecting the current Acquisition Strategy and detail the FOT&E activities required to fully assess the effectiveness and suitability of IOT&E deficiencies, incremental improvements, and intelligence, surveillance, and reconnaissance capabilities.
 2. Implement a robust reliability improvement program in order to address identified reliability shortfalls.

Recommendations

- Status of Previous Recommendations. The Air Force has addressed all previous recommendations.