

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

Executive Summary

- The Test and Evaluation Master Plan (TEMP), approved by DOT&E in 2005, has not been executed. The Air Force's decision to deploy MQ-9 prior to IOT&E has altered the 2005 test strategy. A revised TEMP was approved in 2007.
- The Air Force deployed an MQ-9 system to the Central Command's (CENTCOM) area of responsibility (AOR).
- No dedicated operational testing occurred prior to fielding. DOT&E is preparing a report in accordance with Section 231 of the National Defense Authorization Act of 2007 based on data collected by the developer and operational test agency during developmental testing (DT).
- IOT&E for MQ-9 Increment 1 is planned for 2-3QFY08.
- A full-rate production decision for MQ-9 Increment 1 is planned for 2QFY09.

System

- The MQ-9 is a remotely piloted, armed, unmanned aerial 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 or Global Positioning System-guided bombs.

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.

Activity

- An updated MQ-9 TEMP was approved in 1QFY08.
- Government led DT continued through FY07. Significant DT efforts included the completion of DT testing on the operational flight program (OFP), which supports the early fielding configuration and the IOT&E. This OFP includes GBU-12 and basic Hellfire missile capability, expanded flight regimes, and stores management system.
- Expanded takeoff and landing procedures and weapons integration testing was executed by the DT team at China Lake Naval Weapons ranges and Edwards AFB, California.
- A three-mission Integrated System Evaluation (ISE) #1 was completed to assess initial combat capability for the early fielding configuration for the Air Component Commander.
- The Air Force deployed an MQ-9 system to the CENTCOM AOR. DOT&E is preparing a report in accordance with Section 231 of the National Defense Authorization Act of FY07 based on data collected by the developer and operational test agency during developmental testing.
- Two MQ-9 missions flew in support of the Air Force's Weapon System Evaluation Program; Hellfire missiles and 500-pound laser-guided GBU-12s were successfully employed by the DT team.

Assessment

- Testing observed to date has had limited operational realism thus affecting the evaluation of operational effectiveness and suitability.
- The MQ-9 demonstrated limited initial combat capability during the observed ISE missions. The lack of operationally realistic testing limited the ability to assess the system's effectiveness and suitability prior to the Air Force's early fielding. The Early Fielding report to be submitted to Congress will detail DOT&E's analysis of the early fielding decision reiterating a limited combat capability. Full operational characterization is forthcoming following completion of the fully scoped DT and operational test in FY08.

Recommendations

- Status of Previous Recommendations. One of three previous recommendations remains valid:
 - The Air Force should complete ISE-I and ISE-II in order to prepare for IOT&E in FY08.
- FY07 Recommendations. The Air Force should:
 1. Ensure sufficient developmental testing in accordance with the October 18, 2007, approved TEMP.
 2. Plan for and conduct IOT&E in accordance with the approved TEMP and an approved Test Plan.