

DHS Science and Technology Directorate

MQ-9 Unmanned Aircraft System Capability Analysis

How is Customs and Border Protection Air and Marine Operations using the Predator B to perform missions?

Borders and coastal waters need law enforcement from the air

Customs and Border Protection (CBP) guards nearly 7,000 miles of U.S. land border and 2,000 miles of coastal waters surrounding Florida, Texas, and Southern California. CBP Air and Marine Operations (AMO) uses air assets to support law enforcement.

United States Border Patrol sponsored a pilot program on the MQ-9 Predator B Unmanned Aircraft System (UAS) in 2004, intending to study the feasibility of using Unmanned Aerial Vehicles to provide long-endurance Reconnaissance, Surveillance, and Target Acquisition support to ground agents on the U.S. Southwest Border.

Joint study assesses capabilities, gaps

A CDS Operations and Requirements Analysis-led, independent, joint study team assessed the justification for AMO's requested UAS fleet size and mission application. The study relied on close collaboration with CBP to assess the system's overall capabilities and use from operational and programmatic perspectives. ORA then weighed them against needs expressed by AMO and its numerous inter-agency operational customers. The team assessed the MQ-9 as a total system, and tracked trends showing improved effectiveness since the 2012 introduction of the Vehicle and Dismount Exploitation Radar (VaDER) and maritime SeaVue radar variants.

Expanding CBP reach beyond line-of-sight

The study identified the MQ-9 as integral to AMO's strategy to secure U.S. borders and enforce U.S. law, increasing CBP's ability to detect, identify, classify and track potential illicit activities. The study also highlighted, perhaps for the first time, the large interagency customer base for Predator's specialized capabilities.

For DHS, the Predator program entered the acquisition life cycle in sustainment. As a result, ORA identified numerous needs in Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities (DOTMLPF) Regulations/Grants/Standards (R/G/S). The study also provided CBP AMO with a well-conceived and well-received operational mission structure which can serve as a basis for better documenting the Predator's homeland security contributions.



The remotely piloted MQ-9 Predator B enables AMO personnel to safely conduct missions in areas which are difficult or dangerous to access by manned aircraft or CBP ground personnel.

Findings and Recommendations

The MQ-9's unique capability for enduring, covert surveillance of illicit activities along U.S. borders and approaches is in high demand by CPB and its partners. This demand exceeds the ability of the current fleet to fully satisfy, resulting in a less-than-optimal distribution of UAS missions among internal and external customers. However, before acquiring any additional MQ-9, CBP should complete development of infrastructure supporting MQ-9 operations. Decentralized MQ-9 Operations would benefit from a unifying vision and centralized doctrine. CBP and its partners should develop detailed SOPs that fully support a comprehensive MQ-9 Concept of Operations.

Operations are restricted by weather and FAA airspace restrictions. Development and integration of technology such as Auto-Takeoff and Landing, De-icing, Due Regard air-to-air radar, and other upgrades to the existing MQ-9 should continue.

CDS Operations and Requirements Analysis MQ-9 Needs Analysis Independent Study Team partners

- CBP Air and Marine Operations (AMO)
- CBP Office of Border Patrol (OBP)
- DHS Office of the Chief Readiness Support Officer
- Joint Requirements Council (JRC)
- JRC Aviation Commonality Portfolio Team (ACPT)



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