

MH-139A Grey Wolf

Supplemental type certifications for the MH-139A continued to slip, further delaying developmental testing of military capabilities. Additionally, the contractor has imposed new flight envelope restrictions on the aircraft that will limit the aircraft's capability to perform basic flight maneuvers, if not mitigated. The MH-139A program needs to address several additional challenges to mitigate the risk to meeting operational effectiveness, suitability, and survivability requirements.



System Description

The MH-139A Grey Wolf is a dual-piloted, twin-engine helicopter based on the commercial AW139 with added military capabilities in communication, navigation, identification, and survivability. The Air Force intends for the MH-139A to replace the UH-1N to provide rapid transport capability for two primary commands.

Program

MH-139A is an Acquisition Category IB program. DOT&E approved the Milestone B Test and Evaluation Master Plan in June 2018 and the Alternative LFT&E Strategy in May 2019. In April 2021, the program reported an Acquisition Program Baseline breach to the service acquisition executive, requesting to delay the Milestone C from September 2021 to January 2023.

The MH-139A acquisition strategy relies on initial contractor flight testing to obtain a series of civil supplemental type certification approvals before the military flight release required for government developmental test.

Major Contractor

The Boeing Company, Defense, Space & Security – Ridley Park, Pennsylvania.

Test Adequacy

The Air Force participated in contractor ground and flight testing throughout FY21 at Duke Field, Florida, and at contractor facilities in Philadelphia, Pennsylvania that will support the supplemental type certification approvals, specification compliance, and airworthiness. The military utility of this phase of testing was limited.

The 47th Cyberspace Test Squadron conducted Cooperative Vulnerability Identification developmental testing on the aircraft and ground support equipment that will support adversarial developmental testing in FY22.

The Air Force Operational Test and Evaluation Center published three periodic reports in FY21 summarizing the observations from contractor testing and site visits to domestic and foreign military, government, and commercial operators of the AW139 that identified best practices as well as potential mission capability risks and mitigations.

The 704th Test Group executed live fire testing of the installed armor, aircraft structure against incendiary rounds for fire risk, and main and tail rotor blades at Aberdeen Proving Ground, Maryland and Wright-Patterson AFB, Ohio in accordance with DOT&E-approved test plans.

The Program Office is developing plans to perform infrared signature and electromagnetic pulse testing to collect data for evaluation of aircraft survivability.

Performance

The MH-139A deficiencies, identified in ground and flight testing to date, combined with new flight envelope restrictions, increase the MH-139A risk to

meeting operational effectiveness requirements. Concerns persist from the FY20 annual report regarding the effects of the cabin layout on supporting employment of armed tactical response forces as well as flight manual restrictions on takeoffs in crosswinds, near obstacles, in degraded visual environments, and austere landings. The Program Office also needs to address several challenges for the MH-139A to be operationally suitable and survivable. In accordance with the MH-139A Security Classification Guide, additional details are provided in the Controlled Unclassified Information edition of this report.

Recommendations

The Air Force should:

1. Update the Test and Evaluation Master Plan to reflect the new schedule.
2. Evaluate aircraft capability in degraded visual environments and austere landings prior to IOT&E.