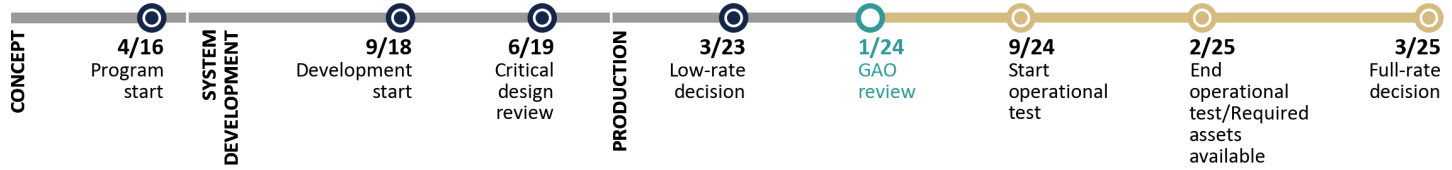


MH-139A Grey Wolf Helicopter (MH-139A)

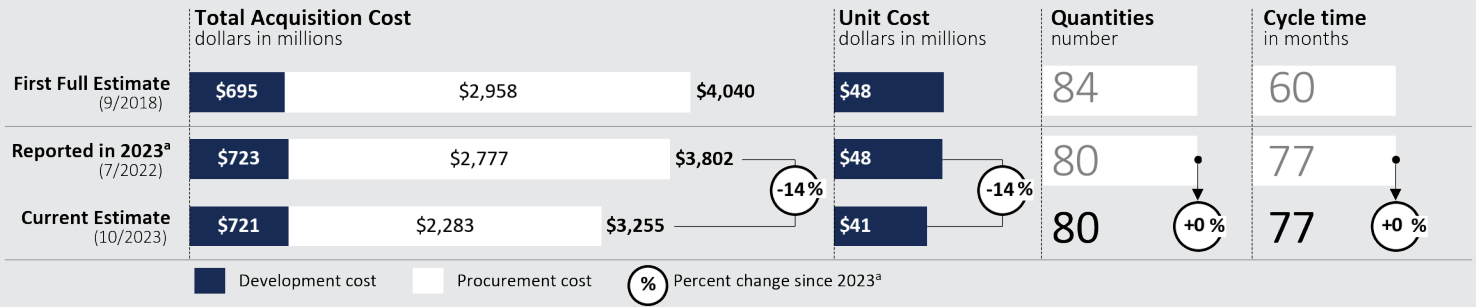


Source: U.S. Air Force. | GAO-24-106831

The MH-139A program will replace the Air Force’s fleet of 63 UH-1N utility helicopters. The MH-139A helicopter’s missions will include securing intercontinental ballistic missile sites and convoys and transporting senior government officials in the National Capital Region. The MH-139A program is acquiring a militarized version of a commercial helicopter to be integrated with previously developed systems. In addition to the helicopters, the Air Force plans to acquire an integration laboratory, a training system, and support and test equipment as part of the program.

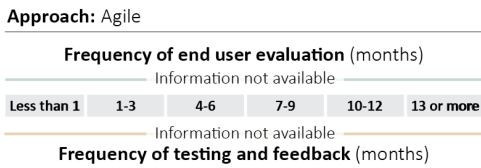


Program Performance fiscal year 2024 dollars in millions



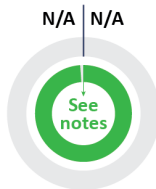
Total quantities comprise six development quantities and 74 procurement quantities. The graphic bars depict only research and development and procurement costs. However, total acquisition costs may include costs for military construction as well as acquisition operation and maintenance.
^aGAO-23-106059.

Software Development as of January 2024



Software percentage of total acquisition cost (fiscal year 2024 dollars in millions)

Percentage of progress to meet current requirements



The program reported that it does not have insight on software costs since they are included in the overall firm-fixed-price contract. The program also reported that software for the aircraft was complete and the software for the training systems is 99 percent complete.

Program Essentials

Prime contractor: Boeing
 Contract type: FFP (development)

Attainment of Product Knowledge as of January 2024

Resources and requirements match	Development Start	Current Status
Demonstrate all critical technologies in a relevant environment	NA	NA
Demonstrate all critical technologies in a realistic environment	NA	NA
Complete a system-level preliminary design review	NA	NA
Product design is stable	Design Review	
Release at least 90 percent of design drawings	○	●
Test a system-level integrated prototype	NA	NA
Manufacturing processes are mature	Production Start	
Demonstrate critical processes on a pilot production line	●	●
Test a production-representative prototype in its intended environment	●	●

● Knowledge attained ○ Knowledge not attained ... Information not available NA - Not applicable

We did not assess MH-139A critical technologies because the program office reported it does not have any. We also did not assess completion of a preliminary design review or system-level integrated prototype testing because the program office reported these were not applicable.

MH-139A Program

Technology Maturity, Design Stability, and Production Readiness

The program entered production in March 2023 after successfully completing some of the supplemental certification testing required by the Federal Aviation Administration. At the time the program entered production, the program reported awarding a production contract for 13 aircraft, including training systems. Program officials said that Boeing is on schedule to meet the terms of that contract.

The program completed additional supplemental certifications in May 2023. Program officials stated that there were delays to these certifications that the prime contractor was working to resolve with the Federal Aviation Administration. This resulted in a delay for two aircraft, which were delivered in September and October 2023.

The program continues to assume some schedule risk in starting low-rate initial production while still finishing additional rounds of testing for supplemental certifications, such as the ability to identify friendly forces. Officials stated that testing for one supplemental certification was completed in 2023, and testing for additional certifications will occur in 2024 and 2025. Officials told us they do not think this testing will identify significant issues because they do not think the supplemental testing will require modifications to the aircraft. Specifically, program officials said the remaining capabilities that are being tested would not require design modifications to the aircraft even if challenges are identified during testing.

Program officials said the program plans to begin initial operational testing in September 2024. They added that they are still working to resolve some outstanding deficiencies, but do not expect a delay with initial operational testing. For example, the program is addressing some deficiencies related to the aircraft's intercommunication system. Program officials added that the aircraft's military systems have been flight tested and early results indicate a low risk of design changes.

Software and Cybersecurity

The program developed a quality assurance process related to Agile incremental software development, according to the program office. Boeing contractor employees are part of the MH-139A software development team. As each software defect is addressed, at least one software teammate conducts a peer review. The program office noted that the frequency of this review process is based on the increments of Agile development and defects identified and completed.

Program officials also noted that they completed testing for the software used to train users on cockpit procedures in July 2023, with positive user feedback. The development of software needed to train users on operational flying is ongoing. Once development is complete, this software will undergo government testing. Officials also stated that the program completed developmental adversarial cybersecurity testing in October 2022, and plans to conduct operational cybersecurity testing in the future, although the program has yet to identify dates for the testing.

Other Program Issues

The program is working to mitigate risks as it moves into production. For example, program officials identified delivery of contractually required data related to the supplemental certification testing during production as a potential challenge. The program has reported experiencing delays in getting this type of data from Boeing since 2020. The program stated that the lack of available data could affect access to sustainment data and the program's ability to document a technical baseline. To mitigate this risk, the program developed a technical delivery plan that includes criteria for data delivery tied to each low-rate initial production lot.

The program office also noted that the Air Force Cost Analysis Agency estimating methodology for the MH-139A was updated in fiscal year 2023 to reduce costs associated with several program risks that were not realized. The MH-139A budget was similarly adjusted to better align with the Air Force Cost Analysis Agency estimate. These updates resulted in a cost decrease since our prior assessment.

Program Office Comments

We provided a draft of this assessment to the program office for review and comment. The program office provided technical comments, which we incorporated where appropriate.

According to the program, production start was approved in March 2023, and the initial aircraft from the first low-rate production lot are expected to be delivered on schedule in the fourth quarter of fiscal year 2024. The program noted that the developmental testing phase remains on track for completion in February 2024, followed by planned fielding to Malmstrom and Maxwell Air Force Bases in March 2024. The program further stated that the second low-rate production lot was approved for contract award pending passage of the fiscal year 2024 budget appropriations. After our January 2024 cut-off date for new information, the program stated it is delaying its full rate production decision from March 2025 to September 2025.