Army Integrated Air & Missile Defense (AIAMD)

The Army Integrated Air and Missile Defense (AIAMD) program will enter IOT&E in January 2022. Final assessment of AIAMD operational effectiveness, suitability, and survivability will be published in a classified report, after the completion of IOT&E, to inform the full-rate production decision scheduled for December 2022.

System Description

AIAMD is a command and control system that integrates Engagement Operations Centers (EOCs), Sentinel air surveillance radars, and Patriot missile system radars and launchers across an integrated fire control network (IFCN). The EOCs provide the operating environment for soldiers to monitor and direct sensor employment and the engagement of air threats. Hardware interface kits connect adapted Patriot and Sentinel components to the IFCN, either through an EOC or through an IFCN Relay. IFCN Relays also provide mobile communications nodes to extend fire control connectivity and distributed operations. Air Defense Artillery forces will use the AIAMD system to provide the timely detection, identification, monitoring, and (if required) engagement of air threats in support of active defense of the homeland, critical assets and locations, and forces.

Program

AIAMD is an Acquisition Category ID program. DOT&E approved the Milestone C Test and Evaluation Master Plan in April 2019 and the IOT&E test plan in October 2021. The Army intends to enter full-rate production in December 2022.

Major Contractors

- Northrop Grumman Systems Corporation – Huntsville, Alabama.
- Raytheon Missiles and Defense – Huntsville, Alabama and Andover, Massachusetts.
- Lockheed Martin Corporation – Dallas, Texas.

Test Adequacy

The Army Test and Evaluation Command (ATEC) completed a DOT&E-approved cybersecurity Cooperative Vulnerability and Penetration Assessment in August 2021 and an Adversarial Assessment in November 2021. The remaining phases of IOT&E consist of a sustained live air phase, a sustained software/hardware-in-the-loop phase, and missile flight tests. ATEC will accredit the modeling and simulation tools required for the software/hardware-in-the-loop phase.

Performance

Deficiencies in some critical capabilities identified during software testing caused the Army to delay the start of IOT&E from September 2021 to January 2022.

The program remains on track to complete IOT&E per the Milestone C Acquisition Program Baseline. Final assessment of AIAMD operational effectiveness, suitability, and survivability will be detailed in a classified report after IOT&E to support the full-rate production decision scheduled for December 2022.

Recommendation

1. The Army should continue to improve the modeling and simulation tools as well as validation processes.