

AIM-120 Advanced Medium-Range Air-to-Air Missile (AMRAAM)

Executive Summary

- The Services completed operational test activities for the Air Intercept Missile (AIM)-120D System Improvement Program 1 (SIP-1) in November 2016; SIP-1 fielded in April 2017. SIP-1 is one of several software upgrade programs designed to enhance AIM-120D performance.
- The Services began operational test activities for the AIM-120C7 Advanced Medium-Range Air-to-Air Missile (AMRAAM) Advanced Electronic Protection Improvement Program (EPIP) in 2016, with testing continuing through mid-2018.
- The Air Force and Navy are in the final stages of test planning and scheduling to conduct cybersecurity testing of the AMRAAM missile, forecast to begin in summer 2018.



System

- AMRAAM is a radar-guided, air-to-air missile with capability in both the beyond visual-range and within visual-range arenas. A single aircraft can engage multiple targets with multiple missiles simultaneously when using AMRAAM.
- F-15C/D/E, F-16C/D, F/A-18C/D/E/F, EA-18G, F-35A/B, and F-22A aircraft are capable of employing the AMRAAM, and the missile is currently being tested/fielded for employment on the F-35C.
- The AMRAAM program develops and incorporates planned software upgrades. The AMRAAM Basic EPIP is a software upgrade to AIM-120C3-C7. An Advanced EPIP software upgrade began operational testing in FY16.
- The AIM-120D is the next variant in the AMRAAM family of missiles. The newest missile includes both hardware

and software improvements over the AIM-120C3-C7. Four planned follow-on SIPs provide updates to the AIM-120D to enhance missile performance and resolve previous deficiencies.

Mission

- The Air Force and Navy, as well as several foreign military forces, employ various versions of the AIM-120 AMRAAM to conduct air-to-air combat missions.
- All U.S. fighter aircraft use the AMRAAM as the primary beyond visual-range air-to-air weapon.

Major Contractor

Raytheon Missile Systems – Tucson, Arizona

Activity

- The Air Force and Navy conducted all testing in accordance with DOT&E-approved test plans.

AIM-120D SIP

- The Services completed SIP-1 testing in November 2016. SIP-1 fielded in April 2017.
- SIP-2 operational test planning is in progress. Testing is scheduled to complete in 2019.

AIM-120C7 AEPIP

- Operational testing for the Advanced EPIP software upgrade to C7 missiles began in FY16 and is expected to complete in mid-FY18.

Cybersecurity

- The Air Force and Navy are in the final stages of test planning to conduct combined cybersecurity testing of the AMRAAM missile, forecast to begin in summer 2018.

Assessment

- AMRAAM continues to be operationally effective and suitable.
- The AIM-120D SIP-1 missile meets performance and reliability requirements.
- The AIM-120C3-7 Basic EPIP missile meets performance requirements.

Recommendations

- Status of Previous Recommendations. Test planning and execution are ongoing; the Air Force is addressing the previous FY15 recommendations to:
 1. Complete SIP-2 and Advanced EPIP operational testing to achieve the Services' desired mission effectiveness improvements for AMRAAM.

FY17 AIR FORCE PROGRAMS

2. Complete cybersecurity testing of the AMRAAM missile in accordance with DOT&E cybersecurity testing policy.
- FY17 Recommendations. None.