

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

### Executive Summary

- The Air Force and Navy completed FOT&E of the AIM-120D Advanced Medium-Range Air-to-Air Missile (AMRAAM) in July 2014 and fielded the system in January 2015.
- The Services completed operational test activities for the AIM-120D System Improvement Program (SIP)-1 in FY16. The results are pending. SIP-1 is one of several follow-on programs designed to enhance AIM-120D performance.
- The Services completed operational test activities for the AIM-120 AMRAAM Basic Electronic Protection Improvement Program (EPIP), a software upgrade to AIM-120C3-C7 variants, in FY16. Basic EPIP met its requirements.
- The Services began operational test activities for the AIM-120 AMRAAM Advanced EPIP, a software upgrade to the AMRAAM C-7 variant, in FY16.
- The Air Force and Navy are in the final stages of test planning to conduct cybersecurity testing for all variants of the AMRAAM missile.

### 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-launch 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, and F-22A aircraft are capable of employing the AMRAAM, and the missile is currently being tested/fielded for employment on the F-35A/B/C.
- The AMRAAM program periodically develops and incorporates phased upgrades. The AMRAAM Basic EPIP is



a software upgrade to AIM-120C3-C7. An Advanced EPIP software upgrade began operational testing in FY16.

### 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 Contractors

- Raytheon Missile Systems – Tucson, Arizona
- Rocket Motor Subcontractor: Nammo (Nordic Ammunition Group) – Raufoss, Norway

### Activity

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

#### AIM-120D

- The Services completed SIP-1 testing in FY16. Assessment of effectiveness and suitability is pending.
- SIP-2 operational test planning is in progress. Testing is scheduled to begin in FY17 and finish in FY18.

#### AMRAAM EPIP

- The Services completed operational testing for the Basic EPIP software upgrade to C-3 through C-7 missiles in FY16.
- Operational testing for the Advanced EPIP software upgrade to C-7 missiles began in FY16 and is expected to complete in FY17.

### Cybersecurity

- The Air Force and Navy are in the final stages of test planning to conduct cybersecurity testing for all variants of the AMRAAM missile.

### Assessment

- AMRAAM continues to be operationally effective and suitable.
- Based on FY15 testing, the AIM-120D SIP-1 missile appears to be meeting performance and reliability requirements, although a final assessment is pending.
- Missiles equipped with Basic EPIP software are meeting performance requirements.

# FY16 AIR FORCE PROGRAMS

## Recommendations

- Status of Previous Recommendations. Although test planning and execution are ongoing, the Air Force has not yet satisfactorily addressed the previous FY15 recommendations to:
  - Complete SIP-2 and Advanced EPIP operational testing to achieve the Services' desired mission effectiveness improvements for AMRAAM.
  - Complete cybersecurity testing for all variants of the AMRAAM missile in accordance with the August 1, 2014, DOT&E policy memorandum.
- FY16 Recommendations. None.