Patriot Advanced Capability-3 (PAC-3)

Executive Summary

The Army conducted the Patriot Post Deployment Build (PDB)-8 cybersecurity Adversarial Assessment (AA) 2 in April 2019. The PDB-8 AA 2 revealed some Patriot cybersecurity shortfalls that will be described in the classified DOT&E
"FY19 Assessment of the Ballistic Missile Defense System (BMDS)" report to be published in February 2020.

System

- Patriot is a mobile air and missile defense system that counters missile and aircraft threats. The system includes the following:
  - C-band, multi-function, phased-array radars for detecting, tracking, classifying, identifying, and discriminating targets and supporting the guidance functions
  - Battalion and battery battle management elements
  - Communications Relay Groups and Antenna Mast Groups (AMGs) for communicating between battery and battalion assets
  - A mix of Patriot Advanced Capability-3 (PAC-3) hit-to-kill interceptors and PAC-2 blast fragmentation warhead interceptors for negating missile and aircraft threats

Mission

Combatant Commanders use the Patriot system to defend deployed forces and critical assets from missile and aircraft attack and to defeat enemy surveillance air assets in all weather conditions.

Major Contractors

- Prime: Raytheon Company, Integrated Defense Systems – Tewksbury, Massachusetts (ground system and PAC-2 and prior generation interceptors)
- PAC-3 interceptor variants and PAC-3 Command and Launch System: Lockheed Martin Corporation, Missile and Fire Control – Grand Prairie, Texas

Activity

The Army Test and Evaluation Command conducted the PDB-8 AA 2 in April 2019 at White Sands Missile Range (WSMR), New Mexico. This assessment was not conducted in accordance with the DOT&E-approved test plan because the Army failed to assess the Patriot radar.

Assessment

The PDB-8 AA 2 revealed some Patriot cybersecurity shortfalls that will be described in the classified DOT&E "FY19 Assessment of the BMDS" report to be published in February 2020. During the AA 2, the Army did not assess the Patriot radar or other non-internet protocol (IP)-based systems.

Recommendation

1. The Army should assess the Patriot radar and other non-Internet Protocol-based systems, such as launchers and AMGs during PDB-8.1 cybersecurity testing.