

## Over-The-Horizon Weapon System (OTH-WS)

### Executive Summary

- In FY20, DOT&E issued an Early Fielding Report (EFR) on the Navy's Quick Reaction Assessment (QRA) of the Over-The-Horizon Weapons System (OTH-WS). Due to the limited scope of the test, DOT&E did not assess effectiveness, lethality, or suitability in this report.
- The Navy plans to conduct IOT&E and LFT&E in FY21 and is developing a Test and Evaluation Master Plan (TEMP) and a Live Fire Test and Evaluation Strategy to support those test events.

### System

- The OTH-WS program is a long-range, surface-to-surface warfare system intended to engage maritime targets both inside and beyond the radar horizon. The system consists of an operator interface console, Naval Strike Missile (NSM), and the Missile Launching System.
- The NSM is an offensive missile with an imaging infrared seeker and utilizes a semi-armor-piercing warhead optimized for anti-surface warfare.
- The OTH-WS is a stand-alone system requiring minimal integration into the host platform. The OTH-WS will receive targeting data via tactical communications from combatant platforms or airborne sensors and requires no guidance after launch. The Navy intends to integrate the OTH-WS on the Littoral Combat Ship (LCS) variants; guided-missile frigate, FFG(X); and amphibious LPD-class ships. The Marine Corps



is also acquiring the NSM to install on the Navy/Marine Expeditionary Ship Interdiction System, which places an NSM launcher on an unmanned Joint Light Tactical Vehicle (JLTV)-based mobile launch platform.

### Mission

The Joint Force Commander/Strike Group Commander employs OTH-WS-equipped platforms to conduct offensive over-the-horizon and within-the-horizon engagements against maritime targets.

### Major Contractor

Raytheon Missile Systems – Tucson, Arizona

### Activity

- DOT&E approved the OTH-WS OT&E plan in June 2020.
- DOT&E issued an EFR in February 2020 based on the QRA conducted in July 2019. This report assessed the integration and safety of the system to support early deployment on the *Independence*-variant LCS as well as the cybersecurity posture.
- The Marine Corps planned a live firing of an NSM from a JLTV-based mobile launch platform in June 2020, but postponed the event after discovering a software misconfiguration on the missile. The Marine Corps intends to conduct this live fire event in November 2020. This test event supports the overall OTH-WS IOT&E evaluation and is in accordance with the DOT&E-approved test plan.
- The TEMP and LFT&E Strategy are under development. The final scope of the OT/LFT&E programs are contingent upon the adequacy and availability of missile performance data collected by the foreign supplier during the missile's initial development.
- In 2020, the Navy reprioritized OTH-WS T&E funds, and was therefore unable to resource or schedule LFT&E testing.
- The Navy intends to conduct lethality testing to determine blast, penetration, and fragmentation characteristics of the warhead. In coordination with DOT&E, the Navy completed the verification and validation (V&V) plan for the Advanced Survivability Assessment Program (ASAP), which the Navy will use to conduct the OTH-WS lethality assessment of a range of representative maritime targets.

### Assessment

- As reported in the EFR, the QRA did not conduct any live end-to-end flight testing. Due to the limited scope of the QRA, DOT&E did not assess effectiveness, lethality, or suitability in the report.
- DOT&E assessed the 2019 Cyber Survivability Table Top event in the classified OTH-WS EFR.

# FY20 NAVY PROGRAMS

- Reprioritization of the intended OTH-WS T&E budget has resulted in risk to the execution of the LFT&E program.

2. Allocate the resources for an adequate and timely execution of the proposed LFT&E Strategy.

## **Recommendations**

The Navy should:

1. Address the recommendations contained within the classified DOT&E OTH-WS EFR.