

Unmanned Influence Sweep System (UISS)



In July 2022, the Navy declared initial operational capability of the Unmanned Influence Sweep System (UISS) based on their assessment of operational effectiveness, suitability, and survivability. DOT&E submitted a classified IOT&E report in June 2022. UISS is not operationally suitable due to low reliability and availability. In August 2022, the Navy tested the integration of UISS within the Littoral Combat Ship (LCS) Mine Countermeasures (MCM) Mission Package (MP) during the LCS MCM MP IOT&E.

SYSTEM DESCRIPTION

UISS is an acoustic and influence mine clearance system designed

to detonate moored and bottom mines. UISS consists of an Unmanned Surface Vehicle (USV) that powers and tows the Unmanned Surface Sweep System. The USV operates along pre-

planned tracks and uses a radar and camera surveillance suite to provide the remote operator with situational awareness and the ability to avoid obstacles or other watercraft. The Unmanned

Surface Sweep System consists of a magnetic towed cable that is energized to create a magnetic field and a towed acoustic generator that emanates acoustic signatures to detonate mines. UISS is a baseline capability of the LCS MCM MP and is designed to be deployed from the LCS, but can also operate from ashore. The UISS USV is the same vehicle used to support the LCS MCM MP Minehunt capability with the AQS-20C towed multi-function sonar.

MISSION

UISS is the Navy's intended replacement for the aging *Avenger*-class MCMs. Upon decommissioning of the *Avenger*-class, UISS will be the Navy's only maritime minesweeping capability. Commanders will deploy UISS from the LCS to perform minesweeping operations against moored and bottom mines in sea lanes, straits, choke points, fleet operating areas, and amphibious objective areas.

PROGRAM

The UISS is an Acquisition Category III program. In July 2022, the Navy declared initial operational capability of the UISS. In August 2022, the Navy conducted testing of the UISS within the LCS MCM MP IOT&E to assess the interoperability of UISS and other baseline capabilities within the MP. The Navy expects to

make a UISS Full-Rate Production decision in the first half of FY23.

» MAJOR CONTRACTOR

- Textron Systems Corporation
– Hunt Valley, Maryland

TEST ADEQUACY

In October 2021, the Navy completed classified survivability testing of the UISS. All testing was conducted in accordance with a DOT&E-approved test plan, and observed by DOT&E. Data were sufficient to assess specific attributes of UISS survivability to near mine explosion, but the Navy has not tested magnetic sweep cable survivability.

The Navy did not complete all planned test events during the FY21 IOT&E of UISS. However, testing remained adequate to assess UISS effectiveness, suitability, and survivability.

In August 2022, the Navy conducted an operational test event of the LCS MCM MP that included the integration of UISS. Analysis of this event is in progress and will be reported within an LCS MCM MP IOT&E report in FY23.

PERFORMANCE

» EFFECTIVENESS

UISS demonstrated its designed capability against a limited set of

the surrogates used to represent threat mines in representative scenarios. UISS performance metrics against moored and bottom mines are classified. DOT&E submitted a classified IOT&E report in June 2022.

» SUITABILITY

UISS is not operationally suitable. UISS reliability and availability do not support sustained mine sweeping operations. Operational availability demonstrated when employing UISS from an LCS was 0.29, well below the Navy-defined minimum threshold.

» SURVIVABILITY

UISS survivability is classified and detailed in the June 2022 report.

RECOMMENDATIONS

The Navy should:

1. Improve the reliability and availability of UISS as employed from LCS and meet fleet operational requirements.
2. Complete underwater explosion testing on the magnetic sweep cable.
3. Address all recommendations in the June 2022 report.
4. Conduct testing of UISS capability of exploited mine threats that were not evaluated in UISS IOT&E.