

Ship to Shore Connector (SSC)



In December 2022, the Ship to Shore Connector (SSC) program postponed IOT&E due to low reliability exhibited in pre-test SSC operations. Operational testing of the SSC is expected to recommence in 3QFY24 after modifications for reliability improvement are made. The SSC program intends to complete verification, validation, and accreditation (VV&A) of vulnerability assessment models in parallel with the final survivability assessment report in FY24.

SYSTEM DESCRIPTION

The SSC is a fully amphibious air cushion vehicle similar to the currently in-service Landing Craft, Air Cushion (LCAC). Compared to the LCAC, the SSC is intended to have increased payload, range, availability, and the ability to operate in a greater range of environmental conditions.

MISSION

Navy commanders will use the SSC to provide ship-to-shore transport of forces conducting Ship-To-Objective Maneuver. The SSC system is expected to bridge the gap of brigade-sized maneuver and operations capability after the retirement of the LCAC at the end of its service life.

PROGRAM

The SSC is an Acquisition Category IC major capability acquisition program. The Navy approved Milestone C in July 2015. The SSC program took delivery of the first test and training craft in February 2020. DOT&E approved the SSC program Test and Evaluation Master Plan in November 2021.

» MAJOR CONTRACTOR

- Textron Systems – New Orleans, Louisiana

TEST ADEQUACY

In December 2022, the SSC program attempted to commence IOT&E to assess operational effectiveness and suitability but subsequently postponed the testing. Despite the SSC program's determination that the SSC was ready to commence operational test, the three SSCs exhibited poor operational availability during pre-test operations. The SSCs experienced a high rate of failures/faults and repairs significantly depleted available repair parts. The SSC program assessed that the SSCs would not be able to complete the DOT&E-approved test plan and canceled the planned operational test. The SSC program expects to be ready to recommence IOT&E in 3QFY24.

In FY23, the SSC program completed underwater signature testing of a LCAC in loaded and unloaded conditions as a surrogate for the SSC. The test was conducted in accordance with DOT&E-approved test plan, but mechanical issues with the test article prevented the SSC program from conducting three of the twelve planned test runs. The reduced set of test runs remained adequate for the purpose of bounding the underwater signatures of loaded and unloaded SSC. Testing was observed by DOT&E. This testing supports analysis of SSC survivability in the presence of threat mines that the SSC program expects to complete in FY24 using mine susceptibility modeling and simulation.

Testing associated with cyber and LFT&E survivability addressed in the FY22 Annual Report will be reviewed and assessed for possible regression testing following the implementation of potential changes that the SSC program is making to improve SSC reliability.

PERFORMANCE

» EFFECTIVENESS

No data are available to determine operational effectiveness of the SSC.

» SUITABILITY

Insufficient data are available to determine operational suitability of the SSC due to potential changes that the SSC program is making to improve SSC reliability. Existing SSC reliability did not support conducting the planned operational test.

» SURVIVABILITY

The SSC cyber survivability assessment is classified and will be included in the SSC IOT&E report. DOT&E now expects to release this report in late FY24 or early FY25 due to the delay in commencing SSC IOT&E.

In FY23, the SSC program collected the required acoustic and magnetic data from completed underwater signature testing for assessing mine susceptibility, building off data provided from testing of SSC completed in FY22. However, the

SSC program remains behind in the VV&A of the supporting vulnerability assessment models that were previously expected to complete in FY23. The SSC program now intends to complete VV&A in parallel with a final survivability assessment report in FY24. The final survivability assessment report will also include the final predictions for the probability of kill given hit to the SSC by threat weapons.

RECOMMENDATIONS

The Navy should:

1. Sufficiently improve SSC reliability prior to commencing IOT&E. Correction of reliability issues should be confirmed with representative SSC operations.
2. Complete VV&A of SSC vulnerability assessment models in early FY24 to support timely completion of the final survivability assessment report.