

# Ship to Shore Connector (SSC)



In FY22, the Navy conducted phases of IOT&E and LFT&E to support assessments of Ship to Shore Connector (SSC) vulnerability to cyber-attack, sea worthiness, and susceptibility to threat mines. The Navy scheduled the phase of IOT&E intended to assess operational effectiveness and suitability of the SSC to commence in December 2022.

## SYSTEM DESCRIPTION

The SSC is a fully amphibious air cushion vehicle similar to the 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 Defense Acquisition Program. The Navy approved Milestone C in July 2015. The Navy took delivery of the first test and training craft in February 2020. The SSC program Test and Evaluation Master Plan (TEMP) was approved in November 2021.

### » MAJOR CONTRACTOR

- Textron Systems – New Orleans, Louisiana

## TEST ADEQUACY

In July 2022, the Navy conducted a phase of IOT&E to evaluate the cyber survivability of the SSC. The testing, consisting of a cooperative vulnerability and penetration assessment and an adversarial assessment, was conducted in accordance with a DOT&E-approved test plan, and tests were observed by DOT&E.

The Navy completed three tests to assess SSC LFT&E survivability in FY22. All were conducted in accordance with DOT&E-approved test plans, and observed by DOT&E. Testing builds off of a series of previously conducted component and surrogate tests, including destructive testing of SSC-specific shafts and seats and full-hull weapon effects tests against decommissioned LCACs as SSC surrogates.

- In December 2021, the Navy conducted controlled damage tests using the second SSC hull at Naval Surface Warfare Center Panama City Detachment. Testing provided data on the ability of the craft to recover from representative threat-weapon damage.
- In April 2022, the Navy conducted seaworthiness testing of the SSC in the Gulf of Mexico. The Navy will use this data to validate the results from scale model testing; specifically, that the stresses in the hull while off cushion in extreme seas would not result in loss of the craft.
- In June 2022, then Navy conducted underwater

signature evaluation in Norfolk, Virginia. Testing provided data to validate that the bare-hull signatures of the legacy LCAC are a suitable surrogate for the SSC. Testing included deviations in the planned number of runs and speeds, but was sufficient to identify the differences between the LCAC and SSC bare-hull signatures.

The Navy scheduled the phase of IOT&E intended to assess operational effectiveness and suitability of the SSC to commence in December 2022. The Navy expects to declare readiness for operational test in 1QFY23.

## PERFORMANCE

### » EFFECTIVENESS

No data are available to assess operational effectiveness of the SCC.

### » SUITABILITY

No data are available to assess operational suitability of the SSC.

### » SURVIVABILITY

The SSC cyber survivability assessment is classified. DOT&E expects to publish a final IOT&E report assessing operational effectiveness and suitability, and cyber survivability of the SSC in 3QFY23.

Remaining testing to assess survivability against threat weapons and mine susceptibility testing of the loaded craft are planned in FY23. However,

DOT&E has yet to receive the full set of acoustic and magnetic data necessary to support test planning for this assessment of mine susceptibility.

The Navy is behind in the planned completion of verification, validation and accreditation (VV&A) of the supporting vulnerability assessment models. The Navy intends to complete VV&A in parallel with a final survivability assessment report in FY23.

## RECOMMENDATIONS

The Navy should:

1. Provide DOT&E with the magnetic and acoustic data from the mine susceptibility tests as soon as feasible.
2. Complete VV&A of SSC vulnerability assessment models as soon as feasible to support the final survivability assessment report.



*SSC with USS Carter Hall (LSD 50),  
February 2022*