Navy’s Orca XLUUV Will Carry 34-Foot Payload Module for Mine Laying

A graphic illustration of the Orca, an extra-large class unmanned undersea vehicle. *U.S. NAVY*

ARLINGTON, Va. — The Orca extra-large unmanned underwater vehicle (XLUUV) being built by Boeing for the Navy will carry a large payload module for covertly deploying sea mines and other payloads, a Navy official said. The Navy also will have an extra vessel built for test purposes.

Capt. Scot Searles, the Navy’s program manager for Unmanned Maritime Systems, speaking May 25 in Monterey, California, at the 15th International Mine Technology Symposium of the Mine Warfare Association, said the payload module is 34 feet long, designed to be carried by an Orca to an area at which to lay the mines.

Boeing is building five Orcas, the first of which will begin in-water testing later this summer, Searles said. The first Orca was placed in the water in April.

The 80-ton Orca XLUUV is an open-architecture, reconfigurable UUV that will be modular in construction. The XLUUV core vehicle will provide guidance and control, navigation, autonomy, situational awareness, core communications, power

distribution, energy and power, propulsion and maneuvering, and mission sensors. The Orca, too large to be carried by a submarine, will be pier-launched. Mine laying will be the first role for the XLUUV.

“Getting that large, unmanned diesel submarine put together and then putting it in the water is a big deal,” Searles said. “It’s an important step in the development of the program to be able to have the components together, do a fit check and then an in-water check. We will continue populating the hull and begin to do in-water testing later this summer, all driving program maturity forward.”

The Orca is based on the smaller Echo Ranger UUV built by Boeing.

“Leveraging that technology, we’ve decided to add another EDM [engineering development model] into that program as well,” he said. “We’re calling it XLE-0. It’s a risk-reduction asset in addition to the five articles that we will deliver to the fleet, [so] we’ll also have that test asset as well.”

Searles pointed out the speed of the development of Orca as a first-of-class ship.

“That capability is going to deliver in less than five years to the fleet,” he said. “There is no first-of-class ship out there that is going from concept to requirements development to fielding in that kind of timeline.”

Searles praised “the very tight collaboration” between the science and technology community, academia, the defense industry and its internally funded research, and the various Navy research and acquisition offices for the rapid development of the Orca.