Boeing Unmanned Underwater Vehicle Indicates Compatibility, Utility with U.S. Navy Submarines

Boeing [NYSE:BA] has successfully completed a second round of at-sea tests of its Long-term Mine Reconnaissance System (LMRS), a 20-foot unmanned underwater vehicle (UUV) designed to be launched, torpedo-style, from Los Angeles- and Virginia-class submarines to survey underwater objects for up to 60 hours.

Originally planned for use in detecting tethered and bottom mines, the vehicle is designed to gather data and, upon completion, to home and dock to the submarine's 60-foot robotic arm for recovery back through the torpedo launch tube, enabling operators to retrieve data collected and prepare the vehicle for another launch. The vehicle's intelligence gathering capabilities have been sequentially tested and validated.

Most recently, repeated homing tests were conducted with slightly varied configurations to the LMRS vehicle. The tests concluded with an LMRS vehicle successfully docking with the submarine.

"We proved that it is possible for a heavyweight-class UUV to autonomously perform complex maneuvers, overcome hydrodynamic forces and successfully dock to a submarine while both are underway," said Tom Jones, director of Marine Systems, the program area of Boeing Space and Intelligence Systems that is under contract to the U.S. Navy for the LMRS system. "No other UUV has been put through the strenuous test conditions or achieved the level of autonomy of the Boeing LMRS vehicle."

During the first series of tests conducted in September 2005, the LMRS successfully performed a full impulse launch, transited away to a station-keeping location and trailed the submarine. It was then commanded to the surface for recovery.

"Our advanced acoustic and autonomous control technologies are pivotal to the operation of the LMRS vehicle," Jones said. "The vehicle's forward-looking sonar, used for obstacle avoidance, tracking and mine-like object recognition, has been successfully demonstrated. We've also successfully demonstrated submarine-to-UUV commands as well as the performance of the LMRS sonar system as it homes in on the submarine during the final approach to the submarine's recovery arm."

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