Northrop Grumman to Bid on Navy’s Very Light-Weight Torpedo Program

The Very Light-Weight Torpedo, which the Navy wants to take from prototype to production design. Northrop Grumman plans to compete in the program. Northrop Grumman

ARLINGTON, Va. – Northrop Grumman plans to compete in the Navy’s Very Light-Weight Torpedo Program next year, company officials said.

Dave Allan, the company’s director of Strategic Growth for Undersea Systems, told Seapower in a Dec. 8 teleconference the company expects the Navy to issue in January 2021 a Request for Proposals for the taking the non-production-designed VLWT prototype – designed by Penn State Applied Physics Lab (APL) – into a production design. and develop it over three years as an All-Up Round it to be suitable for manufacturing. Other Transactional Authority will be used to deploy the torpedo to the fleet.

Allan said the company would be bidding to develop for production the Compact Rapid Attack Weapon (CRAW), the offensive version of the Counter Anti-torpedo Torpedo (CAT), a defensive weapon developed by Penn State APL for use by aircraft carriers to defeat incoming submarine-launched anti-ship torpedoes. Five aircraft carriers were fitted with CAT launchers.

The hardware-enabled, software-defined VLWT would be equipped with advanced electronics and processing power, with the software enabling the same weapon to serve in an offensive or defensive role.

The nine-foot-long VWLT is one third of the size of the Mk54 –

the Navy's most advanced light-weight torpedo – and weighs just over 200 pounds, compared with the 608-pound Mk54. With this weight advantage, a platform can carry more torpedoes or carry the same number at longer ranges and give the platform more endurance. The VLWT could be carried by surface, airborne, and undersea platforms, manned and unmanned.

David Portner, Northrop Grumman's program manager for Undersea Weapons, said the VLWT could be carried by such anti-submarine aircraft as P-8A maritime patrol aircraft, MH-60R helicopters and MQ-8 Fire Scout unmanned aerial vehicles.

During an Advanced Naval Technology Exercise two years ago, Northrop Grumman demonstrated the deployment of a VLWT from a surrogate helicopter simulating a Fire Scout.

The torpedo is fitted with a parachute to reduce the shock of impact with the water. The VLWT also could be fitted with a glide wing kit similar to the one on Boeing's HAAWC (High-Altitude Anti-submarine Weapon Concept), which is in development to extend the launch range and altitude as well as precision guidance for the Mk54 torpedo.

The VLWT also could be deployed from a vessel such as a littoral combat ship by way of an unmanned surface vehicle (USV). Fortner said a USV could carry VLWTs away from the ship and put them close to the target.

Portner said the Navy already has demonstrated that the legacy Surface Vessel Torpedo Tubes that fire Mk46 and Mk54 light-weight torpedoes could be fitted with internal sleeves to accommodate the smaller-diameter VLWT, but a new launcher could be developed to house a larger number of VLWTs.

He said one or more VLWTs could be fitted to an ASROC (Anti-Submarine Rocket) in place of a MK54 torpedo if the Navy decided to do proceed with that.