

# Northrop Grumman Builds Very Lightweight Torpedo for U.S. Navy



Northrop Grumman's Very Lightweight Torpedo (VLWT). Northrop Grumman

ANNAPOLIS, Md. – Northrop Grumman has manufactured and tested the first industry-built Very Lightweight Torpedo (VLWT) for the U.S. Navy, the company said in an article posted May 21 on its website.

The prototype torpedo is based on the Pennsylvania State University Applied Research Laboratory's (PSU-ARL) design that was distributed to defense industrial manufacturers in 2016. Northrop Grumman, which funded the research and development, will offer the design-for-affordability improvements to this VLWT as Northrop Grumman's response for the Navy's Compact Rapid Attack Weapon program.

Northrop Grumman is the only company in full-rate production of Mk54 and Mk48 torpedo nose arrays and has delivered over 600 Mk54 arrays and over 70 Mk48 arrays to the U.S. Navy.

Applying its engineering and manufacturing expertise, Northrop Grumman improved upon the VLWT baseline design to replace high-cost components and drive overall affordability, reproducibility and reliability. Those altered sections were built and tested using PSU-ARL's own test equipment for confidence.

"The successful testing of the torpedo nose on the first try is a testament to Northrop Grumman's design-for-affordability approach, which will significantly reduce cost without sacrificing operational performance," said David Portner, lead torpedo program manager, undersea systems, Northrop Grumman.

Northrop Grumman assembled the prototype VLWT using a Stored Chemical Energy Propulsion System manufactured by teammate Barber-Nichols Inc. of Denver, Colorado.

Northrop Grumman's torpedo design and production legacy reaches back over 80 years to World War II through its Westinghouse acquisition. In 1943, Westinghouse won the Navy contract to reverse engineer a captured German electric torpedo and in 12 months began producing the Mk18 electric torpedo, which turned the tide of the undersea warfare in the Pacific. Northrop Grumman has been at the forefront of torpedo design and production ever since, to include the current MK48 Common Broadband Advanced Sonar System (CBASS) heavyweight torpedo and MK50 Lightweight Torpedo.

"The nation needs advanced undersea warfare capabilities now more than ever," said Alan Lytle, vice president, undersea systems, Northrop Grumman. "We are ready to support fielding the VLWT which will increase subsea lethality and enable innovative concepts of operations for multiple warfighting platforms."

Northrop Grumman's manufacturing plan would span the country by building components in California, Utah, Minnesota, Colorado, West Virginia and Maryland.