HELIOS Laser Weapon System Delivered for Installation on USS Preble

An artist’s rendering of Lockheed Martin’s HELIOS system. *LOCKHEED MARTIN*

ARLINGTON, Va. — The Navy’s newest laser weapon system has completed range testing at Wallops Island, Virginia, and is being installed on the U.S. Navy’s Flight IIA Arleigh Burke-class guided-missile destroyer USS Preble in San Diego.

The first High-Energy Laser with Integrated Optical Dazzler and Surveillance, or HELIOS, built By Lockheed Mission Systems and Sensors, has started phased delivery to the Preble at the BAE Systems yard in San Diego. It will be the first laser weapon system to be integrated with a ship’s Aegis Combat System and power and cooling systems, said Jon Rambeau, Lockheed Martin’s vice president and general manager for Integration for Systems and Sensors, during a March 30

interview with *Seapower*.

The 60-kilowatt HELIOS is scalable, Rambeau said, up to 120 kilowatts with minor modifications such as the addition of more fiber-optic laser modules. It has replaced the Preble's forward Mk15 Close-In Weapon System.

"We believe the 60- to 120-kilowatt-range systems can be effective against an ASCM [anti-ship cruise missile]," Rambeau said. "We've done some modeling that demonstrates that, we believe, and also looking soon to be able to back that up with some real-world test data. Watch for some news that should be coming soon as we continue the test program."

The 60-kilowatt HELIOS also can be used for surveillance and as a counter-unmanned aerial system dazzler. The HELIOS also is adaptable to the Ship Self-Defense System on aircraft carriers and newer amphibious warships.

"After better than a decade of that question being out there, 'When are these systems going to demonstrate that they're tactically relevant,' we're really right at the threshold of that to the point where the conversation is not going to be anymore, 'Are those going to work?' and 'Are they going to be useful on the battlefield?'" Rambeau said. "Rather, the question is going to turn more to funding priorities, price points, the capacity of our industry primes, and the supply chain that could build these things in full quantities and at scale and then, ultimately, conversations around doctrine and how they would actually be employed in combat.

"It's really exciting time in lasers and it has been a long time in coming," he said.

The HELIOS contract was awarded to Lockheed Martin in January 2018. The company is also developing a layered laser weapon system for the U.S. Army.