Navy Demonstrates First At-sea Reloading of Vertical Launching System

From Thomas McMahon, Oct. 15, 2024

SAN DIEGO—The U.S. Navy achieved a breakthrough in combat readiness today as it successfully demonstrated the Transferrable Reload At-sea Method (TRAM) on an underway warship in open ocean for the first time.

Sailors aboard the Ticonderoga-class cruiser USS Chosin (CG 65) used the hydraulically-powered TRAM device to load an empty missile canister into the ship's MK 41 vertical launching system (VLS) while off the coast of San Diego on Oct. 11.

The successful demonstration marks a critical step in the capability to rearm warships at sea—a top priority outlined by Secretary of the Navy Carlos Del Toro.

"Today, we proved just how game-changing TRAM truly is—and what a powerful deterrent it will be to our competitors," said Del Toro, who witnessed the demonstration. "This demonstration marks a key milestone on the path to perfecting this capability and fielding it for sustained operations at sea."

"This was an outstanding effort by the sailors and civilians involved in demonstrating this game-changing capability for the Navy," said Capt. James "Mike" Williams, commanding officer of Chosin.

The groundbreaking at-sea test follows a successful land-based demonstration in July at Naval Surface Warfare Center, Port

Hueneme Division (NSWC PHD) in California.

Engineers at NSWC PHD developed the TRAM prototype as a way to rearm warships during the underway replenishment (UNREP) process—when a supply ship connects to a combatant at sea to transfer vital material such as fuel and food.

“The combatant can stay near the fight to be rearmed, refueled and resupplied all at the same time,” said Rich Hadley, UNREP division manager at NSWC PHD. “As Capt. Arleigh Burke said, ‘All time spent in replenishing was time lost in combat.’ TRAM improves operational effectiveness by reducing the amount of time the warfighter must spend away from the fight replenishing.”

For the at-sea demonstration, Chosin connected to USNS Washington Chambers (T-AKE 11), a Military Sealift Command dry cargo and ammunition ship, which transferred the missile canister across cables to the cruiser. The sailors then used TRAM to move the missile canister along rails attached to the cruiser’s VLS modules, tilt it into a vertical position, and lower it into a VLS cell with TRAM’s built-in cable and pulley system.

“Deploying TRAM into the Military Sealift Command logistics fleet,” said Tim Barnard, director of the NAVSEA technology office (05T), “would enable combatants to remain in theater while reloading their VLS missile launchers instead of having to travel long distances to a port, greatly expanding the volume and tempo of long-range fires—and the U.S. Navy’s advantage over adversaries.”

MK 41 VLS provides rapid-fire missile launch capability for the U.S. Navy’s destroyers, cruisers and future Constellation-class frigates.

Del Toro said the Navy is on track to begin fielding TRAM in

two to three years.