Navy Full Court Press on USS Gerald R. Ford Weapons Elevators

Chief Machinist’s Mate Franklin Pollydore, second from left, from Georgetown, Guyana, goes over safety procedures for the Upper Stage 1 advanced weapons elevator with Sailors from USS Gerald R. Ford’s weapons department. The elevator is the first to be delivered to the ship and marks a major milestone for Ford and the entire Ford-class of aircraft carriers. Ford is currently undergoing its post-shakedown availability at Huntington Ingalls Industries-Newport News Shipbuilding. U.S. NAVY / Mass Communication Specialist 1st Class Jeff Troutman

WASHINGTON – The U.S. Navy is leveraging the talent of an independent team of government and outside experts to assist in advanced electromagnetic, production and software technology aboard USS Gerald R. Ford (CVN 78), said Research, Development and Acquisition Public Affairs in a July 1 release.

“We have a full court press on the advanced weapons elevators,” said the Honorable James Geurts, assistant secretary of the Navy for research, development and acquisition. “We’ve gathered a team of experts on the carrier right now, which will work with the shipbuilder to get Ford’s weapons elevators completed in the most efficient timeline possible – they will also recommend new design changes that can improve elevator activities for the rest of the Ford

class.

“This team of experts in electromagnetic systems, fabrication and production control, software, systems integration, and electrical engineering will focus on completing the production of the remaining elevators on CVN 78 and recommending design changes for future ships in the class. In doing so, they will execute corrective actions and adapt best practices to ensure the completion of the Advanced Weapons Elevators in support of the USS Gerald R. Ford’s operations.”

Arriving on the carrier two weeks ago, the Navy-led team has quickly formed a linked and integrated approach between the shipbuilder, the government, Ford crew and industry experts. The team is comprised of specialists in their respective fields and many have had a number of successes at solving developmental technological challenges.

AWE, as a first-of-its-kind developmental system, has had its share of production and technological challenges.

The AWEs are operated via electromagnetic, linear synchronous motors. This new technology increases both speed and weapons carrying capacity of the platform while reducing required manning, maintenance and total ownership cost. Due to the concurrent

nature of AWE development and construction, the shipboard weapons elevators have been test beds for discovering developmental issues that have delayed the scheduled turnover to the crew.

For those elevators working on Ford, the ship's weapons department has been training on them daily.

"The two upper stage elevators have absolutely operated as designed," said Lt. Cmdr. Chabonnie Alexander, Ford's ordnance handling officer. "We operate the elevators 10 times a day, five days a week, and Ship's Force subject matter experts continue to get smarter and more comfortable each day with the system and its operating capabilities. Additionally, as we become more comfortable and more proficient with the elevators we're also becoming better able to anticipate and diagnose any technical issues that may arise."

Ford elevators will allow the ship to be able to move up to 24,000 pounds of ordnance at 150 feet-per-minute. This is in contrast to the 10,500 pounds at up to 100 feet-per-minute on a Nimitz-class carrier. AWE contributes to a 33% improvement in sortie generation rate over the Nimitz-Class, which is the heart of Ford-class warfighting capability.

In parallel with standing up the team of Navy-led government and industry experts, the Navy is constructing a land based test site at Naval Surface Warfare Center Division Philadelphia, and contracted for the production, test and delivery of system components to complete the site in 2020. The Navy and shipbuilder are also completing a digital twin co-located at the shipyard facility in Newport News that will be complete in fall 2019. Both systems will allow the Navy and shipbuilder to mature the system and aid in troubleshooting.

These shore efforts combined with the collective team of experts aboard Ford will bring these elevators online making the Ford-class more lethal and efficient, while also providing it with the ability to implement future advancements in technology with relative ease.