Gerald R. Ford Successfully Completes Combat Systems Ship's Qualification Trials

An evolved sea sparrow missile (ESSM) launches from one of USS Gerald R. Ford's (CVN 78) weapons sponsons during combat systems ship qualification trials (CSSQT), April 16, 2021. CSSQT is a Naval Sea Systems Command requirement to verify that ship personnel can operate and maintain their combat systems in a safe and effective manner. Ford is underway in the Atlantic Ocean conducting its final independent steaming event of post-delivery tests and trials. *U.S. NAVY / Mass Communication Specialist 3rd Class Zachary Melvin*

ATLANTIC OCEAN – Sailors aboard the aircraft carrier USS Gerald R. Ford (CVN 78) successfully completed Combat Systems Ship's Qualification Trials (CSSQT) April 17, representing a major milestone in validating the ship's capability to defend itself and the crew, the ship's public affairs officer said in an April 24 release.

The trials, which commenced in February, consisted of five phases. The completion of the final phase, 2C, and CSSQT overall, is the culmination of years of planning, training, ingenuity and thousands of working hours for the ship's current and previous crews.

"I could not be more proud of our Sailors and their historic accomplishment," said Capt. Paul Lanzilotta, Ford's commanding officer. "CSSQT was a live-fire, hands-on opportunity to prove the self-defense capability of this fine warship. We always intend to use our embarked air wing to influence our adversaries at great ranges from the ship, but if they're able to get a shot at us, this event has shown our crew the formidable nature of our organic weapons."

According to ship's CSSQT project officer, Larry Daugherty, phase 2C was the "prove it" phase for the ship, which had already completed multiple detect-to-engage scenarios with live aircraft. In 2C, Ford faced off against rocket propelled drones capable of speeds in excess of 600 miles per hour; towed drone units (TDUs) that simulate rockets; and remote controlled, high-speed maneuvering surface targets (HSMST).

The crew countered, relying on their skills and training to operate Ford's advanced defense systems. They used the rolling airframe missile (RAM) launchers, firing off RIM-116 missiles; the NATO launchers to fire the evolved sea sparrow missiles (ESSM); and the Mk-15 Phalanx Close-In Weapon System (CIWS) to fire armor-piercing tungsten bullets at 4,500 rounds per minute.

"The crew crushed it, firing off four missiles [two RIM-116 and two ESSM], and all of them were conducted with precision control by combat direction center (CDC) watch teams, they executed perfectly," said Daugherty. "All command and control decisions were made correctly, and the [systems] were engaged when they were supposed to be engaged and everything went out on time."

The ship's defense missiles engaged the drones and CIWS took out the TDUs and HSMSTs. All three TDUs were destroyed, and two of those TDUs were ripped to shreds, according to Daugherty. All three HSMSTs were destroyed as well.

"Those Sailors not only took out the first two HSMSTs, they punched holes in them, set them on fire, and they both sank," said Daugherty. "On the third one, the CIWS operator was so good that he actually hit the target further out than the weapon system's maximum effective range and put it DIW [dead in the water]."

As the first crew to fire Ford's missiles and complete this mission, it is a huge accomplishment, according to Chief

Warrant Officer 2 Todd Williamson, Ford's fire control officer, and it began with the on-load of the missiles.

"Getting missiles transported and loaded onto a ship is a big movement that requires national coordination between multiple entities," said Williamson. "The ship's fire controlmen and Weapons Department were the backbone of the handling evolution, while Ford's Aviation Intermediate Maintenance Department provided material handling equipment readiness support. Our ISEA [In-Service Engineering Agents] were also on-hand to provide oversight."

The first few days of the nearly week-long exercises for 2C were some of the most challenging, according to Williamson. "For Weapons Department and Combat Systems Department, it was two 18-hour back-to-back days just to get set-up and complete telemetry checks," he said.

The telemetry checks provide the capability to record the flight performance characteristics and fusing of RAM and ESSM missiles to ensure they are capable of hitting their intended targets, according to Daugherty.

There were other system checks, system and equipment tuning, ordnance uploads, preventative maintenance checks and casualty repairs, which collectively made for an extremely complex series of exercises. According to Fire Controlman 2nd Class Douglas Huyge, who has been aboard Ford for two years, his team was up for the challenge.

"I am 100% impressed with the way the division worked together to achieve this goal," said Huyge. "People who are in leadership positions dream of dream-teams like this, we worked hard to get here and we executed the mission."

CSSQT is the culminating combat systems test of Ford's 18-month post-delivery test and trials (PDT&T) phase of operations. Following PDT&T this month, Ford will commence preparations for Full Ship Shock Trials, scheduled to occur

during the summer, to validate the ability of new construction ships to carry out assigned missions and evaluate operational survivability after exposure to an underwater shock.

“[CSSQT] was probably the single-handed greatest feeling I’ve felt on this ship so far,” said Huyge, describing how he felt watching the live-fire evolution in CDC, after many years of hard work. “I would say what I felt was fulfillment. It was a high level of fulfillment.”

USS Gerald R. Ford is a first-in-class aircraft carrier, and the first new aircraft carrier designed in more than 40 years. The ship is underway for Independent Steaming Event 18 (ISE 18), as part of her PDT&T phase of operations.