# First Modernized Ticonderoga Cruiser Returned to Navy Service

The guided-missile cruiser USS Cowpens in 2014, returning to San Diego following a deployment to the western Pacific. The cruiser just returned to active service after four years in the Cruiser Modification Program. U.S. Navy/Senior Chief Mass Communication Specialist Donnie W. Ryan

ARLINGTON, Va. – The first of seven Ticonderoga-class guided-missile cruisers entered into the Cruiser Modification Program has been returned to the U.S. Navy's fleet for service.

USS Cowpens went through the modification at the NASSCO shipyard in San Diego over the last four years, Capt. Kevin Byrne, the Navy's program manager for surface ship modernization, said Jan. 15 at the Surface Navy Association symposium here.

Under the modification, the major addition is the Baseline 9A upgrade to the Aegis Combat System with ballistic-missile defense (BMD) capability, along with the addition of the SPQ-9B radar, the Navy Integrated Fire Control capability and the SQQ-89(V)15 anti-submarine warfare system and the Multifunction Towed Array. The ship's Combat Information Center is revamped, the superstructure is strengthened and provisions for the embarked MH-60R

helicopters are included,
among other hull, mechanical and electrical improvements.

Also going
through modernization are USS Gettysburg at the BAE Systems yard in Norfolk,
Virginia, and USS Chosin, which soon will be towed to the Vigor shipyard in
Portland, Oregon. USS Cape St. George will follow at Vigor later in 2020, and USS
Vicksburg enters the BAE yard in Norfolk this month. USS Hue City is the next
to be inducted.

The seven
cruisers are part of the 11 that the Navy decided to take out of service for
modernization, but the Navy is keeping four in service for the time being to
maintain a robust BMD force structure.

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# Raytheon's SPY-6 Radar Family Attracts Foreign Interest as U.S. Navy Readies for Deliveries

ARLINGTON,
Va. – Three foreign navies have expressed interest in the U.S. Navy's Raytheon-built
SPY-6 scalable family of shipboard radars as the Navy prepares to take delivery

this year of its first shipsets for installation.

Mike Mills,
Raytheon's SPY-6 program director, told *Seapower* in a Jan. 14 interview
at the Surface Navy Association convention here that Norway, Singapore and
Japan have expressed interest in the radars. He said Raytheon hopes to land its
first foreign military sale of the radars in 2020 or 2021.

The SPY-6(V)1
Air and Missile Defense Radar is designed for the Navy's Flight III Arleigh
Burke-class guided-missile destroyers (DDGs) and features 37 radar modular
assemblies (RMAs) in fixed arrays. The SPY(V)2 Enterprise Air Search Radar
(EASR) is designed for amphibious warfare ships and features nine RMAs in a
rotating antenna.

The SPY-6(V)3
EASR, also with nine RMAs but in fixed arrays, is designed for aircraft
carriers. Another version, the SPY-6(V)4, with 24 RMAs will be back-fit on
Flight IIA Arleigh Burke-class destroyers. The Navy's FFG(X) next-generation
guided-missile frigate also will receive a version of the SPY-6 EASR as
government-furnished equipment.

Mills said that three shipsets – numbers 5, 6 and 7 – were placed on contract by the Navy in March and that a contract for shipsets 8 and 9 was awarded in December. The Navy ordered long-lead-time materials for the EASR radars to be installed on Bougainville (LHA 8) and USS John F. Kennedy (CVN 79).

Mills expects the Navy to order the shipsets for those two ships in May or June.

For the backfits to Flight IIA DDGS, Raytheon delivered the technical data package for the 24-RMA assembly to the Navy in October. The Navy plans on installation of the radars on many Flight IIA DDGs.

Raytheon has five AMDR arrays at the company's facility in Andover, Massachusetts, with the first two in ranges for their scans. The company expects to deliver the next four between April and June, with the last one bound for installation of Jack H. Lucas (DDG 125), the first Flight III DDG.

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# Navy Looks at Expanded Missions for Textron's CUSV

An early variant of the CUSV autonomously conducts maneuvers on a Potomac River test range near Dahlgren, Virginia, during a demonstration before government, defense contractors and military personnel. U.S. Navy/John Joyce

ARLINGTON.
Va. — As Textron's Common Unmanned Surface Vehicle (CUSV) goes through the
paces of testing, it is attracting the U.S. Navy's attention for missions
beyond minesweeping.

The CUSV, an
unmanned boat capable of towing or carrying payloads, is under development for
the Navy's Mine Countermeasures USV (MCM USV) program.

Designed to tow a mission package for the Unmanned Influence Sweep System, the MCM USV has been tested with Raytheon's AQS-20 and Northrop Grumman's AQS-24 mine-hunting sonars.

The MCM USV has completed developmental test and operational evaluation, Wayne Prender, vice president of Textron Systems, said in an Jan. 14 interview with *Seapower* at the Surface Navy Association convention here. He said the company is expecting a Milestone C decision from the Navy "any day now" that would authorize low-rate initial production.

Textron has built four CUSVs and has expanded its testing in southern Florida to include Panama City as well. The company is working with the Naval Surface Warfare Center at Dahlgren, Virginia, to develop expeditionary and surface warfare packages for the CUSV.

In July, a CUSV was modified with a remote-controlled .50-caliber M2 machine gun and a Hellfire missile vertical launcher. In this configuration the craft was demonstrated at Camp Lejeune, North Carolina, in an Advanced Naval Technology Exercise (ANTX).

The MCM USV has been tested in operations from an Independence-class

littoral combat ship
and from two vessels of opportunity, including an expeditionary base ship and a
foreign-equivalent ship.

Prender said that Textron is continuing to work on the autonomy and mission behaviors of the CUSV.

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# Four Navy Ships Set for Delivery of Newest SSDS Configuration

A U.S. Marine Corps MV-22 lands aboard the amphibious assault ship USS Boxer (right) while the amphibious dock landing ship USS Harpers Ferry follows. Boxer will be among four ships to receive the newest SSDS configuration this summer. U.S. Navy/Mass Communication Specialist 2nd Class Kyle Carlstrom
ARLINGTON,
Va. – Lockheed Martin is on tap to deliver the latest version of the Ship
Self-Defense System (SSDS) to four Navy ships this summer, a company official
said.

Lockheed
Martin was confirmed as the Combat Systems Engineering Agent (CSEA) for the
SSDS program on Dec. 13 when a protest to the selection by the previous CSEA
was denied, Jim Sheridan, Lockheed's vice president for naval combat and missile

defense systems, said in a Jan. 14 briefing to reporters at the Surface Navy Association convention here. The initial bid was made in August 2017.

Sheridan said the major challenge since the resolution of the protest was the tight timeline to make the deliveries by July.

The SSDS Advanced Capability Build 20 (ACB 20) will be delivered to the aircraft USS George Washington (CVN 73), the amphibious assault ship USS Boxer (LHD 4) and the amphibious platform dock ships USS San Antonio (LPD 17) and USS Fort Lauderdale (LPD 28).

SSDS ACB 20 is a combat system that will integrate such systems as the Evolved SeaSparrow Missile Block II system, the SLQ-32 Surface Electronic Warfare Program III system and the Enterprise Air-Search Radar. The upgrade features cybersecurity enhancements and fire-control loop modernization. It also will integrate the Advanced Training Domain.

In addition, the SSDS ACB 10 will be migrated from Hardware Technology Insertion (HTI) 12 to HTI 16 infrastructure.

Sheridan said the selection of the Lockheed Martin as CSEA for the SSDS makes the company the

CSEA for aircraft carriers and most surface combatants, the major exception
being the Zumwalt-class guided-missile destroyers. The company plans to bid to
become the CSEA for the new FFG(X) guided-missile frigate.

Lockheed Martin is adding
the SSDS ACB 20 software to its Common Source Library, also inhabited by its
Aegis Combat System software.

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# Navy Surface Chief: Zumwalt 'Will Bring the Fear of God to Our Adversaries'

The guided-missile destroyer USS Zumwalt sits pierside while participating in San Francisco Fleet Week in October. U.S. Navy/Mass Communication Specialist 1st Class Peter Burghart

ARLINGTON, Va. – The admiral in charge of the Navy's surface warships praised the Zumwalt-class guided-missile destroyers (DDGs) and predicted that they will be fearsome warships.

"I'm very excited about getting the Zumwalt-class destroyers out there," Vice Adm. Rich Brown, commander of Naval Surface Forces, said during a Jan. 6 media teleconference embargoed until Jan. 13. "Incredibly capable ships. When the ships deploy, they will bring the fear of God to our adversaries. I wish we were building more of them. They are great ships."

The USS Zumwalt (DDG 1000), still in its build phase under a split-phase delivery, has been going through installation of

its combat systems installed in San Diego since its commissioning in Baltimore and its transit through the Panama Canal to San Diego. The installations included the SPY-3 radar, the testing of the radar and the combat systems, the testing of the integrated power system, the testing of the hull form in light and heavy weather.

“We still have a little bit of work on the installation of the aviation facilities,” Brown said, noting that the ship will be going through combat system qualification trials and full employment of the weapon system.

Zumwalt “is tracking right on the timeline … and it’s looking like [fiscal 2021] will be FOC [full operational capability],” he said.

The second ship of the class, USS Michael Monsoor (DDG 1001), is deep into its combat systems installation, Brown said. “It’s not taking near as along as Zumwalt – Zumwalt was the first, a lot of lessons learned from BAE [Systems] on that installation, and Michael Monsoor’s installation is tracking right along.

The admiral said that the Zumwalt will deploy in fiscal 2021.

The third ship of the class, Lyndon B. Johnson (DDG 1002), is being built at the Bath Iron Works in Bath, Maine.

“We’re looking at various options to keep her on track,” Brown said. “Right now, there is a little bit of slippage in schedule, but there are a lots of things that the contractor and the Navy are going to do keep her delivering when we want her to with a full combat system. There are some options we can do that I can’t really talk about right now.”

# Ship XO Fleet-Up to CO Concept Resulting in Better Ships, Navy Surface Chief Says

ARLINGTON, Va. – The Navy's ship command policy of having a ship's executive officers fleet up to become the ship's commanding officer is proving to be successful and is making better COs for the fleet.

"I am a full proponent of XO-CO fleet-up," Vice Adm. Rich Brown, commander of Naval Surface Forces, said in a Jan. 6 media teleconference, information from which was embargoed until Jan. 13.

"Just like anything else it has its pros and cons, just like the traditional career path of a separate XO to a separate CO had its pros and cons," Brown said. "What I know now is something we predicted back then – I think it's really proven out. If you talk to the commodores and the strike group commanders, especially during the transition, the ships that were on their second or third iteration of XO fleeting up to CO were better ships.

"If you talk to commanding officers today, they will tell you, 'I can't imagine taking command of my destroyer having not been the XO first.' " He said. "They know their ship, they know their material readiness, they know their crew, they know their wardroom, on Day One of being in command. And on Day One they're not only in command of the ship but they're commanding the ship."

Brown said that bad CO/XO combinations can occur and "we're not opposed to breaking that chain. When an XO comes into a ship with a great command climate and the ship is really

firing on all cylinders, that XO not only adds to that command climate but they're kind of inculcated into that command climate. But for some reason the command has a bad command climate, the XO can get inculcated into that bad command climate, so we're actively breaking that. We've done that a couple of times on both coasts where we split up the team or put a new team in there. But it's only been a handful of times because – quite honestly – under fleet-up the ships are really performing."

Brown said that, with all of the difficulties over the last decade of flat budgets and high operational tempo, one would expect the surface community to have witnessed a critical dip from material standpoint and "we really didn't. If you look at our INSURV [Bureau of Inspection and Survey] scores over the last 10 years, they remain steady or they've improved."

"If you look at our PMS [Preventative Maintenance System] scores, our training scores, I attribute XO-CO fleet-up as one of the contributing factors," he said, noting that when the XO checks on board and notes an upcoming INSURV in 20 months, for example, he or she realizes that he or she will be the CO in 20 months and will pay better attention to the material readiness of the ship.

"A lot of goodness," Brown noted of the resulting attention.

The admiral said the policy came out of the 2018 All-Up Review as something to look at, but the decision was made in June 2019 to stay the course with some minor tweaks.

Brown said he was the architect of the policy when he was assigned to the Bureau of Personnel in 2005.

"The whole [ship] XO-CO fleet-up program started on a buck slip on my desk," he said.

The naval aviation community has used the XO-CO fleet-up concept for decades.

# Navy Surface Chief: LCS Will Deploy With Laser Weapon

An A/N SEQ-3(XN-1) laser weapon system at Dahlgren, Virginia, like the one deployed in 2014 aboard the USS Ponce. A littoral combat ship, the USS Little Rock, also will have a laser weapon installed, says the admiral in charge of the Navy's surface ships. U.S. Navy/John F. Williams

ARLINGTON, Va. – The admiral in charge of the Navy's surface warships said a littoral combat ship (LCS) soon will deploy with a laser weapon system on board.

Vice Adm. Rich Brown, commander of Naval Surface Forces, in a Jan. 6 media teleconference, embargoed until Jan. 13, said the weapon system will be installed in the Freedom-class USS Little Rock (LCS 9). Brown said the laser system would be installed in the ship midway during its deployment during a crew swap and planned maintenance availability.

The Little Rock, based in Naval Station Mayport, Florida, is expected to deploy sometime over the next year. The Navy was not ready to discuss the origin or type of laser weapon system to be installed.

The Navy already has installed a laser weapon system on the amphibious transport dock ship USS Portland (LPD 27). Earlier, an experimental laser weapon system, the SEQ-3, was deployed to the Persian Gulf in 2014 on board the USS Ponce, which since has been decommissioned.

# Significant Sea Service Events Mark End of 2019, Start of 2020

The Ticonderoga-class guided-missile cruiser USS Chancellorsville conducts a replenishment-at-sea with the oiler USNS Big Horn. The Huntington Ingalls Shipbuilding division has received a contract for planning yard services in support of Ticonderoga-class cruisers and Spruance-class destroyers. U.S. Navy/Mass Communication Specialist 1st Class Jeremy Graham

ARLINGTON, Va. – Even though the *Seapower* staff was on liberty ashore over the holidays, the world kept turning and things kept happening. Below is a summary of significant events since Dec. 19:

- Acting Navy Secretary Thomas B. Modly announced on Dec. 23 the names selected for the first two Block V Virginia-class attack submarines. The boats, SSN 602 and SSN 603, were named USS Oklahoma and USS Arizona, respectively. The submarines' names will memorialize two battleships sunk in Pearl Harbor, Hawaii, by Japanese aircraft on Dec. 7, 1941. Unlike the other battleships sunk or damaged during the attack, the Oklahoma and Arizona never served again. The Arizona is a submerged memorial at the site where it was sunk in the harbor. The Oklahoma was raised but later sank in the eastern Pacific Ocean while under tow for planned repairs.
- The U.S. 2nd Fleet has reached full operational capability (FOC), the fleet commander announced Dec. 31. "The achievement of FOC signifies 2nd Fleet has reached sufficient capacity to sustain command and control over assigned forces using the operational functions and

processes of the Maritime Operations Center and Maritime Headquarters, in accordance with Navy Doctrine. [The fleet] will primarily focus on forward operations and the employment of combat ready naval forces in the Atlantic and Arctic, and to a smaller extent, on force generation and the final training and certification of forces preparing for operations around the globe," the release said.

- Huntington Ingalls Industries announced Dec. 20 that its Ingalls Shipbuilding division has been awarded a contract with a potential total value of $453.4 million for planning yard services in support of in-service Ticonderoga–class cruisers and Spruance-class destroyers. The contract includes options over a five-year period.
- Raytheon Missile Systems has been awarded $1 billion multiyear (2019-2023) contract for full-rate production requirements, spares and round design agent for the Standard Missile-6 (SM-6). This contract provides all up rounds, flight test rounds, spares and round design agent.
- The first CMV-22B version of the Osprey tilt-rotor aircraft made its first flight on Dec. 19, according to a Facebook post by a photographer outside the Bell facility. The CMV-22B will replace the C-2A Greyhound as the Navy's carrier-onboard-delivery aircraft.
- Northrop Grumman Systems Corp. has been awarded a $251.6 contract modification for three Low-Rate Initial Production Lot 4 MQ-4C Triton high-altitude, long-endurance unmanned surveillance aircraft plus ground stations, trade studies, tooling and associated support equipment.
- Raytheon announced on Dec. 20 that the Navy awarded a $250 million contract for additional SPY-6 radars, bringing the total ordered to nine. The SPY-6 Air and Missile Defense Radars will be installed on Flight

III Arleigh Burke-class guided-missile destroyers.

- The Naval Sea Systems Command awarded Lockheed Martin a $1.6 billion Foreign Military Sales contract to build four Multi-Mission Surface Combatants for the navy of Saudi Arabia. The frigate design is based on the company's Freedom-class littoral combat ship. The ships will be built at Fincantieri's shipyard in Marinette, Wisconsin, and will be equipped with the Mk41 Vertical launch system for the Evolved Sea Sparrow Missile, RGM-84 Harpoon Block II+ missiles and a 4D air-search radar.
- Teledyne Brown Engineering Inc. was awarded a $27.2 million contract modification to exercise the Year One option for one Mk11 Shallow-Water Combat Submersibles.
- BAE Systems' AGR-20A Advanced Precision Kill Weapon System has been used to down an aerial target. The laser-guided air-ground rocket was used in a demonstration by a U.S. Air Force F-16 fighter as an inexpensive way to shoot down aircraft and cruise missiles.
- Metal Shark is engaged in the Operational Test and Evaluation of its 40-foot Defiant patrol boat that is designed under the PB-X program to replace the Navy's 160 coastal patrol boats.
- The U.S. Coast Guard Cutter Bertholf (WMSL-750) completed an 82-day patrol in the eastern Pacific and offloaded more than 18,000 pounds of cocaine in San Diego on Dec. 23. The cocaine, worth an estimated $312 million, was seized by five cutters in seven separate actions between mid-October and early December.
- About 100 Marines were deployed on Dec. 31 to the U.S. Embassy in Baghdad, Iraq, to strengthen the embassy's defenses against crowds of protesters who destroyed the embassy's gatehouse. The agitation began after U. S. Air Force F-15E aircraft struck Iranian-backed militia sites in retaliation for the death in a rocket attack of an

American contractor and wounding of four U.S. soldiers.

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# Schultz: FRCs Expanding Coast Guard Reach in Pacific; Six Set for Persian Gulf

The newly commissioned fast-response cutter Angela McShan gets underway near Miami on Sept. 20. Adm. Karl L. Schultz said Dec. 10 to an audience at the Navy League's "Special Topic Breakfast" that FRCs are greatly increasing the Coast Guard's reach and capabilities. U.S. Coast Guard/Petty Officer 3rd Class Brandon Murray

ARLINGTON, Va. — As the U.S. Coast Guard commissions more Sentinel-class fast-response cutters (FRCs) it can expand its presence in the Pacific and will increase its capabilities in the Persian Gulf.

"We commissioned the 35th [FRC] in October," Coast Guard Commandant Adm. Karl L. Schultz said Dec. 10 to an audience at the Navy League's "Special Topic Breakfast" here, noting that the FRC program is greatly increasing the Coast Guard's reach and capabilities.

The Coast Guard plans to procure a total of 58 FRCs built by Bollinger Shipyards in Lockport, Louisiana. He said the last dozen or so were delivered with zero discrepancies. About four FRCs are delivered each year.

Schultz said the Coast Guard will station three FRCs in Guam and four in Bahrain. Two are slated to join the service's Patrol Force Southwest Asia in Bahrain in early 2021 and the other two will follow later. He said he plans to add two more

for a total of six. They will replace six Island-class patrol boats in the Persian Gulf.

FRCs recently were added to Hawaii. One of them made a 2,700-nautical-mile voyage to American Samoa on its own fuel, accompanied by a buoy tender as a support ship for refueling at its destination, demonstrating the reach and seakeeping qualities of FRCs.

Schultz noted that the reach of the FRCs in Guam will enable to Coast Guard to counter the growing Chinese economic presence – including illegal fishing – in the Pacific island nations in Micronesia, many of which depend of fishing as a major economic benefit.

"We can help them with fisheries," Schultz said. "With these island nations, it's a big part of their existence."

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# Gilday: Fleet Commanders Ought to 'Drive the Fight'

Chief of Naval Operations Adm. Mike Gilday participates in a discussion panel during the Defense Forum Washington 2019 hosted by the U.S. Naval Institute on Dec. 6. U.S. Navy/Mass Communication Specialist 1st Class Raymond D. Diaz III

WASHINGTON – The new chief of naval operations (CNO) is planning on a return to large fleet exercises and plans to hold them annually, part of an initiative to conduct fleet-level naval warfare in an era of great power competition.

In his Fragmentation Order ("Frago") 01/2019, a refinement of his predecessors Design for Maritime Security 2.0, Adm. Mike Gilday called for a mastery of fleet-level warfare, noting

that “fleet design and operating concepts demand that fleets be the operational center of warfare.”

At the Dec. 5 U.S. Naval Institute’s Defense Forum in Washington, Gilday said that fleet commanders ought to “drive the fight.”

In the Frago, Gilday said the Navy “will learn from fleet battle problems and the Large-Scale Exercise (LSE) 2020, then restore annual LSEs as the means by which we operate, train and experiment with large force elements. Fleet exercises will be led by fleet commanders leveraging operational concepts like Distributed Maritime Operations, Expeditionary Advanced Base Operations, and Littoral Operations in a Contested Environment.

“Combined with wargaming, the exercises will serve as the key opportunity for experimentation and the development and testing of alternative concepts,” he wrote. “These exercises and experiments will inform doctrine and tactics; future fleet headquarters requirements, capacity and size; and investments in future platforms and capabilities. As we develop our plans for future LSEs, we will leverage experience from Combatant Command, Joint and other service exercises to better prepare the Navy to integrate, support and lead the Joint Force in a future fight.”

Gilday said at the forum that “fleet commanders ought to own the physical and virtual battlespace that they are responsible for and then drive the fight.”

“In order to be able to fight as a fleet, we can’t continue to use strike groups and ARGs [amphibious ready groups] around the world in these constabulary positions,” he said. “As some point, you’re going to have to bring together the garage band and make it work at the fleet level. Then we have to exercise as a fleet.”

The CNO noted that the Navy has invested in maritime

operations centers at fleet headquarters.

“These are a great capability that give that fleet commander the ability to fight,” he said. “We need to do more than war-gaming; we need to exercise it. The only way to do that is with iron out there at scale.”

Gilday said the LSEs will involve several strike groups — carrier strike groups and amphibious ready groups — and will be run from the fleet level.

For the 2020 LSE, he also plans to introduce an information warfare cell inside the fleet maritime operations center to conduct cyber and influence operations.

Lessons learned from the exercises will be used to inform budget submissions for fiscal 2023.