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Volume 56, Number 5, May 2013

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# THIS SEA-BASED SYSTEM MADE WAVES IN OUTER SPACE

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# Navy League and the Industrial Base

By PHILIP L. DUNMIRE, Navy League National President

**T**he U.S. defense and maritime industrial base, the U.S. sea services and the Navy League of the United States are inextricably linked. The sea services provide security and protect and defend our national interests at home and abroad. They count on the industrial base to provide the tools and technologies they need to be successful, and on the Navy League to educate the American public and members of Congress about why it is so important to maintain a strong, capable U.S. Navy, Marine Corps, Coast Guard and U.S.-flag Merchant Marine.

The Navy League counts, in part, on Corporate Members to support our mission and participate in our programs. This, in turn, presents opportunities for industry to connect with sea service leaders and legislators. The 2013 Sea-Air-Space Exposition, held April 8-10 at the Gaylord National Resort & Convention Center in National Harbor, Md., afforded key decision-makers in industry and the sea services the opportunity to interact, and discuss issues of common interest and concern.

I, too, took advantage of the occasion, visiting the exhibits on the Sea-Air-Space show floor, meeting industry representatives and discussing with them the impor-



Navy League National President Philip L. Dunmire, right, speaks with Joseph J. Battaglia, president and chief executive officer of Telephonics Corp., and Carrie Petrocca-Aronson, Telephonics' manager of corporate communications, April 9 at the company's booth on the exhibit floor of the 2013 Sea-Air-Space Exposition at National Harbor, Md.



tant partnership that the Navy League has with industry. From the top-tier prime contractors to the small companies who may have less than 100 employees, collectively they employ hundreds of thousands of people across this nation.

That is hundreds of thousands of voters who share the same goal as Navy League members — making sure our sea services have the equipment, training and personnel, and legislative and financial support they need in the defense of this nation.

We must work together and pool our talents and resources to achieve our common goal. Telephonics Corp., of Farmingdale, N.Y., was an exhibitor at Sea-Air-Space. Joseph J. Battaglia, their president and chief executive officer, told me he was involved with many different organizations and wished he had more time to devote to the Navy League. When I asked him how many employees there were at his company, he replied that there were about 1,200. I then suggested he work toward getting 10 percent of those employees to become active members of the Navy League — a challenge he accepted.

Maintaining a strong maritime force, advocating for the sea services and educating others about why that strength is important to national security and economic prosperity is why the Navy League exists, and why those at Telephonics and other sea service suppliers are employed.

I encourage others to accept my 10 percent challenge. Their facilities are in large cities and small towns across the nation, and are an integral part of the sea services team and the communities in which their employees live. Together we can make a difference.

*Every Member Get a Member ... Involved!*

# Information Is Power

By AMY L. WITTMAN, Editor in Chief

**G**etting a near-real-time, shared picture of the battlespace or situation, and then getting the right information to the right decision-makers as quickly as possible — gaining a competitive, tactical advantage through timely information — is the goal of network-centric warfare.



In this issue, we look at efforts to enhance battlespace awareness and improve communications. Managing Editor Richard R. Burgess, in “Baseline 9 and Beyond” (page 10), looks at the upgrades being made to the Aegis Combat System that will allow for more integrated air- and missile-defense capabilities. The latest upgrade to the combat system, Baseline 9 adds the capability to perform multiple missions simultaneously, including ballistic missile defense.

Burgess also notes, in his report “Critical Pillar” (page 14), that the Navy will greatly improve its network-centric battle management capability and situational awareness when the new E-2D Advanced Hawkeye radar early warning aircraft comes online late next year.

Special Correspondent Otto Kreisher, in “Battlespace Control” (page 16), reports the Marine Corps is fielding a tactical command and control system that provides a more integrated and accurate air picture, which should allow the air commander to make decisions quicker and gain greater control of his battlespace. The Common Aviation Command and Control System will corre-

late information from various systems and present it on a single integrated display for the Marine Air-Ground Task Force air commander.

In the communications portion of our report on “Network-Centric Warfare & Communications,”

Special Correspondent Daniel P. Taylor gives a progress report on the Next Generation Enterprise Network (NGEN), which will replace the vast Navy-Marine Corps Intranet. In “Cranking Up the NGEN” (page 20), Taylor looks at cost ceilings, continuity of service and the competition.

Taylor, in his report “Touch-Screen Navy” (page 22), notes that interactive commercial display systems such as iPads and other “smart” devices are influencing development of systems for military aircraft and ships, vastly improving ease of use for young Sailors and Marines already familiar with the technology.

The Coast Guard is continuing to address maritime domain awareness issues identified in a post-9/11 mission needs statement. In “Filling the Gaps” (page 24), Associate Editor John C. Marcario gives an update on the service’s upgrade program that aims to improve and integrate command, control, communications, computers, intelligence, surveillance and reconnaissance systems at sea, in the air and ashore. ■

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# WASHINGTON REPORT

## 2014 Defense Budget Request Exceeds Caps, More Cuts Likely

**T**he Department of Defense (DoD) essentially punted difficult decisions on weapons systems and other priorities in its fiscal 2014 budget request, sending to Capitol Hill a \$526.6 billion base budget that ignores mandatory budget caps set by Congress and signed into law by President Barack Obama as part of a deal to reduce the nation's deficit.

In total, the DoD's budget exceeds those caps by \$52 billion, with officials hoping that Congress and the White House will agree to a more amenable long-term deficit-reduction plan that averts any additional immediate cuts to the Pentagon's topline.

But with defense accounts making up half of all federal discretionary spending, it is reasonable to assume that any bipartisan deal on the deficit would have to include at least some cuts to the Pentagon in fiscal 2014 and beyond.

In unveiling the federal government's request for fiscal 2014 on April 10, the Obama administration released its latest plan to cut the deficit by \$1.8 trillion over the next decade, which would trim \$150 billion from defense accounts in that timeframe. However, most of those cuts come in fiscal 2018 and later, long after Obama and his national security team are gone.

DoD officials say that gives them time to make smart, targeted cuts that sometimes take years to generate substantial savings. Those include Tricare health care fee increases for military retirees, which would be phased in over several years, and another round of base closures, which would cost \$2.4 billion before the department begins to realize any savings from shedding excess infrastructure.

However, any defense spending plans more than a year or two out amount to little more than a placeholder in a budget that is subject to

significant change as the military's strategy, priorities and needs — not to mention, the people in charge of the budget within both the White House and the Pentagon — change over the years.

For the Navy, Marine Corps and other military services, the administration's plan to defer further sizable defense cuts means that, despite across-the-board sequester reductions now in place for this year and likely additional cuts in fiscal 2014, their budget request is remarkably consistent with the DoD's projections released last year.



U.S. MARINE CORPS

Robert F. Hale, the Defense Department's comptroller, briefs the press at the Pentagon about the fiscal 2014 budget proposal April 10. As part of the federal government's overall spending request, the Obama administration proposes cutting the deficit by \$1.8 trillion over the next decade, with defense accounts absorbing \$150 billion in cuts during that timeframe.

The Navy's request for next year is \$155.8 billion, which is roughly \$7 billion more than the service's funding in this year, including the sequester cuts.

"No agency particularly looks for chances to cut its budget," Pentagon Comptroller Robert F. Hale told reporters when the budget was unveiled April 10. "But the choice of having \$150 billion, largely back-loaded, or \$500 billion that starts immediately, sounded like the right approach to us."

Rear Adm. Joseph P. Mulloy, deputy assistant secretary of the

Navy for budget, noted during an April 10 briefing that there is a “continuity” pervasive throughout the fiscal 2014 budget. In short, it reflects the Defense Department’s new strategy released more than a year ago — the centerpiece of which is a renewed focus on the Pacific after more than a decade of war in Iraq and Afghanistan.

“Coming out of ’13, we knew the 10 areas of missions of the strategy here laid down by the president and the secretary of defense,” Mulloy said. “The Department of the Navy, the Navy and Marine Corps team, its role in all 10 areas was fully validated.”

But while the budget request is short on wholesale changes to the DoD’s plans and priorities, it does include some shifts in individual program accounts.

Chief among those is perhaps the Navy’s decision to push off for one year procurement of the Broad Area Maritime Surveillance unmanned aerial vehicle, which is based on the Global Hawk platform. The Navy had planned to buy three of those large surveillance drones in fiscal 2014. But instead of putting \$425 million in the request for procurement of the Northrop Grumman drones, the Navy included about \$200 million for continued research and development because of technical issues that have caused a delay in testing.

The news for Boeing’s Super Hornet production line, however, remains positive. Congress added 11 F/A-18E/F Super Hornets to the fiscal 2013 budget, freeing up money in the 2014 request to buy more E/A-18G Growlers, electronic attack aircraft based on the same platform. There are 21 Growlers in the request, a recognition of the Defense Department’s growing interest in electronic jamming capabilities.

Meanwhile, there have been no substantial changes to the Navy

## INTERCEPTS

“If we refuse to lead, something, someone will fill the vacuum. The next great power may not use its power as responsibly or judiciously as America has. America has helped make a better world for all people with its power. A world where America does not lead is not the world I wish my children to inherit.”

*Chuck Hagel*

*Secretary of Defense*

*Noting that despite budget cuts, the United States must maintain its influence around the world.*

*Associated Press, April 3*

“If I lose those assets, if they go to zero as some are predicting, all of that cocaine and more, I would predict, will get ashore and be on the streets of New York and Boston very, very quickly.”

*Marine Gen. John F. Kelly*

*Commander, U.S. Southern Command*

*On the impact automatic budget cuts could have if they deprive his command of the surveillance planes, ships and other resources needed to stem drug smuggling from South America.*

*Agence France-Press, April 2*

and Marine Corps’ version of the F-35 Lightning II joint strike fighter, with plans to buy 10 of those fighters next year.

“The Marine Corps variant is out of probation. It continues to work and test,” Mulloy said. “And both services are looking forward to delivery of these airplanes, and we do not change or affect our buy in any way.”

In terms of shipbuilding, the budget keeps the Navy’s biggest procurement programs on track. The request includes \$2.4 billion for four Littoral Combat Ships, \$2 billion for a DDG 51 Aegis destroyer and \$5.4 billion for two Virginia-class submarines. The replacement program for the Ohio-class ballistic-missile submarine, meanwhile, received a planned uptick in research and development funding, with \$1.1 billion requested for next year.

Two of the Marine Corps’ vehicle programs, meanwhile, remain

in their research and development stages. The request includes \$134.6 million for the Joint Light Tactical Vehicle program, which will start low-rate initial production in fiscal 2015, and \$137 million for the Amphibious Combat Vehicle, which will remain in research and development for most of the Defense Department’s five-year budget planning cycle.

### **USCG Budget Plan Would Cut Acquisition Funding, Personnel**

The U.S. Coast Guard prides itself on doing more with less, but its fiscal 2014 budget proposal could dramatically reduce its acquisition, force tougher decisions on front-line operations and cut hundreds in active-duty personnel.

Under the Department of Homeland Security’s \$39 billion request that was part of the president’s fiscal 2014 budget proposal, the Coast Guard would receive

## INTERCEPTS

“When these crises happen, they happen instantaneously, overnight. If you are going to respond, you don’t have time to gather forces back in the U.S., load them on C-17s, fly them someplace and land them on some country’s airfield that might not want you on their ground.”

*Gen. James F. Amos*

*Commandant of the Marine Corps*

*On plans to place Marine Corps special operations teams aboard Navy ships to serve as a rapid-reaction force.*

*Wall Street Journal, March 27*

“The Marine Corps is a naval force. We’re not a land force. It’s easy to lose that distinction because we perform so extremely effectively while we are ashore. We see really no appetite, or no drive, anywhere to redefine the Marine Corps as anything other than a naval element of the nation’s portfolio.”

*Maj. Gen. Kenneth F. McKenzie*

*The Marine Corps’ director of the Quadrennial Defense Review*

*On the service’s push to return to its maritime roots after a decade of ground operations in Iraq and Afghanistan.*

*National Defense, March 26*

\$9.7 billion, including \$8 billion for discretionary funding, \$951 million for acquisition, construction and improvements (AC&I), and cut 826 active-duty personnel. As a comparison, the service is receiving \$8.6 billion in discretionary funding and \$1.47 billion for AC&I under the recently passed continuing resolution that is funding the federal government through the end of fiscal 2013, and did not have to cut personnel.

A source within the Coast Guard said future personnel cuts remain fluid and no final decisions have been made. Overall, the service said it is looking at cutting more than 1,600 active-duty and civilian personnel.

In January, Coast Guard Commandant Adm. Robert J. Papp Jr. told reporters at the Surface Navy Association’s 25th National Symposium that he was hopeful to receive the same acquisition funding he has in past years.

One analyst said the Coast Guard already is woefully underfunded and the fiscal 2014 proposal will spell disaster for the service.

“They have an aging fleet of vessels and aircraft that is already overworked. They do amazing stuff with next to nothing, but at some point they need to get funded properly. Now they are going to cut them drastically again,” said Steven Bucci, the Washington-based Heritage Foundation’s director of the Allison Center for Foreign Policy Studies.

The service is in the midst of a 25-year fleet modernization program, but the Obama administration’s fiscal 2014 proposal would only provide funding for three new ships — the seventh National Security Cutter (NSC) and a pair of Fast-Response Cutters (FRCs).

The program of record is for eight NSCs, three of which are in operation and three of which have been

funded. On the FRC side, five have been delivered and the program of record is for 58 ships.

The Coast Guard took control of the Integrated Deepwater Systems Program in 2007, but lawmakers continue to bring up cost increases and failed programs that arose from it. Bucci said those blunders were due to the service being previously unequipped to handle such a complex acquisition program — now valued at more than \$30 billion.

“Even in the light of that, we are hamstringing one of the most cost-efficient organizations in government. They do more, with less, for longer, than anyone in the Department of Homeland Security [DHS] and DoD [Department of Defense]. What they do directly interfaces with the American public, and cutting them this badly will severely curtail critical functions,” he said.

The Coast Guard budget request includes no funding for new aircraft, continued acquisition work for the Offshore Patrol Cutter or pre-acquisition work on a polar icebreaker.

The overall budget request for the DHS marks almost a 2 percent reduction from funds provided in the latest continuing resolution. During a contentious budget hearing before the House Appropriations homeland security subcommittee April 11, Chairman Hal Rogers, R-Texas, called for a rejection of the DHS funding request.

Rogers said it did not seem committed to the Coast Guard’s acquisition needs.

“If DHS can’t clearly explain how it is proposing to spend the taxpayers’ limited dollars on its programs and projects, won’t show how funds meet mission requirements and refuses to answer Congress’ basic oversight questions, then we have little choice other than to hold the department’s leadership accountable and cut requested, but unjustified funding,” he said.

DHS Secretary Janet Napolitano testified that the budget request has implemented a variety of initiatives to cut costs, share resources across components, and consolidate and streamline operations wherever possible.

### 2014 Budget Proposes Decommissioning 11 Ships

The Navy's fiscal 2014 proposed budget calls for the retirement of 11 battle force ships and delivery of six new ships, which will reduce the fleet from 287 ships to 282 over the course of fiscal 2014.

The proposal calls for the retirement of the Perry-class frigates *USS Halyburton*, *McClusky*, *Thatch*, *De Wert*, *Rentz*, *Nicholas* and *Robert G. Bradley*; the Los Angeles-class attack submarine *USS Dallas*; the Austin-class amphibious transport dock ship *USS Denver*; and the mine countermeasures ship *USS Avenger*. Military Sealift Command would remove the Supply-class fast combat support ship *USNS Bridge* from service.

The Navy expects in fiscal 2014 to commission three ships: one Virginia-class attack submarine, one Arleigh Burke-class guided-missile destroyer and one America-class amphibious assault ship. Military Sealift Command will place in service two Spearhead-class Joint High-Speed Vessels and one Montford Point-class mobile landing platform.

The Navy's budget book, "Highlights of the Department of the Navy FY 2014 Budget," also mentions that three cruisers were to be retired in 2014. However, Rear Adm. Mulloy, deputy assistant secretary of the Navy for Budget, told reporters at the April 10 budget briefing at the Pentagon that the cruisers would be retained for the time being.

"Congress provided the funding for cruisers, so right now you will not find the decommissioning of the cruisers in my '14 budget," Mulloy said. "I have the money to



Deputy Assistant Secretary of the Navy for Budget Rear Adm. Joseph P. Mulloy details the Navy-Marine Corps portion of President Obama's budget request for the 2014 fiscal year during an April 10 briefing at the Pentagon. The Navy budget plan calls for the retirement of 11 battle force ships and delivery of six new ships,

be able to operate and maintain those ships, and that's what we're doing. In fact, I think a bunch of those are now in maintenance availabilities, and they will operate, and we'll buy spares and we'll take care of those ships."

Congress reversed the Navy's plan to decommission four Ticonderoga-class cruisers and two dock landing ships in fiscal 2013.

"For the total ship count, we'll be delivering six ships this year and retiring 11," Mulloy said. "So the net effect is we started this year at 287; we'll finish it with 282. And we'll be back. We will continue to decline slowly and then climb again, and we'll still be back at 300 ships in FY '19."

### Budget Buttresses Navy Electronic Attack

The U.S. Navy's 2014 budget proposal requests the procurement of 21 EA-18G Growler electronic attack aircraft and the establishment of two more expeditionary electronic attack (VAQ) squadrons, bringing to five the number of land-based VAQ squadrons that provide electronic attack capability to the U.S. armed forces and allies.

The Navy now fields 10 carrier-based VAQ active-duty squadrons (equipped with EA-18Gs or their predecessors, EA-6B Prowlers) and three expeditionary VAQ squadrons with EA-18Gs that deploy ashore in support of joint forces. The Navy also operates one Reserve EA-6B-equipped VAQ squadron.

The Marine Corps operates the EA-6B in the expeditionary electronic attack role in four tactical electronic warfare (VMAQ) squadrons that are scheduled to be phased out by 2019. The addition of two Navy VAQ squadrons will, in part, make up for the retirement of the Marine EA-6Bs. The Marine Corps has chosen not to procure a dedicated electronic attack aircraft for the future.

The Navy's program of record for the EA-18G totals 114 aircraft. If the total of 21 EA-18Gs requested for 2014 is not changed during the budget process, the program would reach 135 aircraft, not counting sales to the Royal Australian Air Force and any future foreign sales. ■

*Reporting by Seapower Correspondent Megan Scully. Managing Editor Richard R. Burgess and Associate Editor John C. Marcario contributed to this report.*

# Baseline 9 and Beyond

Aegis upgrades advance fleet air- and missile-defense capabilities

By RICHARD R. BURGESS, Managing Editor

## Advanced Capability Build

The Aegis Baseline 9 combat systems upgrade paves the way for more integrated net-centric warfare.

- The cruiser USS *Chancellorsville* will be the test ship when it takes the new Aegis and NIFC-CA capability to sea.
- A new signal processor in destroyers will integrate air and ballistic missile defense.
- Lockheed Martin has been selected to develop the next two upgrades.

The Navy's capabilities in network-centric warfare took a step forward in March and April with the initial sea trials of the Aegis Baseline 9 combat systems upgrade in the newly modernized Ticonderoga-class cruiser USS *Chancellorsville*, which is slated to be a test ship for the new Navy Integrated Fire Control-Counter Air (NIFC-CA) capability later this year.

During the trials, *Chancellorsville* successfully detected, tracked and engaged a medium-altitude subsonic target with a Standard Missile-2 (SM-2).

Baseline 9, also known as Advanced Capability Build 12 (ACB12), is the newest upgrade to the Aegis Combat System that is the heart of the air- and missile-defense combat capability of the Navy's cruisers and destroyers.

"The Aegis Combat System (ACS) is the collection of sensors, communications capabilities, weapons, countermeasures and computing equipment to fight the ship," said Capt. Jon Hill, major program manager for Aegis Integrated Weapons Systems for the Program Executive Office for Integrated Weapons Systems. "The Aegis Weapon System is the heart of the ACS, and is comprised of the SPY-1 radar, MK 99 fire control system, weapon control system, command and decision suite, Aegis Display System, operational readiness test set, Aegis Combat Training System and Standard Missile family of missiles.

"Aegis capabilities are essential for power projection against missiles and other threats, for both national and international security," Hill said. "Aegis provides the ability to forward deploy the most sophisticated and advanced combat system to any place in the world within days of notification. With the introduction of Baseline 9 into the fleet, Aegis now provides additional capability to perform multiple missions simultaneously, including ballistic missile defense."

Hill said Baseline 9 features an overall Aegis Weapon System software upgrade, and includes an improved Cooperative Engagement Capability; the SPQ-9B radar integrated for anti-missile defense; the SQQ-89A(V)15 upgraded undersea warfare system; a gun weapon system upgrade that includes installation of two Mk54 5-inch/62-caliber gun mounts; the electro-optical sighting system; and the Mk160 fire control system.

While all modernized cruisers will be fitted with the RIM-162 Evolved Sea Sparrow Missile, the SM-6 missile and NIFC-CA capability will be installed on 14 cruisers (CGs 59-73).

"Baseline 9 is the first time we're bringing together an integrated air- and missile-defense capability," said Jim Sheridan, director of Navy Aegis programs for Lockheed Martin. "There has been an evolution of BMD [ballistic missile defense] capabilities. In parallel with that, there has been some AAW [anti-air warfare] improvement that has been happening with [earlier baselines]. Now, we've brought these two capabilities together into an integrated air and missile defense capability in a multi-mission signal processor [MMSP] that allows us to do that."

The MMSP is a commercial, off-the-shelf replacement for the signal processor in the Aegis system's SPY-1D radar. It incorporates the capabilities of the BMD signal proces-

sor on earlier BMD-configured ships and merges it into one set of cabinets.

The MMSP “will be going on all destroyers — in both backfit and new construction — as well as part of our Aegis Ashore configuration,” Sheridan said. “Unfortunately, the cruisers will not be getting the MMSP and as a result will not getting the BMD 5.0 capability with their modernization. That was a budgetary decision that was made several years ago. The destroyers are getting the best of the best, the latest BMD capability, 5.0. That will go to the first few destroyers to get modernized and then we’ll introduce the BMD 5.0 CU [Capability Upgrade].”

NIFC-CA will be a Baseline 9 capability for cruisers and destroyers. The ships will be equipped with an onboard processing capability that will enable them to network with the E-2D aircraft and the Army’s Joint Land-Attack Cruise Missile Defense

Elevated Netted Sensor system aerostats, and to fire SM-6 missiles at remote tracks of incoming cruise missiles.

“Aegis ships employ a number of C4I [command, control, communications, computers and intelligence] capabilities to exchange data with other platforms and sensors, including TADILs [Tactical Data Information Links] for line-of-sight and satellite communications, primarily Link 16 and Joint Range Extension,” Hill said.

“Aegis BMD-capable ships also are equipped to participate in the C2BMC [command, control, battle management and communications] communications architecture for the exchange of BMD plans and situational awareness,” he said. “Aegis BMD-capable ships, which participate in the U.S. Ballistic Missile Defense System, have the Joint Tactical Terminal to receive Integrated Broadcast, and Multiband TADIL-J.”

Two older versions of the BMD software currently provide a BMD capability to cruisers and destroyers in high demand by combatant commanders. BMD 3.6 is installed on three cruisers and 22 destroyers. BMD 4.0 is installed on two cruisers and two destroyers.

*Chancellorsville* began combat system ship qualification trials of Baseline 9A in April. The ship is expected to return to fleet operations in June 2014 after a “period of post-availability underways that will include both live and simulated firing events, as well as Baseline 9 developmental and integrated test events,” Lt. Kurt W. Larson, a spokesman for the Naval Sea Systems Command (NAVSEA), said in a March 29 release.



U.S. NAVY

The Ticonderoga-class guided-missile cruiser USS *Chancellorsville* pulls out of San Diego Harbor for a training exercise March 25. The newly modernized *Chancellorsville* will be a test ship for the new Navy Integrated Fire Control-Counter Air capability. It conducted a live-fire test using the Aegis Combat System’s newest capability build, Aegis Baseline 9, in early April.

“With its newly enhanced air defense capability, USS *Chancellorsville* will be one of the most powerful warships operating in the fleet today,” Capt. Ted Zobel, program manager for the Cruiser Modernization Program in NAVSEA’s Surface Warfare Directorate, said in the release.

Baseline 9A also has been installed in the cruiser USS *Normandy*, with Baseline 9C — with the MMSP — installed on the Arleigh Burke-class destroyer USS *John Paul Jones*. The latter ship is the first with the MMSP installed.

“Years 2013 and 2014 will represent significant at-sea testing for Baseline 9 with multiple live-firing events including NIFC-CA. This summer will be a live-firing event with the NIFC-CA and SM-6 missile onboard the *Chancellorsville*,” Sheridan said

Two more destroyers, USS *Benfold* and USS *Barry*, and the cruiser USS *Princeton*, are scheduled for Baseline 9 installation this year. The destroyers USS *Arleigh Burke*, USS *Mitscher*, USS *Milius*, and the cruiser USS *Cape St. George*, are scheduled for the installation in 2014 and 2015.

The first new-construction destroyer to feature Baseline 9, *John Finn* (DDG 113), is scheduled to light-off its system in January 2015 and will be followed by DDGs 114 through 118. These ships will feature Baseline 9D, the version tailored for the new-construction ships. Baseline 9E is tailored for Aegis Ashore, the BMD capability being placed in Romania and Poland.

DDG 119 will be the first destroyer to receive the next baseline, ACB 16, Sheridan said.



U.S. NAVY

A Standard Missile-3 (SM-3) Block 1A interceptor is launched from the guided-missile cruiser USS *Lake Erie* during a Missile Defense Agency and U.S. Navy test in the Pacific Ocean Feb. 13. The Standard Missile family is a component of the Aegis Weapon System that is the heart of the Aegis Combat System now receiving a Baseline 9 upgrade to pave the way for more integrated net-centric warfare.

ACB 16 development is part of a \$100.1 million contract awarded to Lockheed Martin on March 4 to continue for five years as combat systems engineering agent (CSEA) for the Aegis system. The company, which has performed as CSEA for Aegis for four decades, had to compete for the contract under a recent Navy initiative to reduce costs through increased competition.

“The Navy evaluated Lockheed Martin’s proposed approach to the Aegis CSEA competition as being the best value to the government,” Hill said. “The Navy’s choice of Lockheed Martin as the Aegis CSEA allows continued development in Aegis Common Source Library (CSL) enabling additional commonality across the U.S. Navy, as well as the potential to extend that commonality into Foreign Military Sales. Lockheed Martin will build upon the Baseline 9 architecture and will introduce additional open-architecture components, which enables reuse across the U.S. Navy.”

“We want to make sure that the system performs correctly every time, right from initial installation, so performance has always been key and will continue to be,” Sheridan said. “The competition, however, afforded us

the opportunity to push for additional innovation that would offer the best capability to the customer at the right price.

“We were looking for a way of taking costs out of every element of that development, test and delivery lifecycle,” he said. “We introduced some of that on Baseline 9 with our desktop testing initiatives, predominantly with the Common Source Library. With Baseline 9, we’re building a product out of the CSL that serves as many configurations where we build the product once in the CSL and deliver it to cruisers, destroyers — both backfit and new construction — as well as for Aegis Ashore.”

“As we introduce capabilities into the CSL, those capabilities go in one time, they get developed, they get coded, they get tested one time and then, unlike what we used to do in the past where we followed a much different process, those capabilities can then fan out and get used multiple times on the different configurations that go to the different ships,” said Nick Bucci, director of Aegis BMD programs for Lockheed Martin.

“The development of the ACB 16 capabilities will begin in FY ’14 with a Combat System Certification planned for FY ’18,” Hill said. “Since Lockheed Martin is responsible for assisting the Navy with installation and testing of all Aegis baselines, they incorporate lessons learned from previous efforts into new baselines. For example, the lessons learned from installing Baseline 9 (ACB 12) will also be included in the development and delivery plans for ACB 16.”

ACB 16 will include the next-generation BMD software upgrade, 5.1, plus adding the SPQ-9B surface search radar on destroyers as it is on the modernized cruisers. ACB 16 will include a new inertial navigation system, as well as “a lot more integration of the MH-60R [helicopter],” Sheridan said.

Bucci expects that, like Baseline 9, the ACB 16 baseline will be produced in various versions according to the ship class and for Aegis Ashore.

“That spiraling in of capability into that Baseline 9 architecture is what allows us to especially have a single baseline with the multiple variants potentially coming out,” he said. “We’ve got that ‘build it once, use it multiple times’ philosophy.

“The two capabilities that come with the BMD 5.1 are engage-on-remote and the SM-3 Block IIA missile, which allows us to go after a broader threat spectrum,” he said. “The engage-on-remote capability is where, instead of the SPY radar on the ship detecting, tracking and controlling the SM-3 through its flight, in this case, all forward sensors provide information to the weapon system on the ship and that information is used to do all of the calculations for whether that threat can be engaged.

“On our last flight test back in February we launched the SM-3 using remote information, but eventually acquired it with a SPY radar and finished off the engagement using the SPY radar on the ship, USS *Lake Erie*,” Bucci said. “When we get to [BMD] 5.1 and engage-on-remote, we would be able to have the engagement performed all the way with remote information.”

“As we start rolling out ACB-16 and that gets certified, that will also be applicable to not only the ships that are coming in to the modernization,” Sheridan said. “We have a requirement to make that work on the ships that have already received a previously assigned modernization such as *John Paul Jones*, *Chancellorsville*, *Normandy*, etc.”

The CSEA contract also includes development of the ACB after ACB 16, notionally called ACB-Next, which Sheridan estimates will be delivered in the 2020 timeframe.

“The significant component, as best as we can tell right now, with ACB-Next would be the Air and Missile Defense Radar,” Sheridan said, speaking of the radar that will replace the SPY-1 in the Aegis system. “If that’s the case, and we believe that is going to be the case, that would be introduced on [Arleigh Burke] Flight III destroyers.”

Lockheed Martin also is preparing to install exportable capabilities of Baseline 9, including BMD 5.0, on the two Atago-class destroyers of the Japanese Maritime Self-Defense Force under the J6 Japanese Modernization Program, with demonstration of that capability scheduled for 2016. The company was awarded a \$65 million Foreign Military Sales contract on March 29 for Aegis modernization for Japan.

Bucci said that, eventually, BMD 5.1 would be installed on the Atago ships, enabling them to fire and direct the SM-3 Block IIA missile. ■

The advertisement for AYDIN DISPLAYS features a central text box with the following content:

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- Top left: A 24" Model 4424S rugged display showing a map with a red route.
- Top middle: A photograph of the USS *Lake Erie* (DDG-909) with hull number 750.
- Top right: A 15" Model Omega 15 rugged display showing a weather or radar map.
- Bottom left: A photograph of a US Navy ship at sea.
- Bottom middle: A 19" Model 8819 rugged display showing a satellite-style map.
- Bottom right: A photograph of a US Navy ship at sea, viewed from the rear.

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# Critical Pillar

The E-2D Advanced Hawkeye brings enhanced battlespace awareness

By RICHARD R. BURGESS, Managing Editor

## Revamped and Improved

The E-2D Advanced Hawkeye brings overland and littoral theater air- and missile- defense and counter-cruise missile capabilities to the fleet.

- The aircraft's APY-9 radar brings a two-generation leap in radar performance.
- The E-2D is a critical component of the future Navy Integrated Fire Control-Counter Air capability.
- Full-rate production and the transition of the first operational squadron are expected to begin this year.

**T**he Navy this year will begin equipping an operational carrier airborne early warning (VAW) squadron with the new E-2D Advanced Hawkeye. When the radar early warning aircraft reaches initial operational capability (IOC) in late 2014, the fleet will field a jump in net-centric battle management capability and situational awareness.

The E-2D, built by Northrop Grumman, is expected to enter full-rate production this year, which was approved in January after a successful initial operational test and evaluation. It is the latest version of the Hawkeye that has been in fleet service since its debut in the Vietnam War in 1965.

The current E-2C version has been progressively upgraded over its life and older E-2Cs have been retired as newer E-2Cs were procured. The E-2D warrants its new designation because it represents a significant increase in capability and avionics configuration.

"The upgrades to the E-2D platform allow for an expanded mission capability set, which means the aircraft can better support carrier strike group tasking," said Capt. John Lemmon, the Navy's E-2/C-2 Airborne Tactical Data System Program Office program manager. "The E-2D mission set now includes theater air- and missile-defense and counter-cruise missile capabilities, which were not necessarily possible with the E-2C. The improved communica-

tions and sensor performance enables better situational awareness for the entire strike group.

"The major difference between the E-2D and the E-2C is how information in the aircraft is gathered, processed and displayed," Lemmon said. "With the APY-9 radar at the heart of the aircraft improvements, the cooling capacity and power of the aircraft had to be increased to accommodate the more powerful radar."

The APY-9 radar, built by Lockheed Martin, is an active electronically scanned array radar that is

replacing the E-2C's APS-145 radar on the E-2D.

"The E-2D's APY-9 radar provides superior overland and littoral detection capabilities," Lemmon said. "It is considered to be a two-generation leap in performance from the APS-145. The APY-9 includes an antenna that has the ability to scan mechanically as well as electronically. This has provided the radar with two additional modes beyond the APS-145 basic airborne early warning mission. The first, Enhanced Surveillance Sector mode, enables the detection of targets at greater ranges within a sector of interest. The second, Enhanced Tracking Sector mode, provides faster target updates."

The E-2D also features an electronic surveillance measures system, which allows the crew to detect and classify radar and other electronic emissions at ranges well beyond the detection range of the aircraft's radar, and an Identification Friend or Foe (IFF) interrogator.

"To complement the radar, a glass cockpit and digital architecture was implemented that gives the aircraft more mission flexibility," Lemmon said. "There is a mission display up front called the tactical fourth operator, which allows the co-pilot to help with tactical functions. Smaller upgrades to the IFF capability and CEC [Cooperative Engagement Capability] boxes round out the package of a dramatically revamped and improved aircraft."



U.S. NAVY

An E-2D Advanced Hawkeye assigned to Air Test and Evaluation Squadron 20 makes its first takeoff from an aircraft carrier Feb. 1, 2011, in the Atlantic Ocean. The "D" model was aboard the aircraft carrier USS *Harry S. Truman* for carrier suitability testing before delivery to the fleet. The Navy has received nine of the 10 E-2Ds to be built under the first two low-rate initial production contracts. The 10th aircraft will be delivered this summer.

Like the E-2C, the E-2D will use tactical data links — Link 11, Link 16 and CEC — to transmit target track information to other platforms in a battle net.

"The E-2D provides an enhanced battlespace awareness capability in all environments including littoral and overland," Lemmon said. "The E-2D's command-and-control capability allows the aircraft to coordinate concurrent missions that may arise during a single flight."

He said the E-2D is a "critical pillar program" of the Navy Integrated Fire Control-Counter Air (NIFC-CA) concept, the other being the Aegis Combat System, the Standard Missile-6 surface-to-air missile and the Army's Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System aerostats.

"The NIFC-CA IOC date is tightly coupled to the E-2D IOC date planned for fiscal year 2015," Lemmon said. "NIFC-CA testing is progressing on schedule. Test events have been conducted already, including testing at Surface Combat Systems Center Wallops Island, Va.; at Patuxent River, Md.; and at White Sands Missile Range, N.M. Additional events are planned quarterly throughout FY 2013 and FY 2014."

Unlike the E-2C, the E-2D is scheduled to be equipped with an aerial refueling capability. It will not be ready for the aircraft's IOC, but is expected to be ready in fiscal 2019 after its design, development and testing.

Training fleet crews and maintenance personnel for such a complex aircraft is being accomplished in three segments, Lemmon said. The first is learning the system differences and similarities, the second is figuring

out how the differences will impact the way the fleet uses the aircraft and performs the mission set, and the last is utilizing simulators and aircraft to train.

The training is being conducted at Norfolk, Va., by the E-2 fleet readiness squadron, VAW-120, and the Hawkeye/Greyhound Weapons School at Naval Station Norfolk, which prepare VAW squadrons to begin pre-deployment work-ups with the carrier air wing to which they are assigned.

The crews are being trained in simulators called the Hawkeye Integrated Training Systems for Aircrew (HITS-A) and Hawkeye Integrated Training Systems for Maintenance (HIT-M). These simulators were developed by Rockwell Collins STS in Sterling, Va., and Binghamton, N.Y., respectively.

"Both HITS-A and HITS-M were developed as a total training system comprised of curriculum, courseware and simulators," Lemmon said.

The initial simulators have been installed in Norfolk for VAW-120 and the Center for Naval Aviation Technical Training Unit 1026. Additional aircrew training devices will be delivered to Norfolk, the East Coast base for the E-2, and to Naval Air Station Point Mugu, Calif., where West Coast E-2 squadrons are based.

Each of the Navy's 10 carrier air wings currently is equipped with a four-plane E-2C squadron. With the E-2D, the Navy is increasing the number of E-2s in a VAW squadron to five, a testament to the importance of the new aircraft and its capabilities.

VAW-125, based at Norfolk, will be the Navy's first operational E-2D squadron, according to Lt. Aaron Kakiel, a spokesman for commander, Naval Air Forces. The squadron will begin transition to the new aircraft in May and "should be complete spring of 2014 for an IOC in fall 2014."

According to an industry source familiar with the program, VAW-125 will make its first deployment from the East Coast, but subsequently move to Carrier Air Wing Five forward deployed to Japan onboard the aircraft carrier USS *George Washington*.

Northrop Grumman has delivered nine E-2Ds of the 10 to be built under the first two low-rate initial production (LRIP) contracts, LRIP 1 for \$406.8 million and LRIP 2 for \$554.3 million. The 10th aircraft will be delivered this summer. Another 10 aircraft will be delivered under LRIPs 3 (\$760.8 million) and 4 (\$781.5 million). The Navy plans to procure a total of 75 E-2Ds for an estimated overall program value of \$20.7 billion.

Five E-2Ds are being used for test purposes. Four aircraft have been delivered to the fleet and currently are being used to conduct aircrew and maintenance training in VAW-120. An additional 11 aircraft are in various stages of manufacturing and predelivery flight test as the program moves to full-rate production, Lemmon said. ■

# Battlespace Control

CAC2S promises a more integrated, accurate picture for Marine Corps air commanders

By OTTO KREISHER, Special Correspondent

## From MEU to MEF

The Common Aviation Command and Control System (CAC2S) is scalable, so it could serve a 2,200-strong Marine Expeditionary Unit (MEU) or a Marine Expeditionary Force (MEF), which can have more than 15,000 Marines and Sailors.

- The CAC2S program was launched in 2002 but ran into technology challenges and was restructured in 2009, dividing development into two phases.
- Phase 1 consists of two components, the Processing and Display Subsystem and the Communications Subsystem, each of which can be transported in a Humvee.
- Phase 2, through the Sensor Data Subsystem component, will correlate all the electronic and intelligence information into an integrated air picture.

**T**he increasingly complex operational air environment for deployed U.S. forces is challenging the capabilities of the Marine Corps' current aviation command and control systems, hampering commanders' ability to respond to rapidly changing conditions and increasing the risk of casualties from enemy actions or mishaps.

To counter that trend, the Marines are fielding a new tactical command and control system that provides a more integrated and accurate air picture, which should allow the air commander to make decisions more quickly and gain greater control of his battlespace.

The new Common Aviation Command and Control System (CAC2S) also is lighter, more mobile and more energy efficient than the current equipment, aiding the Corps' return to its expeditionary roots, a senior Marine aviation leader said.

"The Marine Corps' idea of warfare is based on tempo, the idea of outthinking the enemy. Of course, that means making decisions in a timely fashion," said Brig. Gen.

Matthew G. Glavy, assistant deputy commandant for aviation.

"In order to make decisions, you need information. Really, you need knowledge. So what we're trying to do with the Common Aviation Command and Control System is to be able to present, in the most expeditious manner, that information and allow the commander to come up with that knowledge," Glavy told *Seapower*.

The need for CAC2S became evident in recent experiences, including combat in Iraq and Afghanistan, "which has shown that the ability to command and control the battlespace, particularly in the joint environment, is critical," Glavy said. But the air battlespace

"is getting very complicated," he noted, citing the presence of unmanned air vehicles, civilian and coalition aircraft, and enemy activity.

"So understanding the three-dimensional battlespace is key," Glavy added.

Although the current systems are good, "they're somewhat simplistic and they're very stove-piped," he said.

In a Tactical Operations Center now, different information on the air situation would come in on different systems and be presented on separate displays, Glavy said.

For example, the Link 16 electronic data exchange showing the friendly air picture, the Blue Force Tracker, which monitors ground and rotary-wing traffic, the Intelligence Broadcast System and the tactical radar picture all would be shown on different displays, he said.

To get a complete understanding of what is happening, the Marine Air-Ground Task Force (MAGTF) air commander would have to study each of the various



U.S. MARINE CORPS

Marines with Marine Medium Tiltrotor Squadron 365 conduct the squadron's largest flight ever Feb. 20 in Jacksonville, N.C. The flight consisted of 10 MV-22B Ospreys taking off, maneuvering and landing together, as well as six of the aircraft conducting air-to-air refueling. Marine air commanders are facing an increasingly complex operational environment, especially when factoring in the presence of unmanned air vehicles, civilian and coalition aircraft, and enemy activity.

displays and mentally combine the information. And the Link 16 and the radar might be showing different tracks for the same airplane, Glavy added.

When the complete CAC2S is operational, it will combine and correlate all that information, which can be presented on a single integrated display, he said.

According to the Marine Corps' "Concepts & Programs 2013" publication, CAC2S "will provide a complete and coordinated modernization of Marine Air Command and Control System (MACCS) equipment. CAC2S will replace current dissimilar systems and provide the MAGTF Aviation Combat Element (ACE) with the necessary hardware, software and facilities to effectively command, control and coordinate air operations integrated with naval, joint and combined command and control units.

"CAC2S will be comprised of standardized modular and scalable tactical facilities, hardware and software that will significantly increase battlefield mobility and reduce the physical size and logistical footprint of the MACCS," the publication said.

The current system, Glavy said, has a lot of components and takes a lot of handling equipment, such as forklifts, to deploy.

CAC2S "is a Humvee-based system" that, when fully operational, would need three Humvees (High Mobility Multipurpose Wheeled Vehicles) for its electronics and portable antenna, he said.

"So it's expeditionary, by all the ways we describe expeditionary, to be able to get it on and off the ship with an external conveyer — an LCU [Landing Craft Utility] or LCAC [Landing Craft Air Cushion] — get it to the beach, get it to where it needs to go," Glavy said.

At the designated command center, the Humvees park, the antenna are set up and the system is ready to push data to whoever needs it, he said.

"So this really puts us in an expeditionary mode," Glavy said.

The CAC2S program was launched in 2002 but ran into technology challenges and was restructured in 2009, dividing development into two phases.

Phase I consists of two components, the Processing and Display Subsystem (PDS) and the Communications Subsystem (CS), each of which can be transported in a Humvee. Those subsystems go into the Direct Air Support Center, (DASC), which is collocated with the Fire Support Coordination Center for the deployed MAGTF.

The DASC controls immediate tasking and retasking of air missions, such as close air support by fixed-wing planes and tactical air lift and medical evacuation by rotary-wing aircraft.

"In the past, the DASC has worked off a map, a grease pencil" and a paper air tasking order, Glavy said.

Phase 1 provides "a web-based situational awareness tool" that gives the commander a more complete and accurate air picture.

“It’s really about fires, getting the support required for the ground combat element, to be able to dynamically task airplanes. ... Now you can do it with more knowledge,” Glavy said.

CAC2S also is scalable, so it could serve the various size MAGTFs, ranging from a 2,200-strong Marine Expeditionary Unit to a Marine Expeditionary Force (MEF), which can have more than 15,000 Marines and Sailors.

“You can build the number of units you need for the mission... the size of the battlespace,” Glavy said.

And both the MAGTF commander and his air combat commander can have the same “situational awareness on the three-dimensional battlespace,” he added.

The Navy Surface Warfare Center, Crane, Ind., was the primary integrator and developer of CAC2S Phase 1, with General Dynamics C4 Systems as a subcontractor.

Phase 1 is operational with units sent first to the 3rd Marine Air Wing (MAW) in I MEF, then to 2nd MAW, II MEF, and should be completed with systems to 1st MAW, III MEF, by the end of the year, Glavy said.

Systems will go to the 4th MAW, in the Marine Corps Reserves, later.

CAC2S will be used by the Tactical Air Command, Air Support and Air Control squadrons in the Marine Air Control Group in each air wing.

Glavy said the program was restructured in 2009 because the managers realized that the technology level required for the full system “was unobtainable.” To correct that problem, the more complex element, the Sensor Data Subsystem (SDS), was split off into Phase 2 with a requirement for “more mature” technology and a “lower risk solution,” he said.

“Now we have a much more attainable solution that actually is going quite well in Phase 1,” he said.

A \$41.3 million contract for Phase 2 was awarded to General Dynamics C4 Systems of Scottsdale, Ariz., last year and is in the engineering and manufacturing development process, with an initial operational capability expected in 2016.

Phase 2, through the SDS component, will correlate all the electronic and intelligence information into an integrated air picture.

“Now, it’s much easier to make decisions based on that,” Glavy said.

The Marine Corps “Concepts & Programs” document said Phase 2 “will build on Phase 1 by integrating the SDS with the Phase 1 PDS into a single subsystem (Aviation Command & Control Subsystem) and with CS thereby fully meeting CAC2S Increment I requirements.”

Chris Marzilli, president of General Dynamics C4 Systems, said in a company release: “By supporting swift and decisive movement from the sea, the air and on the ground, this next-generation command and control system is a key enabler of the Marine Corps’ amphibious capabilities.”

The General Dynamics-led team for Phase 2 includes Raytheon Solipsys, of Fulton, Md.; Smartonix, of Stafford, Va.; Ternion, of Huntsville, Ala.; and L-3 Communications, San Diego.

When completely fielded, the current program of record for CAC2S, called Increment I, will provide the MAGTF commander and his ACE with an integrated air picture that will facilitate faster, more accurate command and control of their air combat and logistical support.

An Increment II, under consideration, would add air defense information, which could provide early warning and targeting data for the air wing’s Low Altitude Air Defense units, armed with Stinger anti-air missiles. And it could integrate the now-separate air traffic control function.

Those added capabilities, along with the TPS-80 Ground/Air Task Oriented Radar, now in developmental testing, would provide a true multirole air command and control system for the Marines’ forward operating bases and expeditionary air bases, Glavy said.

Although the Corps is facing “a fiscally constrained environment,” it should not pass up the opportunity to achieve that defensive capability, he said.

“We haven’t had an air threat in a long time, and I’m concerned that people would take it for granted. So our ground-based air defense is important.” Defense of our expeditionary air bases, “is going to be key in the future,” he said.

“These are the things we’ve learned from the past, from success in the past, because the aviation C2 in the Marine Corps has been successful,” Glavy said. “We’re trying to exploit it for the future. That’s where we’re going with CAC2S.” ■



U.S. MARINE CORPS ILLUSTRATION

The Common Aviation Command and Control System (CAC2S) is designed to provide a more integrated, accurate battlespace picture to Marine air commanders. Deployed via High Mobility Multipurpose Wheeled Vehicles, CAC2S is modular and scalable, as well as being lighter, more mobile and more energy efficient than the current equipment.



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# Cranking Up the NGEN

Effort to replace massive NMCI network enters critical stage

By DANIEL P. TAYLOR, Special Correspondent

## Network Evolution

The Next Generation Enterprise Network (NGEN) will replace the Navy-Marine Corps Intranet (NMCI), created in 2000 as a shore-based enterprise network in the continental United States and Hawaii to provide a single integrated, secure information technology environment for reliable, stable information transfer.

- The Navy is going through the source-selection process for the NGEN transport and enterprise contracts.
- Competing for the NGEN contract is one team led by NMCI contractor Hewlett-Packard that includes IBM, AT&T, Northrop Grumman and Lockheed Martin, and the other led by Harris Corp. and Computer Sciences Corp. that includes General Dynamics, Verizon and Dell.
- Delays in the NGEN program have resulted in cost increases to maintain NMCI.

**M**ost of the hundreds of thousands of people who use the Navy-Marine Corps Intranet (NMCI) probably take the massive network for granted on a day-to-day basis. But the Sailors, Marines and civilians who are on it likely will notice if the huge transition to the Next Generation Enterprise Network (NGEN) in the coming years is anything less than seamless.

That puts a lot of pressure on the multibillion-dollar NGEN program, as the Navy must figure out how to begin shifting personnel from one gargantuan network to another by next year, all without disrupting network access that all types of people in the Navy have come to depend on.

Unfortunately, it has not been smooth sailing in the early going for the network, with delays and cost-ceiling increases in recent months. However, program officials are hoping that while these unpleasant maneuvers are delaying the shift from NMCI to NGEN, they may ensure that the transition will be as smooth as it needs to be.

The most recent announcement of an increase in the cost of maintaining NMCI while NGEN continues to go through the competition phase came just a few months ago. A February notice in Federal Business Opportunities stated that the Navy may spend up to \$1.2 billion more on supporting NMCI, bringing the total cost of the continuity-of-services contract (CoSC) to \$6.1 billion.

It is not the first time the program has sought an increase in the ceiling cost. Last September, the Navy announced it would bump the ceiling by \$1.5 billion to accommodate delays in the NGEN program.

Currently, the Navy is going through the source-selection process for the NGEN transport and enterprise contracts, according to Ed Austin, Navy spokesman for the Program Executive Office for Enterprise Information Systems. He declined to go into any further details on the process, citing the sensitivity of the ongoing competition.

“Based on current requirements, the Department of the Navy estimates the NMCI CoSC contract ceiling amount of \$4.9 billion will be exceeded in September 2013,” Austin said. “The notice of intent provides the opportunity to increase the ceiling by as much as \$1.2 billion, which could increase the contract ceiling from \$4.9 billion to a new ceiling of \$6.1 billion.

“In addition to the increase in the contract ceiling, the notice of intent includes potential contract options to extend NMCI CoSC services to Sept. 30, 2014, to ensure the Department of the Navy can complete the transition to the Next Generation Enterprise Network,” he added. “The contract options would be exercised only if the transition to NGEN is delayed.”



U.S. MARINE CORPS

Cpl. Jonathan S. Ayala, data networking specialist, left, and Staff Sgt. Albert G. Perez, computer defense specialist, communications section, 15th Marine Expeditionary Unit (MEU) Command Element, run system tests on their computer networking equipment at the Communications Confidence Exercise at Marine Corps Base Camp Pendleton, Calif., Aug. 11, 2011. The section is responsible for providing communications support for the entire 15th MEU.

Austin said the estimated award date of the NGEN contract is May, and that services provided under the continuity-of-services contract would end April 2014.

The Navy created NMCI in 2000 as an information technology infrastructure that provided stable and secure information transfer and computing services. It has since become the largest network in the world, serving 700,000 users around the globe.

NMCI is a shore-based enterprise network in the continental United States and Hawaii that provides a single integrated, secure information technology environment for reliable, stable information transfer, according to the Navy.

But the network was not without its problems due to the size and complexity of what was then a revolutionary program. A significant portion of users were underwhelmed with the performance of the network — a 2006 Government Accountability Office report said that the Navy fell short of its target of 85 percent satisfied end users.

And the government also was disappointed with

how the network was organized, and wants to do things differently this time, according to the Navy. NGEN aims to provide the capability of NMCI, but it will have an entirely different setup.

The original NMCI construct involved a large, long-term contract with one vendor who did all the work on the network. Toward the end of the NMCI contract, officials felt like that deal was a mistake.

With NGEN, the Navy plans to split up the network into five segments and conduct a separate competition for each segment.

Recognizing that the competition for NGEN would take a while and the Navy would need to keep NMCI around in the meantime, the service signed a CoSC with NMCI operator Hewlett-Packard (HP) in 2010 for 43 months and \$3.4 billion — which has since expanded to the current \$6.1 billion.

There are two teams competing for the NGEN contract: one led by incumbent HP that includes IBM, AT&T, Northrop Grumman and Lockheed Martin, and the other led by Harris Corp. and Computer Sciences Corp. that includes

General Dynamics, Verizon and Dell.

The companies involved are being tight-lipped about their offerings during this sensitive stage. Harris and HP both declined comment, with the latter saying in a brief statement that as the NGEN competition still is in progress, “we are not in any position to make any comments about our proposed approach.”

The NGEN contract could be worth \$4.5 billion over five years.

In previous public statements, HP has pointed to its history as the incumbent contractor on the NMCI network, and asserted that it has assembled a “dream team” of companies that would excel at working on the Navy’s newest land-based network.

The Harris/CSC team’s website states that the partnership will deliver a network that performs better with greater security and lower costs, adding that the team is “uniquely positioned to support the naval mission and to deliver a Next Generation Enterprise Network solution that affordably meets evolving needs today and for years to come.” ■

# Touch-Screen Navy

The sea service seeks the latest in display-system technology for weapon systems

By DANIEL P. TAYLOR, Special Correspondent

## Adapting for the Next Generation

The ease of using commercial display systems such as iPads and other “smart” devices is influencing development of similar systems for military aircraft and ships.

- Industry is striving for touch-sensitive screens that become a virtual display environment for the operator.
- More shipboard systems use digital control and display technology to provide more information to local and remote watch standers and senior shipboard management.
- Sailors entering service now are extremely familiar with touch-screen technology, thereby reducing the learning curve.

**T**he world has become accustomed to touch-screen technology and nonstop connectivity — and the Sailors and Marines today who operate multimillion-dollar assets in the military are not much different.

The dials, switches and analog displays of yesteryear are being phased out in aircraft and ships throughout the Navy and Marine Corps as the services seek to make life easier for operators, and defense contractors are more than happy to fill that need by developing the kind of technology one sees on iPads for display systems in the military.

An example of the evolution of display systems is Boeing’s F/A-18E/F Super Hornet. The interior of one of those fighters rolling off the assembly line today looks vastly different than one of the first F/A-18As produced in the 1980s.

Paul Summers, Boeing director for innovation and capabilities growth for the F/A-18 and the EA-18G Growler aircraft, said that the current Super Hornet boasts multiple full-color displays allowing pilots to be on top of the situation at hand. In fact, the Super Hornet was the first all-glass cockpit fighter, according to Summers. The term “glass cockpit” refers to cock-

pits that feature digital rather than analog displays.

“When we went to the Super Hornet, we added a 6- by 6-inch color display to the front seat, and added an 8- by 10-inch color display in the backseat,” he said. “It really helps in the Growler aircraft when trying to jam lot of different threats — it can depict all information on that display.”

As technologies emerge in the commercial industry, Boeing is looking at display concepts that are very different from even those in the Super Hornet, Summers said.

“We’re looking at going to an 11- by 19-inch very-large-surface, touch-sensitive surface that works very much like how your typical iPad works — where you can pitch and expand, rotate displays, expand them individually,” he noted. “It is a much more intuitive surface.”

By contrast, the original Hornet had a menu-driven system, where a pilot selected a menu button on a display device that brought up all the options, as well as about 20 buttons around the display. This enabled the pilot to bring up the radar display, forward-looking infrared display or the weapons display, for example.

The touch-sensitive technology of today allows the Navy to move away from those buttons, making life easier for the pilots, Summers said.

The Boeing P-8A Poseidon maritime surveillance aircraft — built from a 737 jetliner airframe — also will take advantage of modern technology when it becomes operational this year, featuring large displays at multiple consoles inside the aircraft.

“It’s a virtual display environment where you can move symbols between one display and another,” Summers said. “In our environment, it’s one large piece of glass, and the whole system is touch-sensitive.”



A next-generation F/A-18E/F Super Hornet cockpit display is under development by Boeing that increases the size of the touch-sensitive surface area to 11 by 19 inches and works very much like an iPad.

“So a lot of the symbology and quality on display is similar to a Super Hornet, but it works a little bit differently because we’re trying to operate with a single crew or two-crew compliment that’s flying and fighting,” he said, “whereas the P-8 will have five people in back who don’t have to worry about flying the airplane.”

There’s also the helmet-mounted display used on the F/A-18 that is monocular — goes into one eye — although Boeing is experimenting with binocular concepts so the image goes into both eyes.

Display systems will be an important part of Lockheed Martin’s much-vaunted “fifth-generation” technology on the F-35 Lightning II joint strike fighter. Mike Skaff, Lockheed chief engineer of the F-35 pilot/vehicle interface, said the aircraft will feature a helmet-mounted display that will have two projectors, one for each eye, displaying both symbology and video. In addition, the aircraft’s panoramic cockpit display will have two large liquid crystal display screens with touch-screen technology that can simultaneously display 12 windows with different content.

“We see technology doubling every 18 months or so,” Skaff said. “This doesn’t mean the new technology is ready for application that quickly, but it does mean we’ve seen a number of increases in the last 10 years.”

For example, the first F-35s used projector-like technology, but with advances in light-emitting diodes, the program was able to go with the kind of technology in today’s televisions, improving visuals for the pilot.

Looking down the road, Skaff believes that ultra-high resolution display technology is one of the most interesting potential advancements.

“As this technology matures, in both sensors and projectors, it will be possible to upgrade the [helmet-mounted displays] to 20/20 visual acuity,” he said. “We already provide the pilot with about 20/80 technology on the darkest of nights. It won’t be long until we can truly turn night into day.”

Navy ships — even ones that are decades old — also are taking advantage of modern display system technology to make lives easier for Sailors.

Robert Goodwin, networks design manager for Newport News Shipbuilding, a division of Huntington Ingalls Industries, said displays “have evolved in our ship designs in parallel with commercial, off-the-shelf (COTS) technology.”

Newport News Shipbuilding builds the CVN-78 Gerald Ford-class aircraft carrier and Virginia-class attack submarines.

“For the last decade, we have migrated from discrete gauge, meter and synchro readouts to digital information displays on COTS, or semi-COTS, displays,” Goodwin said. “The technology behind the displays has slowly evolved from ship to ship.”

There have not been any “revolutionary” changes to ship displays in the past decade, but rather a slow evolution of the underlying technology the shipbuilder draws from developments in the marketplace.

“The big change in past years has been the large increase in the number of shipboard systems that use digital control and display technology to provide more and more information to local and remote watch standers and to senior shipboard management,” Goodwin said. “The other change of possible interest is the increased use of large screen displays to provide visual information access to larger audiences, cutting down on communications in order to get information.”

Newport News Shipbuilding is not working on any specific new display system technologies, but “we are always watching the march of technology,” he said.

The young Sailors who will be manning ships in the future are part of the consideration for the Navy in choosing new displays, said Art Mengel, president of Aydin Displays, which supplies displays to the Navy that can be found on ship bridges, in engine rooms and elsewhere.

“People who are going to be running these ships 10 years from now are kids who are used to iPads and iPhones, and that kind of technology,” Mengel said. “So we need to provide them that future technology today on ships. You can’t expect a kid who grew up on iPads with multitouch and the processing speed and all that to sit in a console of a ship with older technology.”

The Navy wants new technology to be tried and true, however, as well as “highly configurable,” he said. “In other words, when new tech comes on, they can pop out the old technology and pop in the new technology.”

The Navy has “some catching up to do” when it comes to putting modern technology in today’s ships, Mengel said, but the service is making an effort to improve display systems fleet-wide.

The Office of Naval Research declined a request for comment for this report. ■

# Filling the Gaps

Coast Guard makes major C4ISR investments to align systems across maritime domain

By JOHN C. MARCARIO, Associate Editor

## Making C4ISR a Priority

Recapitalizing an outdated Coast Guard fleet involves more than bringing in new assets and modernizing shore facilities.

- A Department of Homeland Security report said C4ISR projects would help fill maritime domain awareness gaps and better serve mission operators.
- C4ISR projects are planned for shore, air and sea to improve communication between assets and command centers.
- The Coast Guard's systems must work seamlessly with those of partners in other federal and local emergency service agencies.

A vital component of the U.S. Coast Guard's 25-year fleet modernization project is making sure all the command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) systems are integrated.

Through a series of air, shore and sea C4ISR projects, the service is updating technology so its systems work seamlessly with partners in the Department of Homeland Security (DHS), Department of Defense (DoD), and other law enforcement and emergency service agencies.

Collectively known as "C4ISR Projects," and overseen by the service's Washington-based Acquisition Directorate, the hardware and software delivered by this program will form the functional backbone of an information technology network architecture that improves the Coast Guard's ability to save lives, enforce maritime laws and contribute to national security, service officials said.

On the surface, side the Coast Guard is delivering advanced C4ISR capabilities to the National Security Cutter (NSC) and Response Boat-Medium (RB-M). There are three NSCs in the fleet and three more under contract. As of March, 120 of the 166 RB-Ms ordered have been delivered.

Other investments have modernized the legacy cutter fleet's C4ISR equipment, including unclassified and classified computer networking architectures, satellite and marine VHF radio communications, and the Automatic Identification System (AIS), a VHF broadcast system that automatically exchanges a vessel's navigational position, speed, heading and identification information.

The first NSC, *Bertholf*, was used during the service's Arctic Shield 2012 mission last summer. Coast Guard Commandant Adm. Robert J. Papp Jr. applauded the

418-foot cutter's work in the region during the Keel Authentication Ceremony for the fourth NSC, *Hamilton*, in Pascagoula, Miss., on Sept. 5.

"[*Bertholf*] is now deployed to the Arctic as one of our only assets with the critical command and control capabilities needed in that remote and challenging environment," Papp said.

The C4ISR project also is improving the capabilities of in-service cutters, which must continue to use and maintain existing command, control and communications systems. To date, the project has installed commercial satellite communications and AIS on the newer cutters — the NSCs and Fast-Response Cutters (FRCs) — while aboard the 378-foot and 270-foot cutters the Seawatch C2 system has been added.

The Coast Guard's Chesapeake, Va.-based Command, Control, and Communications Engineering Center (C3CEN) will provide technical support services for the installation of Seawatch, a next-generation C2 system developed by C3CEN. The system provides interface with and integration of geospatial sensors, tactical communications and surveillance systems allowing the service to enhance the execution of missions, including search and rescue and protection of the marine environment.



U.S. COAST GUARD

Coast Guard operation specialists stand watch at the Coast Guard Sector Baltimore Command Center Dec 10. An Interagency Operations Centers project is transforming Coast Guard Sector Command Centers by upgrading their information management tools, integrating existing sensor capabilities and, in some locations, providing shared facility capacity.

Air C4ISR acquisition projects improve capabilities in the platforms of the Coast Guard aviation product line, service officials said. For example, the Mission System Pallets aboard the HC-144A Ocean Sentry medium-range surveillance aircraft include a new radar, daylight and thermal imaging cameras, a law enforcement radio communication suite, AIS equipment, a 406 MHz direction-finding set and mission data recorder.

Much of the Ocean Sentry's C4ISR equipment is common with the Coast Guard's HC-130J Hercules long-range surveillance aircraft fleet, for improved life-cycle cost management. Additionally, complementary equipment upgrades are being made to the HC-130H fleet to ensure that these older aircraft remain interoperable with the newer additions to the fleet.

"The system will help fill our gap in maritime domain awareness identified in the post-9/11 Deepwater mission needs statement. This system will provide operational commanders, ship commanding officers, aircraft commanders and operational planners the tools, intelligence and common operational picture necessary to survey, detect, classify, identify and prosecute intended targets," said a March 2012 DHS Office of the Chief Information

Officer review of the projects. DHS oversees the Coast Guard.

"The shore C4ISR projects will play a vital role in making the Coast Guard one of the most updated and technologically advanced militaries in the world," one C4ISR official said. "It will also make us more efficient and allow us to do more missions and be more places than we currently are."

On the shore side, the C4ISR projects have upgraded communications and computing equipment at Coast Guard Command Centers. The projects also have added new, solid-state HF transmitters at the Communications Area Master Stations in Virginia and California. The new transmitters include automatic link establishment capability, reducing operator workload, and are smaller, more reliable and less costly to operate and maintain than those they replaced.

At a state-of-the-art training center Petaluma, Calif., the projects have delivered high-quality C4ISR equipment to provide students with real-world systems that prepare them for service with the

Coast Guard, as well as in joint operations with DHS and DoD partners.

Additional C4ISR projects include the Coast Guard Logistics Information Management System (CG-LIMS), Interagency Operations Centers (IOC) and Rescue 21. CG-LIMS is being designed to help the service better manage configuration, maintenance, supply chain and technical data for its assets by migrating legacy logistics systems into a single system.

The IOC project is transforming Coast Guard Sector Command Centers by upgrading their information management tools, integrating existing sensor capabilities and, in some locations, providing shared facility capacity. The widely popular Rescue 21 project is the service's advanced command, control and direction-finding communications system.

The importance of C4ISR was reflected in the service's fiscal 2014 budget proposal, released April 10. It included \$59.9 million for asset recapitalization for projects such as C4ISR, CG-LIMS and Nationwide AIS, along with \$64.7 million to fund operations and maintenance of shore facilities and cutters, boats, aircraft and associated C4ISR subsystems. ■

# Global Thinking, Local Action

Nation's aging electronic infrastructure high on the list of military — and civilian — priorities

By DAISY R. KHALIFA, Special Correspondent

## A Smarter Power Grid

The growth of smart grid technology has been a boon, to a degree, to upgrades in the nation's energy power infrastructure, with U.S. military installations helping lead the way in the testing and implementation of this more sophisticated control system.

- A smart grid is an electrical grid that incorporates information and communications technology into every aspect of electricity generation, delivery and consumption.
- A number of Navy installations are being refitted with alternative power sources, such as a group of solar panels, or a solar array, that converts sunlight into energy in what is known as a photovoltaic system.
- Naval District Washington is moving ahead with the implementation of a smart grid pilot program to improve energy efficiency.

**W**hen the Department of the Navy released its Strategy for Renewable Energy last fall, Navy Secretary Ray Mabus said the document set forth the critical tasks required to address two of the department's five major energy goals pledged in 2009: to obtain half of the department's energy from alternative sources, and produce at least half the shore-based energy requirements from renewable sources, such as solar, wind and geothermal.

What the strategy document, furthermore, made clear to stakeholders across military and civilian sectors was the imperative that they work side by side to overhaul and modernize the nation's aging electronic grid infrastructure, calling for "mutually productive and critically important collaboration."

"Partnering with state and local agencies and with industry is essential in the necessary planning for projects that will trigger transmission upgrades in order to connect to the commercial grid," said the report, authored by

the 1 Gigawatt Task Force, which is part of the Office of the Assistant Secretary of the Navy, Energy Installations and Environment.

Mabus chartered 1 Gigawatt Task Force to address the department's energy goals by assessing and selecting renewable energy projects that will achieve those goals.

Cutting across the spectrum of alternative and renewable energy planning is the overhaul of the nation's power sector infrastructure, an immense developmental undertaking that encompasses a complex U.S. energy system of 15,700 transmission substations, nearly 400,000 circuit miles (lines) of transmission and about 3,200 utilities, according to the U.S. Energy Information Administration.

It is estimated that the Department of Defense, which manages more than 500,000 buildings and structures at 500 major installations around the world, as well as its forward operating bases, relies on civilian utility companies for 99 percent of its electricity, according to a 2011 report from the Pew Charitable Trust, "From Barracks to Battlefield: Clean Energy Innovation and America's Armed Forces."

In recent years, the growth of smart grid technology has been a boon, to a degree, to upgrades in the nation's energy power infrastructure and, given the commitment to renewable energy sources, nowhere in the nation is the testing and implementation of this more sophisticated control system more apparent than in U.S. military installations. A smart grid is an electrical grid that incorporates information and communications technology into every aspect of electricity generation, delivery and consumption.

As nations seek to modernize power grids, while reducing the need for fossil fuel-fired, centralized power

stations, power industry experts say smart grids minimize environmental impact, enhance markets, improve reliability and service, reduce costs and improve efficiency, while incorporating the use of alternative energy sources.

However, while great strides in research and implementation for smart grids are under way, particularly in the military sector, the range of variables that can apply to upgrades in the electrical infrastructures is vast.

“Primarily, the main concern is the lack of knowledge of what’s going on on the grid from the commercial side or on the military side,” said John Simmins, technical executive at the Electric Power Research Institute (EPRI). “Nobody’s got a really good answer about a smart grid that applies to every situation. Generally speaking, it’s adding the communication and intelligence to know what is going on on the grid and to do something about it, rather than wait for the first phone call and say ‘we no longer have power.’”

EPRI conducts research, development and demonstration relating to the generation, delivery and use of electricity for the benefit of the public, and has been conducting extensive research on the implementation of the smart grid concept, and the use of renewable energy sources.

“There are several types of approaches,” Simmins said. “And that really depends on where the utility is, the climate, the cloud cover, the amount of wind and also on the type of customers — urban versus rural, industrial and commercial versus residential.”

He said not everything works for everybody, which is part of the difficulty in defining what the smart grid is.

“The answer is — it depends. It depends on what your needs are, and what you’re trying to fix: Are you trying to fix a power quality issue? Trying to fix a generation issue? Or trying to fix a carbon footprint issue?” Simmins said. “What is it you are trying to fix, and where are you, and what kind of customers do you have?”

As to the rollout of smart grid technology in the military sector, there are numerous Defense Department projects under way, among them upgrades at Naval District Washington (NDW), which announced in early March that it is moving ahead with the implementation of a smart grid pilot program to improve energy efficiency.

Using smart grid technologies, the Navy can adjust energy distribution and controls to lower cost and divert energy to power critical assets during an emergency, according to a March 7 NDW news release.

“In fiscal year 2012, OPNAV [the Office of the Chief of Naval Operations] funded the NDW smart grid pilot activity with the goal of establishing foundational capabilities to enable the energy mandates in a cyber-secure fashion,” said Rear Adm. David M. Boone, director, Shore Readiness, and deputy chief of naval operations, Fleet Readiness and Logistics.

“The military has an enterprise architecture on the IT [information technology] side called DODAF [Department of Defense Architecture Framework] where they’ve got full backups for everything and they need to probably to look at their power grids the same way where they’ve got multiple layers of backup, with the primary power being delivered by the local utility with a connect into the grid,” Simmins said.

At a March 19 briefing in Washington hosted by The Pew Project on National Security, Energy and Climate, Capt. Kerry Gilpin, director of 1 Gigawatt Task Force



U.S. NAVY

The 2,534 solar photovoltaic panels installed on the roof of Hangar 1122 at Naval Air Station Jacksonville, Fla., shown here in May 2012, help reduce the building’s conventional energy usage and promote environmental sustainability. Among the Navy’s five major energy goals is to produce at least half the shore-based energy requirements from renewable sources, such as solar, wind and geothermal. Another imperative is working side by side with other military and civilian sectors to overhaul and modernize aging electronic grid infrastructure.

discussed Navy reliance on the commercial grid in conjunction with refitting Navy installations with alternative power sources, such as a group of solar panels, or a solar array, which converts sunlight into energy in what is known as a photovoltaic system.

“Our idea behind installing [this solar array] is to provide the energy security and energy independence that we need to be able to support critical missions no matter what the commercial grid is or is not doing for us,” Gilpin said. “Way back, we had a lot of power plants on our own bases and they provided a lot of power. Those went away, and we went to rely on a commercial grid, and now it seems the pendulum is swinging back the other way.

“Having these technologies on our bases and then incorporating them into smart micro grids can give us that security we are looking for, but it also brings some vulnerabilities that we don’t currently have.”

As smart grid technology becomes better understood by stakeholders in the military and civilian sectors, so too are options such as micro grids and distributed power systems. The Defense Department is moving rapidly to exam-

ine the potential of self-contained microgrids, according to the Pew Report. Microgrids are self-contained islands of energy generation and management capacity that may or may not be attached to the commercial grid.

In June 2012, SBI Energy, an energy market research publisher, released the study “SBI Bulletin: Microgrids 2006-2020” that projects the microgrid market will reach \$14.9 billion by 2020, and that more than half of the market share will belong to the commercial, industrial and military sectors.

Likewise, distributed power systems (DPS), which combine distributed sources of power production, and distributed grid storage, were examined extensively in a 2011 Brookings Institution Paper, “Assessing the Role of Distributed Power Systems in the U.S. Power Sector.” In addition to added efficiency, reduced strain on the grid during peak demand period and greater reliability, the paper described the security value of DPS:

“The smart grid is a concept that aims to combine the benefits of information technology with new and existing energy generation and storage technologies to deliver a more efficient, flexible power infrastructure. ...



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However, the introduction of digital controls into the electric grid also comes with the potential for two new kinds of security threats. First, by relying on a complex set of computerized controls for the management of the electric system, the smart grid exposes generation, transmission and distribution assets to a range of prospective failures or malfunctions at those control points.

“The U.S. military has substantial concerns about the security and reliability of the current centralized energy system. These concerns manifest themselves in two ways: the first relates to the security of military installations on the grid and the ability of those installations to effectively island themselves from the grid when necessary; the second relates to expeditionary energy — or the ability of the military to use various distributed energy technology at forward operating bases or other locations within the combat theater.

“DPS have the potential to play a large role in the provision of secure energy for the military, both at its bases and in theater. Powering systems through distributed generation is one method of islanding key military systems to reduce vulnerability to attacks.”

Simmins said microgrids and DPS are important options when looking at power sector security.

“You don’t put all your eggs in one basket. Just because you have a firewall doesn’t mean you don’t do intrusion detection,” he said. “And I see the microgrids and distributed energy resources as being one of the layers in an overall strategy to provide quality power and reliable power.”

Though the nation’s electrical grid infrastructure is considered antiquated and outmoded compared with advancements being made in the Middle East and China to create smart grids, the need for advancements in a grid overhaul are serious only in the sense that the impact is pretty substantial, Simmins said.

“But is there an immediate threat to the whole grid going out yet? I would say, ‘No,’” he said. “At EPRI, grid resiliency is a huge topic, and we are approaching it in a couple of different ways: one is up front analysis and prediction of damage; the second when damage occurs how do you react; and the third is kind of cleanup. We have a number of programs working on that, including using tablet technology and Smart phones, and we are leveraging them in a way that is new to the utility industry.” ■



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# Modeling the SAR Mission

Communities come together to develop strategies, technologies



U.S. COAST GUARD

Since its inception in 1790, the service now known as the U.S. Coast Guard has saved more than a million lives. In 2012 alone, the service responded to 19,790 search-and-rescue (SAR) operations and saved 3,560 lives and more than \$77 million in property.

**Arthur A. Allen**, the Coast Guard's SAR oceanographer, plays an important role in working with various oceanographic communities to develop SAR policy and technologies for the future.

Allen works in New London, Conn., but reports to the Coast Guard SAR office in the service's Washington headquarters. His focus is on determining the drift of common objects, the environmental data sets for operational use, and the use of survival and hypothermic models in SAR planning. As a liaison with the oceanographic community, Allen, who assumed his current job in 2004, articulates the Coast Guard mission needs and provides assessment of environmental data products in support of the SAR mission.

Allen also has been a co-chair for World Meteorological Organization's Expert Team on Marine Accident Emergency Support and a member of the oversight committee for the Super-Regional Testbed to Improve Models of Environmental Processes for the U.S. Atlantic and Gulf of Mexico Coasts program of the Southeastern Universities Research Association. He has worked with the Coast Guard for 29 years.

Allen discussed the recent technology advancements and the impact of budget cuts on the SAR mission with Associate Editor John C. Marcario. Excerpts follow:

## What does your role as Coast Guard oceanographer entail?

ALLEN: I have a variety of duties. One is to reach out to the oceanographic community to explain the Coast Guard's need for numerical model products and oceanographic products and meteorological projects. There is sort of an outreach to the scientific community and that has been pretty effective, in that the Coast Guard SAR mission is now very well supported through the National Oceanic and Atmospheric Administration [NOAA], Integrated Ocean Observing System [IOOS], U.S. Navy and academia.

I also do a lot of our field studies and have done a lot of the work on what we are interested in, which is drifting things, like a person in the water and sea kayakers that are missing and life rafts and disabled boats, and all kinds of things. Objects that are on the surface of the ocean have both a surface current component and they have a component that is adrift due to the wind.

I have done lots of studies on how to determine the leeway component of the wind, which affects things that are drifting. We also have to estimate how long someone can survive in any given condition, so I have

also worked with human physiologists on the survival models that we use, which are based on hypothermia and dehydration.

As a scientist, I am a go-between with the scientists who are working hard on predicting what the ocean is doing or predicting how long a person can live in the ocean and then implanting that in our tools and then explaining it to the 1,000 Coast Guard search-and-rescue operators who are at those 51 operation centers. I have a reach out to the outside community and then a reach in the Coast Guard community role.

**How effective have other systems, such as Rescue 21, been for SAR? When you talk to the various communities you deal with, what questions are they asking?**

ALLEN: In general, Rescue 21, the Coast Guard's advanced command, control and direction-finding communications system — plus a whole host of things, like the Emergency Position Indicating Radio Beacon [EPIRB] and better communications — go a long way to cut down the amount of work you have to do in a distress call. If someone calls the Coast Guard and knows their location, then it becomes a rescue and not a SAR. Any time we take out a lot of the guesswork on where someone or something is we are much more effective and ... we can be more efficient at our job.

When I go in the field and talk with people, the general question from the oceanographic community is how I can get my model and my data into the Coast Guard data system? From the SAR community, they ask which model to use and which product to use at any particular time because different models and products tend to disagree on the data they can produce or transmit. That's why we are trying to use HF [high-frequency] radar that can give us real-time ocean currents.

**What types of new technologies are you working on that will help you in the future?**

ALLEN: I am presently working on a comparison tool between our on-scene data, the Self-Locating Datum Marker Buoy and the HF radar, and all these various models with something that can occur automatically, all the time in the background, and take advantage of those comparisons to what we are searching for. Then, we don't try



Arthur A. Allen, the Coast Guard's search and rescue (SAR) oceanographer, holds a Coastal Environmental System's WeatherPak with sonic anemometer that he uses for his leeway drift experiments of SAR objects.

to make a single guess; we do thousands of guesses. So we think about where the incident may have occurred, when it may have occurred and what we are looking for.

The other part of that is we don't have to believe the models directly, we can add some diffusion to those models. How much uncertainty we add to the models can be assessed by the comparison tools we are developing, and that's the exciting part at the moment. We have done the hard part, which is to get all these things together in one giant database, and now it's taking advantage of that database.

In general, Rescue 21, the Coast Guard's advanced command, control and direction-finding communications system — plus a whole host of things, like the Emergency Position Indicating Radio Beacon [EPIRB] and better communications — go a long way to cut down the amount of work you have to do in a distress call.



U.S. COAST GUARD

As the Coast Guard's search and rescue (SAR) oceanographer, Allen develops SAR policy and new technologies to help take some of the guesswork — notably where someone or something is — out of the service's SAR operations. Here, a Coast Guard MH-65 Dolphin helicopter crew from Air Station Barbers Point, Hawaii, practices surf SAR near Haleiwa, Hawaii, on Jan 18.

### **How often do you work with the U.S. Navy oceanographer?**

ALLEN: The Navy runs global oceanographic models for their use and they have been very generous, and kind, to provide to us the surface currents from their models and also the surface winds. We are, if you will, a customer to the Navy's numerical products. We have recently worked with the Navy very frequently because they switched their global models in March.

We have been in preparation for that switch over for a while, also holding weekly phone calls with NOAA, the Navy and the Coast Guard discussing this at an operational level. Within the oceanographic community, we hope that everything — currents, winds, etc. — will now be assessed through computers.

### **Talk a little bit about your partnership with NOAA and IOOS.**

ALLEN: The main benefit with NOAA and IOOS [a tool used for tracking, predicting, managing and adapting to changes in our ocean, coastal and Great Lakes environments] is we get all these models and products free of charge. There is no subscription fee. They make it avail-

able at their site and all we have to do is develop the information technology part of it that goes and grabs it.

### **How will your work be affected by budget cuts?**

ALLEN: I am very much involved in the development of new features in the Coast Guard's Search and Rescue Optimal Planning System [SAROPS]. The hardest part is more on an emotional level, because I want to see the continued development of SAROPS and the rate of that development is very much affected by our funding. So there are things that I want to develop into SAROPS — prototype stuff — but there has to be a contract from a prototype to be available operationally, and that takes funding.

Smaller budgets, in a sense it has affected us. Most of my travel for the remainder of the fiscal year — until Sept. 30 at the earliest — will be to and from my office and home. I will not be getting out to conferences or the field to talk with the communities that we serve.

As the Coast Guard's expert in these products, it's useful to get in the field to talk about what's new and coming online, and the direct feedback they provide gives me ideas for new products to develop. ■

# ITT Exelis Provides Radar for USCG Long-Range Surveillance Aircraft

## BACKGROUND

McLean, Va.-based ITT Exelis received a \$6.5 million award in March to supply the AN/APY-11 multimode radar to the U.S. Coast Guard. Integrated with the new HC-130J Super Hercules long-range surveillance aircraft, the AN/APY-11 is designed to support the Coast Guard's vast mission portfolio, which includes long-range surveillance, drug interdiction and counterterrorism operations. The HC-130J performs maritime surveillance in areas that cannot be patrolled efficiently by medium-range surveillance aircraft or cutters. The aircraft also provides heavy air transport for maritime safety and security teams, port security units and National Strike Force personnel and equipment.

## SCOPE

First provided to the Coast Guard under a 2005 contract, the AN/APY-11 is produced by Exelis and partner ELTA Systems Ltd., a group and subsidiary of Israel Aerospace Industries. Work will be performed at the ITT Exelis, Amityville, N.Y., location and ELTA facilities in Israel.

## TIMELINE

The Coast Guard and ITT Exelis said the timeline for this program is sensitive and a completion date was not disclosed.

## WHO'S WHO

Richard Viverito is business development manager for ITT Exelis Electronic Attack & Release Systems.



U.S. COAST GUARD

Fitted to the fuselage and nose of the Coast Guard's HC-130J Super Hercules, the AN/APY-11 multimode radar provides 360-degree coverage for long-range surveillance missions.

“ The U.S. Coast Guard uses the AN/APY-11 to intercept drug smugglers, locate stranded boats and track ice in the North Atlantic. The radar has also been used to support the mapping of oil spills of national significance, such as the [2010] Deepwater Horizon oil spill in the Gulf of Mexico.

This radar has been installed on different aircraft around the world. ... Fitted to an aircraft's fuselage and nose, it provides 360-degree coverage. It is available with a variety of different antennae tailored to the specific installation.

The AN/APY-11 is capable of detecting and tracking ships, aircraft, ground vehicles, and search-and-rescue transponders together with high-resolution synthetic aperture radar [SAR] imaging of ships, terrain and coastal features. Special features include dynamic classification of all ship targets and merging targets with AIS [Automatic Identification System] and IFF [Identification Friend or Foe] data.

Its maritime surface search capabilities include detecting and tracking small and large vessels in calm and high sea states from short to 200 nautical mile range, with autonomous land rejection in the littorals. Over 1,000 targets, tracked in both search and moving target modes, are displayed with integrated cue to EO/FLIR [electro-optical/forward-looking infrared] systems.

The Range Signature provides instant view of ship size and features, ISAR [inverse SAR] detailed image of ships at sea for classification, CSAR [circular SAR] detailed image of ships in harbor and littorals for classification; spot SAR for high-resolution imaging and large area imaging of land and sea.

The Airborne Exploitation System software tools are available for the creation of ship libraries for target and type identification in real time and post-mission rerun for the analysis of ISAR and SAR images, and there are multiple combinations the above radar modes can simultaneously operate and display.”

# 2013



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# SCHEDULE OF EVENTS

*NOTE: The program is subject to change as the planning process continues but the meeting dates will not change.*

## TUESDAY, JUNE 18

**10:00 AM – 5:00 PM**

Catalina Island Tours

**1:00 PM – 3:00 PM**

Region Presidents Meeting

**3:00 PM – 5:00 PM**

Past National Presidents Meeting

## WEDNESDAY, JUNE 19

**8:00 AM – 9:00 AM**

Steering Committee Meeting

**9:30 AM – 11:30 AM**

Executive Committee Meeting

**1:00 PM – 2:30 PM**

Bylaws Committee Meeting

Coast Guard Affairs

Committee Meeting

Public Affairs Committee Meeting

**3:00 PM – 4:30 PM**

**Educational &  
Motivational Sessions**

**TRACK 1:** Governance Issues: The Face of the Future Navy League

**TRACK 2:** Women in Leadership Roles: Connecting on New Levels

**TRACK 3:** Public Messaging: The Message and Delivery

**5:00 PM – 6:00 PM**

Clive Cussler is presented with the National President's Theodore Roosevelt Award

**6:00 PM – 8:00 PM**

Welcome Aboard Reception

## THURSDAY, JUNE 20

**7:30 AM – 12:00 PM**

National Nominating Committee

**8:00 AM – 9:00 AM**

Council Presidents Breakfast

**9:00 AM – 10:20 AM**

**Educational &  
Motivational Sessions**

**TRACK 1:** Develop a Focus and Mission for Your Council

**TRACK 2:** Send Offs to Commissionings: The ABCs

**TRACK 3:** Current Legislative Issues: Working with Your District Offices

**12:00 PM – 3:00 PM**

First Lady's Event: Princess Diana Tour and High Tea

**10:30 AM – 12:00 PM**

Council Awards Process Review

Navy Affairs Committee Meeting

Merchant Marine Affairs

Committee Meeting

Youth Programs

Committee Meeting

**12:30 PM – 2:00 PM**

Hall of Fame and Honors Luncheon

**3:00 PM**

Tour – Gondola Rides

## FRIDAY, JUNE 21

**8:00 AM – 9:30 AM**

NSCC Foundation Meeting

**9:30 AM – 11:45 AM**

Sea Services Panel

**12:15 PM – 2:00 PM**

Sea Services Awards Luncheon

**2:30 PM – 4:30 PM**

Board of Directors' Meeting

**5:00 PM**

Wounded Warrior Reception on the USS Iowa

## SATURDAY, JUNE 22

**8:00 AM – 8:45 AM**

Proxy Committee Meeting

**8:30 AM – 11:15 AM**

Annual Meeting of Members followed by New Board of Directors' Meeting

**11:30 AM – 12:30 PM**

Marine Corps Affairs Committee Meeting

Awards Committee Meeting

Committee Meeting TBD

**1:30 PM – 3:00 PM**

**Educational &  
Motivational Sessions**

**TRACK 1:** Recruiting and Maintaining Membership: Fighting the Generational Gap

**TRACK 2:** Fundraising: How to Reach Out for Support Large and Small

**TRACK 3:** Legislative Affairs Committee & USMC Presentation

**1:00 PM – 4:00 PM**

NSCC Board of Directors

**3:30 PM – 4:30 PM**

Steering Committee/ Region Presidents' Meeting

New Board of Directors' Orientation

**6:00 PM – 7:00 PM**

President's Circle Reception

**6:30 PM – 7:45 PM**

Reception

**8:00 PM – 10:00 PM**

Dinner

## SUNDAY, JUNE 23

**9:00 AM – 10:00 AM**

Interfaith Service

# Fiscal Challenges, 'Balance' Drive Sea-Air-Space Discussions

The Navy League's 2013 Sea-Air-Space Exposition offered attendees the opportunity to browse 204 exhibits with the latest equipment and technologies for the sea services. It also offered a robust professional development program that included nearly 100 demonstrations, panel and roundtable discussions and briefings by the various service systems commands and industry.

The Navy, Marine Corps and Coast Guard leaders primarily focused on the strategic shift to the Asia-Pacific region as well as the widespread effect of sequestration, operating under yet another continuing resolution and the fiscal 2014 budget request, released April 10.

The exposition, held April 8-10 at the Gaylord National Resort & Convention Center at National Harbor, Md., was aptly themed "Maritime Crossroads: Strategies for Action." Speakers explained the challenges faced by the sea services, as well as current plans for making necessary changes. A key concept mentioned throughout the conference was the idea of balance. In combatting sequestration and dealing with a tight defense budget, it is crucial to maintain stability.

## Service Chiefs: Budget Cuts Create Crisis, Opportunity

Leaders of the three naval services on April 8 acknowledged the need to make serious changes to cope with the expected sharp drop in future funding, but the chief of naval operations (CNO) and the Marine Corps commandant ruled out abandoning the F-35 Lightning II joint strike fighter or taking retirement benefits from those currently serving.

The CNO, Adm. Jonathan W. Greenert, Marine Gen. James F. Amos and Vice Adm. John P. Currier, the Coast Guard vice commandant, agreed that the budget cuts created a crisis, but also presented an opportunity to make long-overdue changes in the way their services function.

The three leaders focused particularly on the need to change the cumbersome and slow process of acquiring major new weapons and equipment. Greenert and Amos proposed giving the service chiefs greater control over the acquisition process so they could better balance requirements with available funds.

"Too many people are touching acquisition who don't have any responsibility" for operating the systems being developed, Greenert said.



LISA NIPP

Marine Gen. James F. Amos, commandant of the Marine Corps, described the process of acquiring major new weapons and equipment as "broken" during the Sea-Air-Space Exposition Service Chiefs' Update panel April 9.

Amos said the process is "broken, it's constipated and we need to fix it." He noted that acquisition executives told him it would take 13 years to develop and field the proposed Amphibious Combat Vehicle to replace the canceled Expeditionary Fighting Vehicle.

Currier said the acquisition process was developed during the Civil War and had accumulated multiple layers of procedures, and it "would take a lot of courage" to change it to permit a better balance of risk and requirement.

## Asia-Pacific Shift Important For Partnerships, Poses Challenges

The rebalancing of military assets to the Asia-Pacific will be one of the nation's greatest security challenges, military leaders said during a panel discussion — “Engaging in Asia: Operating on Two Fronts” — that opened the second day.

“The prosperity and security of the U.S. is linked to the region,” Rear Adm. Michael E. Smith, Navy director, Strategy and Policy Division, said April 9. Joining him on the panel were Rear Adm. William D. Lee, Coast Guard deputy for Operations Policy and Capabilities, and Maj. Gen. (sel.) Michael A. Rocco, Marine Corps assistant deputy commandant for Plans, Policies and Operations.

The administration of President Barack Obama announced earlier this year that the Asia-Pacific pivot would take place after military forces have spent more than a decade fighting two lengthy ground wars in Iraq and Afghanistan. The policy change was met with widespread support from lawmakers and military officials.

Navy leaders have said they want to have 60 percent of the fleet in the region by 2020.

In preparation for that, they will be looking at the makeup of the fleet and the development of advanced systems for areas such as ballistic missile defense, space, cyber and intelligence, surveillance and reconnaissance.

“We want to have a stabilizing presence, a regional stability, revitalize traditional partnerships and create new ones,” Rocco said.

“We are looking with a keen eye on the Asia-Pacific region right now,” Lee said.

## Services Emphasize Readiness, But Fiscal Challenges Loom Large

Senior Navy and Marine Corps officers said the naval services would focus on maintaining ready and capable forces forward deployed and prepared to respond to an uncertain world, but admitted they faced significant challenges due to the impact of sequestration on their current funding and the reduced amounts requested in the fiscal 2014 budget released April 10.

Marine Corps Commandant Amos’ “absolute bottom line is to maintain a ready Marine Corps that, in concert with the U.S. Navy, remains ready to deploy to meet the needs of the nation,” said Gen. John M. Paxton Jr., the assistant commandant.

Vice Adm. Allen G. Myers IV, the deputy chief of naval operations for Integration of Capabilities and Requirements, put a similar emphasis on providing ready forces due to deploy this year, but said the ability to surge forces in response to a crisis would be reduced because current funding is forcing cuts in training and maintenance.

Coast Guard Vice Adm. Currier said his service had different operational requirements than the other sea services because it must function continually without the deployment cycle.

Currier said the Coast Guard’s emphasis within a tight budget was “balance,” maintaining its current operations while recapitalizing its badly aged cutter fleet. It also had to find ways to cover the emerging obligations in the Arctic as the ice caps recede, he said.

## Official: Budget Realities Crimp Navy Weapons Plans

The Navy is doing its best to balance the weapon needs of the fleet with the realities of today’s budget environment, which sometimes means deferring capabilities until the money becomes available, a service official said.

The shrinking budget and the reality of sequestration is forcing the fleet to take a hard look about what it needs and what it can do without, and that’s no different when it comes to weapons, said Jimmy Smith, acting executive director for the program executive office for integrated weapons systems.

“We turned our efforts to fleet sustainment and making sure that the fleet out there has everything they need today,” Smith said. “And then we’ve looked at areas of our programs that we can either defer, delay, do things so that the fleet is taken care of.”



Gen. John M. Paxton Jr., assistant commandant of the Marine Corps, speaks during a Sea-Air-Space budget panel discussion April 10. With him from the left are Vice Adm. John P. Currier, vice commandant of the Coast Guard, and Vice Adm. Allen G. Myers IV, the deputy chief of naval operations for Integration of Capabilities and Requirements. At right is moderator Christopher P. Cavas of *Defense News*.

## Lawmakers Show Strong Support for Navy Shipbuilding

The impacts of sequestration loom large and the effects are not yet truly understood, the assistant secretary of the Navy for Research, Development and Acquisition said April 10.

Despite the budget constraints, however, the Navy will remain committed to programs such as the Littoral Combat Ship, F/A-18 Hornet, F-22 Raptor and F-35 Lightning II, Sean J. Stackley told an audience at the Sea-Air-Space Congressional Breakfast. But these programs, and others, were built based on need and tolerated risks. Going forward, "the demand for affordability will be unrelenting," he said.

Saying each of the Navy's weapons programs are under assessment, Stackley added that it is essential the service not lose sight of their singular, compelling need of having a presence, and being able to project power anywhere in the world.

Stackley also said the Navy will continue technology development in areas such as cyber, electronic warfare systems and the unmanned arena.

"Great challenges lie ahead," he said.



Sean J. Stackley, assistant secretary of the Navy for Research, Development and Acquisition, speaks during the Sea-Air-Space Congressional Breakfast April 10.

Despite these obstacles the Navy needs to have a modern and capable fleet, said Rep. Rob Wittman, R-Va., who co-chairs the Congressional Shipbuilding Caucus with Rep. Joe Courtney, D-Conn.

"I am confident we can get that done," Wittman said.

Acknowledging the partisanship in Washington the past few years, Courtney said members of his caucus have been a bright spot on Capitol Hill in terms of working together.

"The fact is we have better days ahead," he said.

## Navy to Test Solid-State Laser on *Ponce*

The Navy plans to field and test a solid-state laser prototype system on the service's newest afloat forward-staging base early next year.

The former amphibious ship *Ponce*, which had been transformed last year into an interim afloat forward-staging base and redesignated AFSB 1, will host a laser that the Office of Naval Research has used to shoot down drone targets and perform nonlethal operations.

Rear Adm. Matthew L. Klunder, chief of naval research, said the Navy wanted to get the prototype onto an operational Navy ship. However, it won't go in the flight deck area of the ship, but rather be integrated into the combat system, the power grid and the cooling grid on *Ponce*.

## USCG Builds International Capability Through Foreign Military Sales

The Coast Guard has averaged \$105 million in annual Foreign Military Sales since the program's inception in 1997, and the service's chief of international acquisition said he is not trying to dramatically increase that number.

"We don't have a set goal we try to reach in a given year," Tod Reinert said April 8.

The service has delivered 405 vessels worldwide and it expected to deliver 59 assets to 13 countries this fiscal year. Over the past four years, the Coast Guard's average annual international sales have increased from \$13 million to more than \$138 million.

Most of the assets are delivered to countries in the Caribbean, Africa and Middle East, and recently there have been a lot of requests for small boats, Reinert said.

"We are engaged in building international military capability," he said.

## NAVSUP Commander: 'Logistics Is a Team Sport'

Awareness of the need to improve logistics at installations and in the supply chain is obviously more acute in the current economic climate. Even if there were no such thing as sequestration, however, the sea services' chiefs of logistics and supply believe the time has come anyway for improvements in efficiency.

LISA NIPP

During an April 8 panel discussion, senior Navy, Marine Corps and Coast Guard leaders and representatives from industry agreed they must work closely to implement these necessary changes in culture.

“Logistics is a team sport,” said Rear Adm. Mark F. Heinrich, commander of Naval Supply Systems Command (NAVSUP) and chief of Supply Corps. “Resiliency in the supply chain comes from collaboration and teamwork.”

### LCS Council Adds JHSV to Portfolio

The Navy's Littoral Combat Ship (LCS) Council has added the Joint High-Speed Vessel (JHSV) to its oversight in order to leverage the modular multimission capabilities of both new ship classes and ensured that their fleet introductions take advantage of their capabilities.

Speaking April 8 to an audience at a roundtable panel, “Operating Forward: LCS and the Future Fleet,” Vice Adm. Richard W. Hunt, director of the Navy Staff and chair of the LCS Council, said, “the impact of the council has led it to expand to include the JHSV and to capitalize on its capabilities.”

The LCS Council was established by CNO Greenert in August to oversee the total acquisition, sustainment and fleet introduction of the LCS.

Hunt said the council's focus is shifting from the LCS sea frame to its mission modules.

### APKWS Being Fielded for Marine Corps Helicopters

Precision attack weapons for combat aircraft, which have cost hundreds of thousands of dollars a shot, now are being fielded for Marine Corps helicopters at what, by Pentagon standards, is low cost and should be available in the near future for Navy helos and multiservice fixed-wing aircraft, Navy and industry briefers said April 9.

The low-budget munition, called the Advanced Precision Kill Weapons System (APKWS), is produced by adding a laser-seeking control unit to the 2.75-inch unguided rockets, one of the military's most common airborne weapons, said Capt. Brian “Zulu” Corey, program manager for naval forward firing weapons at Naval Air Systems Command.

“This weapon is so simple it's hard to communicate” to people, Corey said in a briefing.



Vice Adm. Richard W. Hunt, director of the Navy Staff and chair of the Navy's Littoral Combat Ship (LCS) Council, speaks during the “Operating Forward: LCS and the Future Fleet” roundtable April 8. At his right is Vice Adm. Kevin M. McCoy, commander of Naval Sea Systems Command.

### Shipboard Flights Begin for Marine Corps' Integrator UAV

The Marines have moved a step closer to having a spy drone that can be launched from an amphibious assault ship, fly 60 miles away and gather intelligence for 15 hours or more before returning to the ship.

Called the “Integrator,” the new unmanned aerial vehicle (UAV) is intended to scout ahead of Marines as they prepare to go ashore, and monitor them during ship-to-shore maneuvers, said Ryan Hartman, a vice president at UAV maker Insitu Inc.

Hartman announced the Integrator's first launch from a ship, the amphibious transport dock ship *USS Mesa Verde*, April 9. However, the launch and recover occurred in February.

The Integrator is a big brother to the Navy's familiar ScanEagle, also made by Insitu.

Hartman said the Integrator is designed to operate from assault ships, but also can be taken ashore by Marines and launched from the ground. With a wingspan of 16 feet and a length of 7 feet, it is bigger than the 10-foot by 4-foot ScanEagle. When the Integrator's larger payload compartment is full, the extra weight from its sensors can cut its flight time to 15 hours, he said.

### Ohio Replacement Program Coping With Sequester Cuts

The mandatory budget cuts imposed by sequestration have not stopped the Navy's program to build a series of

ballistic-missile submarines to replace the aging Ohio class, the program manager told an April 9 briefing.

"We are managing our way through that," said Capt. Bill Brougham, adding that "as we saw what was coming, we came up with options of what we could do to mitigate the potential cuts."

Later, he told reporters that the percentage of cuts "was less than what we were initially prepared for," adding "we're in better shape but we had to rejigger."

Brougham said the first replacement submarine was still on track to start construction in 2021, as stated in the fiscal 2013 budget request, with a three-year testing program and deployment anticipated in 2031. In the fiscal 2012 budget, the first Ohio replacement boat was slated to be procured in fiscal 2019, according to the Congressional Research Service.

### NAVAIR Provides Status Check On Fleets, Aircraft Assets

Rear Adm. Paul A. Grosklags, Naval Air Systems Command's (NAVAIR's) program executive officer for Air ASW, Assault & Special Mission Programs, provided

an update April 9 on the status of a range of assault and special mission aircraft that comprise Navy, Marine Corps and Air Force fleets.

Speaking before a full audience at the NAVAIR Pavilion, Grosklags ran down a check list of a number of well-known fixed-wing and rotorcraft aircraft.

While highlighting the Marine fleet, he described V-22 Ospreys as "the pride of the Marine Corps." The V-22, Grosklags said, flew about 175,000 hours in the last two years. He said that the Marine Corps will procure 360 V-22s in total, and Air Force Special Operations will receive 50.

### Maritime Panel Touts Strength Of U.S.-flag Sealift Resources

A panel of maritime industry executives outlined the strengths and challenges facing the U.S.-flag shipping fleet during a roundtable discussion April 10, and were urged to get the word out about the work the industry does to serve the transportation needs of the U.S. military.

"Industry needs to talk more about what they do," said retired Vice Adm. Albert J. Herberger, a former

Maritime Administrator, chairman of the Navy League's National Advisory Council and a member of the Navy League Maritime Policy & Resolutions Committee. "You have to keep repeating it."

The benefits of U.S.-flag sealift capability and the Maritime Security Program speak for themselves, said Kevin Speers, senior director of marketing with Maersk Line Limited.

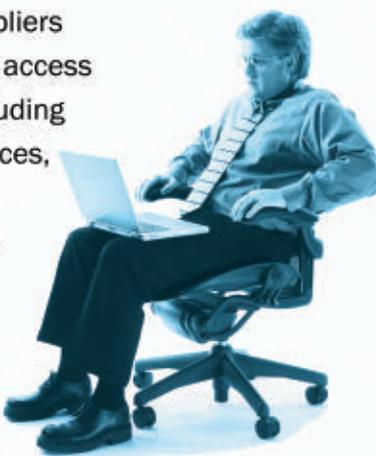
Immediate expansion of sealift capabilities, the availability of trained and certified U.S. mariners, guaranteed access to the global intermodal systems and cost-effectiveness all help to "keep national control of sealift resources," he said. ■

*Deputy Editor Peter Atkinson, Managing Editor Richard R. Burgess, Assistant Editor John C. Marcario and Special Correspondents Nick Adde, John Doyle, Daisy R. Khalifa, Otto Kreisher, William Matthews and Daniel P. Taylor contributed to this report. Compiled by Seapower intern Jamie M. Kravitz.*

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# 2013 Sea-Air-Space Exposition Highlights ‘Maritime Crossroads’

By PETER ATKINSON, Deputy Editor



The Navy League's 2013 Sea-Air-Space Exposition April 8-10 at the Gaylord National Resort & Convention Center at National Harbor, Md., drew thousands of active-duty U.S. and international military personnel, members of Congress and congressional staff, federal civilians and foreign embassy personnel, and featured displays showcasing the latest in defense technologies, products and services from 204 exhibitors.

**D**espite the uncertainty prompted by the March 1 launch of sequestration's across-the-board spending cuts that hit the Defense Department particularly hard, and the budget haggling that ended in late March with the continuing resolution to fund the government through the end of the fiscal year, the Navy League's 2013 Sea-Air-Space Exposition went off as scheduled and largely as planned April 8-10 at the Gaylord National Resort & Convention Center at National Harbor, Md.

The show floor was packed once again with 78,100 square feet of displays showcasing the latest in defense technologies, products and services from 204 exhibitors, including Naval Air Systems Command, Naval Sea System Command and Naval Supply Systems Command (NAVSUP); Marine Corps Systems Command; the Office of Naval Research, Naval Research Laboratory and Marine Corps Warfighting Laboratory; the U.S. Coast Guard; the Defense Logistics Agency; Defense Security Cooperation Agency; and Military Sealift Command.

NAVSUP once again hosted demonstrations on the exhibit floor by culinary specialists who recently participated in a military culinary competition. The culinary team prepared dishes they made for the competition, as well as those that represent the fleet's menu, and made samples available to attendees. A registered dietitian also was on hand to discuss nutrition programs.

More than 11,600 people registered for the show, with more than 1,200 active-duty personnel from the U.S. and international sea services taking part in a wide array of professional development opportunities, as well as touring the exhibit hall or sneaking outside to enjoy the unusually warm spring weather that brought out the Washington area's heralded cherry blossoms.

With the theme "Maritime Crossroads: Strategies for Action," Sea-Air-Space highlighted national and international sea power developments, technologies and tactics through panel discussions, exhibits, guest speakers, roundtable sessions — including a first-time session with

sea service enlisted leaders and an international maritime panel — media briefings and demonstrations for uniformed and civilian attendees.

Navy League National President Philip L. Dunmire and Exposition Chairman Charlie Hautau of the National Capital Council, which hosted the event, were joined by Adm. Jonathan W. Greenert, chief of naval operations (CNO); Gen. James F. Amos, Marine Corps commandant; and Vice Adm. John P. Currier, Coast Guard vice commandant, to cut the ribbon officially opening the exposition April 8.

### Budget Unknowns Are Prevailing Theme of Luncheon Addresses

Given all the recent scrambling over fiscal 2013 spending matters, and the release of President Barack

Obama's fiscal 2014 budget request April 10, funding concerns not surprisingly took center stage during the keynote luncheon addresses each day during Sea-Air-Space.

In his address at the Secretary of the Navy Luncheon on April 10, Secretary Ray Mabus noted that over the next six months, the Navy will have to cut \$4.3 billion from its operations and maintenance budget and \$6 billion from investment accounts this year. After that, the service can start worrying about more cuts coming in 2014.

Precisely what else lies ahead is unclear, but none of the signs are good.

"Going forward into 2014, we face a whole lot of unknowns," Mabus said. "But one thing is known — the department will face more budget cuts."

The Navy confronts several alternatives, all onerous. First, Mabus said, is the Budget Control Act of 2011, which will cut \$487 billion from defense spending over the next decade. On top of that comes sequestration, which cuts another \$500 billion from defense spending over the same time period.

The 2014 defense budget proposal would soften the sequester blow, cutting \$115 billion more over 10 years. A Senate version would cut \$200 billion, Mabus said. A House version would eliminate the sequestration cuts, but the defense budget still would decline.

Mabus pitched Obama's alternative as the most attractive. Although it cuts an additional \$115 billion, most of the cuts are concentrated toward the end of the decade and would give the Navy an opportunity to plan more sensible cuts, he said.



Adm. Jonathan W. Greenert, chief of naval operations, speaks during the Sea Services Luncheon April 8.

LISA NIPP

Sequestration, by contrast, cuts \$50 billion a year "in equal amounts every year with precious little strategy," he said.

Nobody wants that, Mabus said.

"Everybody's position going forward — the president, the Senate and the House — is that cuts to defense should be smaller and smarter," Mabus said, suggesting that it's up to Congress to solve the problem.

"If an agreement isn't reached, if Congress can't come up with a solution, the sequester — which neither Congress nor the president wants to continue — will continue," he said.

The budget Obama sent to Congress April 10 appears to be based on a hope that he and the Senate and the House can come to a "grand bargain" on the federal

budget — spending and taxes — and avoid sequestration after 2013.

Even if that happens, the only direction appears to be down.

"Frankly, you should expect some more cuts," Mabus told an audience made up mainly of Navy personnel and defense contractors.

In his keynote address at the Sea Services Luncheon on April 8, CNO Greenert said that in light of a \$4 billion budget shortfall, and with requisite investments that have to be taken care of, the U.S. Navy, nonetheless, has a "way ahead," and will spend "the precious money we have" — roughly \$44 billion — to cover expenses and key operating costs, like training and maintenance, while also preparing for the 2014 deployment.

"Now we've got some operating money. We've got a way ahead. We've got some pretty good items and investments, and we feel much better," he said. "We're doing some shore readiness and some support items that are very important, that we have to get done, but we're not doing all of them. We can get reimbursements done, pay the must-pay bills, and get the fiscal year [2013] distribution management on its way."

As to spending beyond that, Greenert said that in looking at the 2014 deployment, the Navy will need to reconsider the global force management plan.

"We have to sit down and talk about the 2014 deployment and say, 'we're going into [2014] differently than we originally planned. Is this the global force management plan we want to carry out?'" he said.

Going forward, there are important matters — and top priorities — with which the Navy is moving ahead, which Greenert said include a better understanding of the undersea domain, focusing attention on and supporting the nation's stake within the burgeoning economic region of the Arctic, and working with the Marines as they “come back to sea.”

Lastly, he used the opportunity to stress the application of the electromagnetic spectrum, describing the decades-old technology as “an item of importance.”

Gen. John M. Paxton Jr., assistant commandant of the Marine Corps, began his talk at the Sea-Air-Space Luncheon April 9 with a historical reference. On the same date in 1945, the sea services were fighting World War II's bloodiest campaign in Okinawa. In 1953, he said, Marines had recently finished major operations at Inchon and the Chosin Reservoir in Korea.

After those campaigns, Paxton said, the Marine Corps underwent significant strength reductions — similar to those under consideration today amid the budget crunch. Events later proved that the reductions went too far too quickly, he said.

“We have seen this before,” Paxton said. “The Marines have made a habit of institutional paranoia.”

The Marine Corps and its fellow sea services are at such a crossroads again, Paxton said.

“We may not know where we want to go. We don't know what threats are out there. The point is, we have to make a decision,” Paxton said.

Besides continuing instability in the Middle East and looming threats in the Pacific, Paxton alluded to wild-card issues such as the space and cyber arenas, and the connection between the proliferation of weapons and drug trafficking. These and other hazards are out there and could flare at any time, he said.

If and when anything happens, “We do know the Navy, Marine Corps and Coast Guard team will go there,” Paxton said.

“The question is, how do we get ready now? A few things will be steadfast,” Paxton said.

The Marine Corps will continue to be an amphibious and forward-deployed entity, even as it reduces in size to about 182,100 — down from a peak strength of 203,000 two years ago, Paxton said. The numbers are lower than the service's leadership would like.

“We're going to come down in size a little further than we wanted to, a little faster than we wanted to,” Paxton said. “How we structure the Marine Corps in terms of size, shape and scope, will be important.”

The Marine Corps is taking part in a Pentagon-wide assessment of force structure that will be used to shape future budgets, Paxton said, noting, “This is the way ahead for the department. We want to be the most ready when the country is the least ready.”

## Mabus Presents Navy, Marine Corps Safety Awards

Mabus joined Dunmire in presenting individual and unit Safety Awards during the Secretary of the Navy Luncheon April 10.

The Adm. Vern Clark Unit Safety Award was presented to the USS *George Washington*, and accepted on behalf of the aircraft carrier crew by Capt. Carlos Sardiello. The Adm. Vern Clark Individual Safety Award was given to Lt. j.g. Luke J. Dragovich.

The Gen. James L. Jones Unit Safety Award was presented to Marine Corps Logistics Base (MCLB) Barstow, Calif., and accepted by Raymond Aguilar and Col. Michael Scalise. Staff Sgt. William E. Stengele received the Gen. James L. Jones Individual Safety Award.

These awards recognize activities or individuals each year for innovative actions, examples or suggestions that have reduced fatalities and/or mishaps among Sailors, Marines or civilians within the Department of the Navy.

USS *George Washington* was honored for, among other things, “demonstrating sustained superior performance in safe operations and maintenance while forward deployed to Yokosuka, Japan,” according to the award citation.

Dragovich, NAVSUP Fleet Logistics Center Pearl Harbor's Safety Officer, “has led the charge and ensured all new deficiencies became focus areas guaranteeing the workforce understands and adheres to safety compliance,” the award citation said.

Mishap rates for MCLB Barstow in fiscal 2012 “were at an all-time, record low,” according to the citation. “MCLB Barstow's most impressive achievement during FY '12 was their ability to undergo an arduous, but successful, week-long Voluntary Protection Programs [VPP] recertification



Navy Secretary Ray Mabus, left, and Navy League National President Philip L. Dunmire congratulate Marine Corps Staff Sgt. William E. Stengele, recipient of the Gen. James L. Jones Individual Safety Award, during the Secretary of the Navy Luncheon April 10.



LISA WIPP

Rick DeBobes receives the Navy League's Richard M. Thompson Award for Outstanding Civilian Leadership April 10 from Sen. Carl Levin, D-Mich., outgoing chairman of the Senate Armed Services Committee, right. At left is DeBobes' wife Margaret. A retired Navy captain, DeBobes recently retired as the Senate Armed Services Committee's staff director.

assessment. In March 2012, the base was formally recognized and recertified by the Occupational Safety and Health Administration as a VPP Star Site, making MCLB the only VPP Star Site in the Marine Corps, and the first and only to receive VPP recertification."

Stengele, while assigned to Marine Heavy Helicopter Squadron 463, Marine Air Group 24, 1st Marine Aircraft Wing, "was instrumental in transitioning the squadron from a small cadre of Marines and four CH-53E helicopters to a fully operational squadron of 300 Marines and 12 CH-53Es," the citation said. He "played a vital role in the safe execution of 1,662 mishap-free flight hours, the transport of more than 4,835 passengers and 1 million pounds of cargo. In addition to supporting the Ground Combat Element, he was instrumental in training over 75 percent of the squadron's maintainers on the CH-53E."

### Levin Presents Civilian Service Award to DeBobes

U.S. Sen. Carl Levin, D-Mich., outgoing chairman of the Senate Armed Services Committee, made a special trip to the Sea-Air-Space Congressional Breakfast on April 10 to present an award to retired Navy Capt. Rick DeBobes, who recently retired as the committee's staff director.

In front of an audience that included industry executives, congressional staffers, military leaders and guest speakers Sean J. Stackley, assistant secretary of the Navy for Research, Development and Acquisition, and Virginia Republican Rep. Rob Wittman and Connecticut Democrat Rep. Joe Courtney, co-chairs of the Congressional Shipbuilding Caucus, Levin presented DeBobes with the Navy League's Richard M. Thompson Award for Outstanding Civilian Leadership.

DeBobes was honored for his distinguished service in support of the sea services and the nation. He began his 50-year career with 26 years in the Navy, his last active-duty assignment being legal adviser to then-Chairman of the Joint Chiefs of Staff Adm. William Crowe.

After retiring from the Navy, DeBobes joined the staff of the Senate Armed Services Committee, where he played a major role in crafting and guiding key legislation through the committee, including the Wounded Warrior Act and 24 National Defense Authorization Acts.

"Recognizing the far-reaching need for recapitalization, he has worked tirelessly with Committee leadership to preserve military readiness and rebuild the armed services through personnel policies and improvements to platforms and equipment," the award citation says.

### Gortney: Pulling Together The Elements of Readiness

"I really only have one real mission, and that is readiness," Adm. William E. "Bill" Gortney said April 9, during his keynote address at the Sea-Air-Space Banquet.

It's one issue, the head of U.S. Fleet Forces Command said, that was missing during most of the panel and roundtable discussions held thus far at the 2013 Sea-Air-Space Exposition.

"We need to understand what goes into readiness, and who is the advocate of readiness," he said.

Gortney said it's important to first understand the environment in which our forces operate.

"What is the environment over the next 10 years that the Navy, the Marine Corps and the Coast Guard are going to be faced with? We're out of Iraq, we're coming out of Afghanistan after 12 years of combat. What's next?" he said.

Gortney noted that the new national strategy is about refocusing on the Pacific.

"Is anyone surprised we're focusing on the Pacific? Have we ever stopped focusing on the Pacific in the United States Navy? Of course not. We have the preponderance of our forces in the Pacific. We have the preponderance of our forward deployed forces in the Pacific. What I think is important about refocusing on the Pacific, quite frankly, is right here in this town. ... It's the intellectual shift on the Pacific, which is more important than the physical shift," he said.

But there are some hurdles to shifting more U.S. forces to the Pacific. One, he said, is that we're still in a war, and another is the instability in parts of the world.

The Arab Spring, he said, is "a debate, sometimes violently, over haves and have nots in those countries. And from it springs instability and crisis. So what does that mean for us over the next 10 years? We're going to be on the front line as those crises break out because we're going to sail to those crises because we're already

going to be forward, we're already going to be there, because that's what we do in the Navy and Marine Corps, we are forward 365 days out of the year."

He noted the Navy and Marine Corps sail into crisis with two attributes, "physical and political access that gives decision space and options to our leaders. We don't have to ask permission 12.1 miles off that coast, we can bring and marshal relevant combat power to bear to stabilize the crisis or bring relevant combat power to bear and deal with that crisis, to open that battle space for the rest of the joint force. That's what we do. The next 10 years will be the Navy and Marine Corps' decade, and we have to be prepared for that decade." ■

*Editor in Chief Amy L. Wittman and Special Correspondents Nick Adde, Daisy R. Khalifa and William Matthews contributed to this report.*

*For complete coverage of the seminars, speakers and events from the 2013 Sea-Air-Space Exposition, including additional photographs, audio and video, see Seapower Expo Online at [www.seapowermagazine.org/sas](http://www.seapowermagazine.org/sas).*



JONATHAN ERNST

Adm. William E. "Bill" Gortney delivers the keynote address during the Sea-Air-Space Banquet April 9.



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# Joint Operations Were Key to Victory During Civil War Vicksburg Campaign

By DAVID F. WINKLER

**K**idder Breese Street is a one-block thoroughfare in the middle of the Washington Navy Yard. Only one building fronts it — the headquarters for the Naval History and Heritage Command as well as the Naval Historical Foundation. It is one of many avenues on naval installations named to honor past heroes.

An 1852 graduate of the U.S. Naval Academy, Kidder Randolph Breese first served on *Saratoga*, with David G. Farragut in command. He later was assigned to *San Jacinto*, captained by Charles Wilkes, when that screw frigate intercepted the British mail steamer *Trent* on Nov. 8, 1861, and took off Confederate Commissioners James Mason and John Slidell. Under David Dixon Porter, Breese commanded a division of a mortar flotilla involved in the capture of New Orleans and would command *Black Hawk*, the flag boat of the Mississippi Squadron during the crucial Vicksburg campaign.

In “War on the Waters,” historian James M. McPherson makes the case that navies of both the North and the South — especially the North — had a far greater impact on the course of the war than has been previously acknowledged. Certainly this was the case on the western rivers, where cooperation between the Union Army and Navy led to one of the North’s great triumphs — the fall of Vicksburg, Miss., on July 4, 1863.

While the Battle of Gettysburg ending a day earlier may have overshadowed the luster of Union victory at Vicksburg, Gen. John C. Pemberton surrendered 30,000 Confederate defenders to the Union forces led by Major Gen. Ulysses S. Grant and Rear Adm. Porter. With the capture of Port Hudson and 7,000 more Southern troops five days later, the Mississippi River was in Union hands from Minnesota to Louisiana, fracturing the South.

Geography had favored Vicksburg’s defenders of what became a Southern citadel on bluffs overlooking the Mississippi. To the north, low-lying swamplands and a string of hills extending to Memphis shielded the city from overland and overwater operations from that axis. The key, Grant eventually determined, would be to get his army ashore on the east bank of the Mississippi south of Vicksburg where it could move inland and flank the city from the east.

Naval actions that laid the foundation for this effort began on the evening of March 14-15, 1863, as Farragut sent seven ships, led by his flagship *Hartford*, past the Confederate batteries at Port Hudson. Though just

*Hartford* and *Albatross* survived, they established a Union Navy presence between Vicksburg and Port Hudson.

With consensus reached on Grant’s plans to march his army through Arkansas to a point on the west bank of the Mississippi south of Vicksburg to be crossed, Porter sent a flotilla of gunboats and supply vessels past Vicksburg on the evening of April 16-17 with the loss of only one transport. Six nights later, another five transports made it past the Vicksburg gauntlet.

Informed about an unguarded crossing point on the river 10 miles south of Grand Gulf, Miss., at Bruinsburg, Grant and Porter coordinated a crossing operation on April 30. Over the next three weeks, Grant’s army would march nearly 200 miles, fight and win five battles, and position forces on the eastern outskirts of Vicksburg.

Pemberton had ample forces to oppose and defeat Grant’s army. However, Union Army-Navy forces that remained north of Vicksburg led by Maj. Gen. William T. Sherman and Lt. Cmdr. Breese mounted a series of effective feints against Confederate positions on the Yazoo River that had Confederate commanders thinking a two-pronged Union campaign may have been unfolding. Reinforcements were sent, but it was too little, too late.

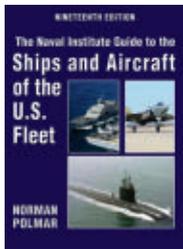
Porter’s vessels conducted ancillary operations in the Red, Mississippi and Yazoo River basins and were positioned to support Grant’s siege against Vicksburg. During the 47-day siege, the Navy would expend 7,000 mortar shells, 4,500 shot and shell rounds fired by gunboats, and another 4,500 rounds from naval guns landed ashore.

Following the triumph at Vicksburg, Porter would command the North Atlantic Blockading Squadron. Breese would join him and participate in numerous operations along the Carolina coast, including the capture of Fort Fisher in January 1865. Promoted to the full rank of captain in 1874, Breese would command *Pensacola* from 1879 into 1880, when ill health forced him to relinquish command. He died in 1881. ■

**Sources:** James M. McPherson, *War on the Waters: The Union & Confederate Navies, 1861-1865*, University of North Carolina Press, Chapel Hill, N.C. (2012); Myron J. Smith Jr., *The Fight for the Yazoo, August 1862-July 1864*, McFarland & Co., Jefferson, N.C. (2012).

*Dr. David F. Winkler is a historian with the Naval Historical Foundation.*

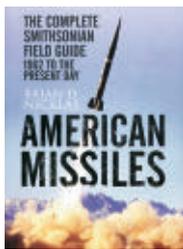
# Books Detail Ships and Aircraft, Wake Island and Guam in WWII



## THE NAVAL INSTITUTE GUIDE TO SHIPS AND AIRCRAFT OF THE U.S. FLEET, Nineteenth Edition

By Norman Polmar with Richard R. Burgess. Annapolis, Md.: Naval Institute Press, 2013. 688 pp. \$130.  
ISBN: 978-1-59114-687-2

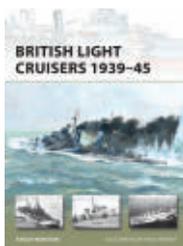
Norman Polmar's eighth edition of this standard comprehensive and detailed reference of the ships and aircraft of the U.S. Navy, Marine Corps and Coast Guard now is in print eight years after the last edition, providing a much-needed update that documents the ever-changing fleets during a period of combat operations. This edition, illustrated with updated photos and line drawings, features expanded sections on weapons, sensors and unmanned vehicles. The organizations of the services are described, and continuity is maintained with listings of all ships that served since World War II. The fleets of the Army, National Oceanic and Atmospheric Administration and other miscellaneous agencies also are covered.



## AMERICAN MISSILES: The Complete Smithsonian Field Guide, 1962 to the Present Day

By Brian D. Nicklas. Yorkshire, U.K.: Frontline Books, 2012. 176 pp. \$60  
ISBN: 978-1-84832-517-3

Much like a wildlife field guide, this book lists in numerical order almost 200 operational or experimental military missiles built or fielded since 1962, from the MGM-1 Matador to the RIM-174 Standard Missile-6. The author, an archivist with the National Air and Space Museum, includes specifications, brief descriptions and an exceptional array of photographs, most in color.

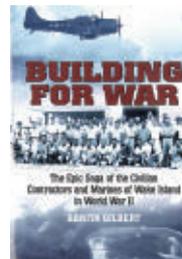


## BRITISH LIGHT CRUISERS 1939-45

By Angus Konstam. Oxford, U.K.: Osprey Publishing, 2012.  
48 pp. \$17.95  
ISBN: 978-1-84908-684-1

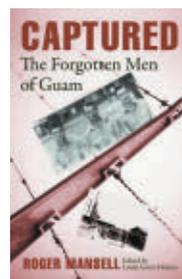
The light cruisers were a true workhorses of the U.K. Royal Navy during World War II. They served

in every naval theater of war in a variety of roles. Two distinguished themselves in the Battle of the River Platte against a German pocket battleship. They shined in the Mediterranean, providing anti-aircraft coverage for convoys, bombarding coastlines in support of amphibious assaults, and taking on Italian and German counterparts in surface actions. Of the 79 ships of 13 classes that served in the war, 22 were lost to enemy action. This monograph is well illustrated and detailed with class specifications.



## BUILDING FOR WAR: The Epic Saga of the Civilian Contractors and Marines of Wake Island in World War II

By Bonita Gilbert. Havertown, Pa.: Casemate Publishers, 2012.  
400 pp. \$32.95.  
ISBN: 978-1-61200-129-6



## CAPTURED: The Forgotten Men of Guam

By Roger Mansell. Edited by Linda Goetz Holmes. Annapolis, Md.: Naval Institute Press, 2012. 276 pp. \$33.95.  
ISBN: 978-1-61251-114-6

At least three books about the capture and occupation of Wake Island in World War II were published within the last two years, two of which were reviewed here previously.

*Building for War* adds a perspective to the valiant but overwhelmed defense against the Japanese of the island and the fate of the American Marines, Sailors and 1,145 civilian contractors who built and defended the airfield. Author Gilbert, daughter of a contractor who survived the war, focuses on the contractors' challenging build-up of the isolated airfield and their wartime fates. Author Mansell, now deceased, has written the less-well-known story of the Japanese conquest of Guam, and the inspiring resistance by and capture of 800 Americans, including 414 military personnel. The captives were moved to Japan to serve as slave laborers in Japanese industry. Mansell, who spent a decade interviewing survivors, chronicled many of their stories of hardship for the first time. ■

Seapower does not review works of fiction or self-published books.

# Honolulu Council Hosts Fifth IA Recognition Luncheon

By PETER ATKINSON, Deputy Editor

**N**inety-one Hawaii-based service members from 26 commands were recognized for their service as individual augmentees (IAs) during the fifth annual “Boots on the Ground” IA recognition luncheon Feb. 28 at the Ala Moana Hotel in Honolulu.

Hosted by the Navy League’s Honolulu Council and presented by Partners in Patriotism, the luncheon acknowledged the commitment of service members who left their assigned commands to fill individual billet requirements for various combatant commanders around the world.

“This morning we are honoring these Sailors and Marines who volunteered to go IA without a troop, company or battalion. They went on their own. Nobody said goodbye or greeted them back except their family, and so we think this is a great opportunity to let them know how much we appreciated them and their service,” **David C. Livingston**, Honolulu Council president, said during the luncheon, according to a report from Navy Region Hawaii Public Affairs.

The event kicked off with the parade of colors, the national anthem and an invocation by **Capt. Salvador Aguilera**, Navy Region Hawaii chaplain. While lunch was being served, the attendees were treated to music by **Henry Kapon**, who sang three songs including “I’m Coming Home,” a ballad written with military families in mind. Local radio personality **Mike Buck** was the event emcee.

“I hope we never have to do this kind of event,” Livingston said. “We hope we never have to send

another Soldier, Sailor or Marine overseas again, but as long as we keep doing it we want to keep supporting them because the IAs are the backbone of what’s going on there. They’re the specialists that make the team successful.”

IAs are active duty and Reserve Sailors and Marines who serve in diverse capacities and usually in hostile conditions in places such as Iraq, Afghanistan, the Horn of Africa and the Republic of the Philippines. They provide commanders with mission-tailored, globally distributed forces.

There have been 110,000 IAs since the program began in 2001, 1,416 of whom have been awarded the Bronze Star. IAs also have received one Silver Star and 48 Purple Hearts, according to the Navy Region Hawaii Public Affairs report.

**Adm. Cecil D. Haney**, commander of U.S. Pacific Fleet, thanked the Navy League and sponsors for their continued support, and personally thanked all the IAs and their families for their service and sacrifice.

“Each of you are a part of a special class of Sailors and Marines who can say that you have served our nation as an individual augmentee. You have volunteered to do this and you have done well,” Haney said.

He presented each of the IAs with a special “boots on the ground” military challenge coin, Navy Region Hawaii Public Affairs reported.

The event also served as an opportunity to thank the families of IAs for standing behind their Sailors or Marines and supporting them when they volunteer for



Adm. Cecil D. Haney, commander, U.S. Pacific Fleet, right, presents a “boots on the ground” military challenge coin to one of the 91 individual augmentees (IAs) honored at the fifth annual IA recognition luncheon Feb. 28 in Honolulu. The event was hosted by the Navy League’s Honolulu Council and presented by Partners in Patriotism.

assignments, knowing it will take them away from their families.

“To the family members who stayed behind, I can say that they are just as brave as service members that served because they had to be there and continue with the family. It makes it really tough to run the family when they’re gone,” Livingston said.

The event was chaired by former Council President **Don Morrison**, who helped launch the IA luncheon five years ago.

“The event was very touching, and it feels good that people care because when you’re out there no one knows what you’re doing. But when you come home, you’re coming home to something good where you have that support and the care that you don’t see when you’re out there by yourself,” **Yeoman 1st Class Loribelle C. Valdez** of San Diego, who is assigned to Patrol Squadron Four at Marine Corps Base Hawaii, said in the Navy Region Hawaii Public Affairs report.

### San Diego Council Honors IA Volunteers

The San Diego Council recognized six Navy IAs during its monthly breakfast meeting on March 1 at the Admiral Baker Clubhouse. **Master Chief Yeoman Jose L. Maldonado**, **Logistics Specialist 1st Class Jaelyn S. Alvarez**, **Operations Specialist 1st Class Ronald E. Mason**, **Logistics Specialist 2nd Class Christine Walters**, **Personnel Specialist 2nd Class Gilberto Infante** and **Personnel Specialist 2nd Class Derrick Whitfield** were saluted for serving individual deployments to fill critical personnel gaps or provide specialized knowledge to units or service branches other than their own, often in harm’s way.

**Adm. William E. Gortney**, commander, U.S. Fleet Forces Command, said, “I want you to know that we take very seriously our commitment to make the IA experience a positive one for our personnel who take on the challenge.

“They may be deployed outside their familiar military lifelines, however, we are dedicated to keeping the lines of communication open with them, their family and their command,” he added.

The IA honorees served in deployments in Afghanistan, Djibouti, Kuwait and the United Arab Emirates.

### Santa Clara Valley Fetes 60th Anniversary

Members of the Santa Clara Valley, Calif., Council celebrated the 60th anniversary of the council’s chartering March 2 at the Moffett Field Historical Society Museum in Mountain View.

Navy League members, some active for 50 years, and officers and chief petty officers from the council’s supported commands attended the event, according to **Council President Tom Winant**.

The council, which was established March 2, 1953, began a Sailor of the Month and Sailor of the Year program at Naval Air Station Moffett Field in 1969, and formally adopted the Air Station in 1983, Winant said. Even with the decommissioning of the base, and disestablishments of the remaining squadrons in 1993, the council continues to support the Sailors, Coast Guard men and women, and Marines from Coast Guard Air Station San Francisco; the Coast Guard Cutter *Pike*; the Coast Guard Cutter *Stratton*, in conjunction with the Lake Merritt Council; Strategic Systems Programs in Sunnyvale; Navy Recruiting Command, San

Francisco; Navy Operational Support Center, San Jose; and the guided-missile destroyer USS *Kidd*, which is homeported in San Diego.

The first guest speaker at the anniversary event, Coast Guard **Rear Adm. Joseph R. Castillo**, deputy commander, Pacific Area, addressed the need to adapt to the materiel challenges and reductions in personnel billets facing the Coast Guard from the financial cuts of sequestration. He reported that the quality of personnel serving in the Coast Guard is the highest it has ever been.

The Coast Guard Academy now has the highest number of women and minorities attending in its history, he said.

“A diverse workforce, both officers and enlisted, is essential in this day and age,” Castillo said.

The second speaker was **Dale A. Lumme**, the Navy League’s national executive director, who flew to the West Coast for the event. He began his remarks by speaking of the many humanitarian and security activities performed by the Coast Guard each year, which would be reduced by cuts caused by sequestration.



COURTESY OF WILLIAM SCHULTZ

Navy League National Executive Director Dale A. Lumme cuts the cake during the Santa Clara Valley, Calif., Council’s 60th anniversary celebration March 2 at the Moffett Field Historical Society Museum. Looking on from the left are Council Treasurer William Schultz, National Director Emeritus Greg Vistica, National Director Donald Hale and, at right, Council President Tom Winant.



COURTESY OF WILLIAM SCHULTZ

Coast Guard Rear Adm. Joseph R. Castillo, deputy commander, Pacific Area, speaks during the Santa Clara Valley Council's 60th anniversary celebration.

As he spoke, he showed newspaper editorials about the effects of sequestration, and cited the impacts to readiness, national security and, more importantly, on service families. Lumme concluded by saying that the arbitrary cuts mandated by sequestration are not sensible, that Congress should at least allow the service leaders to make the cuts in ways that cause the least damage.

Closing the ceremony, Castillo and a group of service members, and council members and guests, each cut ceremonial cakes. The service members cut a cake decorated with the Navy League's legacy logo, the Navy Leaguers cut another featuring the new "slant anchor" logo. Each cake bore the inscription "Congratulations Santa Clara Valley Council" with the dates 1953 and 2013 flanking the logo.

### Daytona Beach Hosts Gettysburg CO, Sailors of the Quarter

The Daytona Beach Council was able to welcome some unexpected guests to its monthly luncheon Feb. 22, when it was joined by the commanding officer (CO) of the guided-missile cruiser USS *Gettysburg* and several members of his crew.

The ship and its 350 crew members had been scheduled to sail from Mayport, Fla., for the Middle East on Feb. 8, but the deployment with the USS *Harry S. Truman* Carrier Strike Group was postponed two days before departure in preparation for the sequester-related budget cuts that went into effect March 1. The ship now is slated to deploy in June.

With the ship still in port, Capt. Robert N. Hein was able to attend at the council lunch at the Halifax River Yacht Club, and the council was able to honor the ship's Sailors of the Quarter in person. Those honored were: Blue Jacket of the First Quarter **Commissaryman Seaman Magnum Silver**; Junior Sailor of the First Quarter **Ship's Serviceman 2nd Class Purnell Richardson**; and Senior Sailor of the First Quarter **Logistics Specialist 1st Class Shannah Joseph**.

Silver and Richardson were presented with plaques and \$100. Joseph received a plaque and letters of congratulations from U.S. Sens. **Bill Nelson**, D-Fla., and **Marco Rubio**, R-Fla., as well as U.S. Rep. **Ron DeSantis** and Jacksonville Mayor **Alvin Brown**.

A report on the lunch in the council's *Anchor Line* newsletter noted,

"While the last-minute change to the ship schedule was hard on the crew after so much hard work to prepare for deployment, it was great to hear how well the crew flexed, and to get Capt. Hein's perspective on the congressional impasse.

"Most special was being able to present awards to the best of the best from the ship, as well as say farewell to Capt. Hein ... who expects change of duty station orders at any time."

### NOVA Council Honors Marines

The Northern Virginia (NOVA) Council presented quarterly and annual awards at its meeting at Navy League Headquarters in Arlington, Va., March 13. Council President **Michael Schlitzer** presented the honors to two Marines from Headquarters and Service Battalion, Marine Corps Headquarters, Henderson Hall, Va.

A check for \$100 and a NOVA Council challenge coin were presented to Lance Cpl. **Juan Rodriguez**, Marine of the Fourth Quarter 2012. A check for \$100 and a NOVA Council challenge coin were presented to Sgt. **Monica**



DUANE WILLS

From the left, Marine Sgt. Monica Mendoza and Lance Cpl. Juan Rodriguez stand with Vice Adm. Robin R. Braun, chief of Navy Reserve, during the Northern Virginia Council's March 13 meeting at Navy League Headquarters. Mendoza was honored as Noncommissioned Officer of the Year 2012 as well as Noncommissioned Officer of the Fourth Quarter during the event. Rodriguez was honored as Marine of the Fourth Quarter 2012.

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Mendoza, Noncommissioned Officer of the Fourth Quarter 2012. Mendoza received a second check for \$300 for Noncommissioned Officer of the Year 2012.

Vice Adm. Robin R. Braun, chief of Navy Reserve, was the featured speaker at the event, and special guests included retired Navy Vice Adm. Melvin G. Williams Jr. and

Navy League National President Philip L. Dunmire. Williams administered the oath of office to NOVA Council's 2013 slate of officers and directors.

Dunmire charged each of the officers and directors to continue their support of Sea Service members, and continue their efforts to educate the public and elected rep-

resentatives of the need for strong Sea Services. He also mentioned the Navy League's support of youth groups, especially the Naval Sea Cadet Corps.

Also on the program was retired Navy Capt. John Frank Gamboa, who reminded the audience of the 68th anniversary of the U.S. invasion of Iwo Jima in February 1945.

## MEMBERSHIP REPORT

### TOP INDIVIDUAL RECRUITERS FOR MARCH 2013

RECRUITER	COUNCILS	POINTS
Carlyle Devoe	Honolulu, HI	16
Dick Messbarger	Kingsville, TX	14
Lisa Gallinat	Imperial Valley, CA	12
Jay Lott	San Diego, CA	6
Roger Olsen	Tacoma, WA	6
Skip Witunski	Tampa, FL	6
James Erlinger	St. Louis, MO	4
June Moore	Sarasota-Manatee, FL	4
Frederick Orton	Coronado, CA	4
Oscar Romano	Fort Lauderdale, FL	4
Brenda Blalock	Santa Barbara, CA	3
Kathleen Yabsley	Santa Barbara, CA	3

### 2013 TOP INDIVIDUAL RECRUITERS THROUGH MARCH 2013

RECRUITERS	COUNCILS	POINTS
David Rucker	Thailand Southern Seaboard	38
Dick Messbarger	Kingsville, TX	29
Carlyle Devoe	Honolulu, HI	16
Lisa Gallinat	Imperial Valley, CA	13
Jay Lott	San Diego, CA	13
Skip Witunski	Tampa, FL	8
William Kuypers	Metropolitan Detroit, MI	7
Roger Olsen	Tacoma, WA	7
William Dudley	St. Augustine, FL	6
Walter Reese	Santa Rosa, FL	6
Kathleen Yabsley	Santa Barbara, CA	6
Kenneth Lee	Palm Beach, FL	5
Frederick Orton	Coronado, CA	5
Maryellen Baldwin	Hampton Roads, VA	4
David Burch	Camden-Kings Bay, GA	4
Eileen Civitillo	Vieques, PR	4
James Erlinger	St. Louis, MO	4
Richard Foster	Hilton Head Island, SC	4
Bob Kidd	Fort Lauderdale, FL	4
Thomas McGuire	Meridian Area, MS	4
June Moore	Sarasota-Manatee, FL	4
Bonnie Potter	Placer County, CA	4
Simone Ramos	Broward County, FL	4
Oscar Romano	Fort Lauderdale, FL	4
Michael Slein	Newport County, RI	4
Patricia Westberg	Santa Barbara, CA	4
Doyle Wilhite	St. Louis, MO	4
Suzy Williams	Corpus Christi, TX	4

### TOP COUNCIL RECRUITER POINTS FOR 2013

COUNCILS	POINTS
Thailand Southern Seaboard	38
Kingsville, TX	31
National Capital, DC	24
Honolulu, HI	21
San Diego, CA	20
Santa Barbara, CA	17
Fort Lauderdale, FL	13
Imperial Valley, CA	13
Key West, FL	11
Bremerton-Olympic Peninsula, WA	10
Metropolitan Detroit, MI	10
Palm Beach, FL	10
Tampa, FL	10
Broward County, FL	9
St. Louis, MO	9
Vieques, PR	9
Camden-Kings Bay, GA	8
St. Augustine, FL	8
Newport County, RI	7
Sarasota-Manatee, FL	7
St. Maarten	7
Tacoma, WA	7
Coronado, CA	6
Madison, WI	6
Santa Rosa County, CA	6
Corpus Christi, TX	5
Hampton Roads, VA	5
Hilton Head Island, SC	5
Jacksonville, FL	5
Meridian Area, MS	5
New Mexico, NM	5
Savannah, GA	5
Anchorage, AK	4
La Crosse, WI	4
Long Beach, CA	4
Massachusetts Bay, MA	4
Northern Virginia, VA	4
Placer County, CA	4
Seattle, WA	4

### WELCOME ABOARD TO THE FOLLOWING NEW COMMUNITY AFFILIATE MEMBERS

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KARIM ADDA

Members of the French Riviera-Monaco Council unveil the council banner aboard the aircraft carrier USS *Dwight D. Eisenhower* during a ship visit in Marseille, France, March 8. The carrier made a three-day port visit in Marseille on the way to its scheduled deployment in the U.S. Fifth and Sixth Fleet areas of responsibility.

## Short Bursts

■ Navy League National President-elect **James H. Offutt** was on hand at the Richmond, Va., Council's annual meeting Feb. 12 to swear in the council's new slate of officers and directors. Offutt administered the oath of office to the council leadership, which included **President R. Milton Owen**, who will be serving his second term. Offutt also addressed the gathering, speaking of his desire to establish closer liaison work with local councils at national headquarters. Offutt, who was elected during the Navy League Board of Directors meeting in October, is slated to take office during the national convention in June in Long Beach, Calif.

■ **Retired Adm. Walter F. Doran** was the guest speaker at the March 13 meeting of the Navy League's Williamsburg-Yorktown, Va., Council, at the Port of York Club at U.S. Coast Guard Training Station, Yorktown. A Williamsburg resident, Doran was commander of U.S. Pacific Fleet from 2002 to 2005 and president of Raytheon Asia. He presented an overview of the Asia-Pacific region, and its strategic importance to U.S. foreign policy and the nation's economic and security interests, according to **Council President Norbert F. Smith**. ■

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■ We of the Navy League of the United States stand for a strong America — a nation morally, economically, and internally strong.

■ We believe that the security of our nation and of the people of the world demands a well-balanced, integrated, mobile American defense team, of which a strong Navy, Marine Corps, Coast Guard, and Merchant Marine are indispensable parts.

■ We support all Armed Services to the end that each may make its appropriate contribution to the national security.

■ We know that in a free nation an informed public is indispensable to national security and, therefore, we will strive to keep the nation alert to dangers which threaten — both from without and within.

■ We favor appropriations for each of the Armed Services, adequate for national security, economically administered.

■ We oppose any usurpation of the Congress's constitutional authority over the Armed Services.

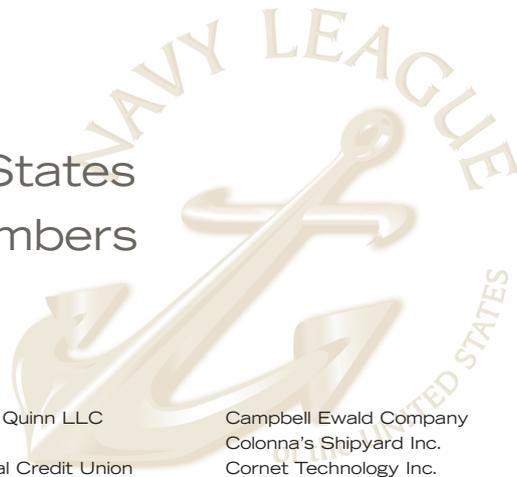
■ We urge that our country maintain world leadership in scientific research and development.

■ We support industrial preparedness, planning, production.

■ We support efforts of our government to achieve worldwide peace through international cooperation.

■ We advocate a foreign policy which will avoid wars — if possible; if not, win them!

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- **Interview:** Industry leaders discuss the effects of sequestration, the continuing resolution and the 2014 budget.
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# Coast Guard Reserve Force Master Chief Mark H. Allen



U.S. COAST GUARD

I am the fifth person to hold my current position and I can honestly say it's been a blessing, as I love the opportunity to engage with the Reservists in the field directly and via our Command Master Chief network.

In my assignment I am responsible for several tasks, including helping Reservists become proficient in their duties, celebrate any success they have, learn about the obstacles they face to achieving the mission and create policy for the service.

A lot of the work I do — the long hours, traveling, writing policy, changing laws, meeting with families — I don't consider physically hard, but it can get hard when we lose a service or family member, especially through suicide or operationally. Suicide is hard because it is final and there is nothing we can do about it. Right now, my office is working on ways to prevent it and what steps need to take place with families if it does occur.

There are roughly 8,000 Reservists, and we try to teach them to have a family culture and be able to lean on anyone at any time. This type of culture surprised me at first, when I joined 36 years ago, and it's really different than a lot of federal agencies, but it's nice to know I will have always have someone there for me.

I first joined when I was 18 years old. It was a mix between patriotism and wanting to serve. I didn't have a particular branch in mind, so my brother-in-law, who was a Coast Guard Reservist, introduced me to his shipmates and showed me the cutters. I was hooked. My first love ended up being search and rescue, but my second turned out to be law enforcement after I found it was more than what you simply saw on television.

It's been an exciting adventure and the Coast Guard has allowed me to see and do so much. I am a career Reservist and have been surprised at the amazing opportunity the service has provided me to not only grow, but grow at the rapid pace that I wanted to.

Coming into the Coast Guard I was an introvert, but now I am very much an extrovert and that's due to my time here. The diverse missions, the travel to foreign countries, working with other militaries and the Department of Defense, have all been things that are part of my Coast Guard journey.

My favorite job in the Coast Guard is my current one because I truly like interacting with our Coast Guard men and women and their families in the capacity that I do. Over my time in the service, though, I have been a boatswain's mate, served as a boarding team member, acted as a station officer in charge and had most of my tours on the East Coast. I love working on cutters, but I really love my current job.

I plan to retire next year, but I can honestly say I love working for the service every bit as much today as I did when I first enlisted. It's made me who I am and I have the Coast Guard to thank for that. ■

"I first joined when I was 18 years old. It was a mix between patriotism and wanting to serve. I didn't have a particular branch in mind, so my brother-in-law, who was a Coast Guard Reservist, introduced me to his shipmates and showed me the cutters. I was hooked."



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