

Navy Closing in on Training Copter Award



Leonardo's TH-119 is in the running for the Navy's new training helicopter. Leonardo-Finmeccanica NATIONAL HARBOR, Md. – The Navy is on track to award a contract for its new training helicopter by the end of this calendar year, and Leonardo Helicopters believes it is in a great position to win that competition, Andrew Gappy, director of the firm's Navy and Marine Corps programs, said May 7.

Leonardo is offering the TH-119, a modified version of its widely used commercial helicopter, which is serving as a trainer for the Portuguese Air Force and Israel, Gappy said. A former Marine helicopter pilot, Gappy said the 119 has the advantage of being the only one of the three competitors that is made in America, at Leonardo's full-service plant in Philadelphia. It also has a rugged, nearly all metal airframe that can take the rough handling commonly endured by training aircraft and has a single engine, which will reduce the long-term maintenance and operating cost, he said.

Also competing to replace the Navy's current TH-57, which is used to train helicopter pilots for the Navy, Marine Corps and Coast Guard, are Airbus, with its

twin-engine

H-235P3, and Bell Helicopters, with the 407 GXi, an updated version of the Bell 206, which was the basis for the TH-57.

Gappy said all

three firms have submitted their proposals, which are being evaluated by the

Navy. The contract required an in-service helicopter, a ground training system

and a long-term sustainment proposal with projected cost. The winner will

produce 130 aircraft in five years, with the first five due by the end of the

fiscal 2020.

Gappy said the

TH-119 proposal was crafted with input from a team of former military

helicopter pilots. It is the highest power-rated single-engine helo in the

U.S., meets all of the Navy's requirement and offers a low sustainment cost.

"It's not just what the airplane can do; it's the affordability of the airplane," he said.

Coast Guard, MARAD Budget Worries Still Acute While

Navy, Marine Concerns Eased in 2018-19



Panelists at the Sea Service Update program May 7 at Sea-Air-Space 2019. Charles Fazio

NATIONAL HARBOR,

Md. – As the naval services tackle the overlapping challenges of trying to

restore their readiness while preparing for a new era of “Great Power Competition,”

perhaps their biggest concerns are receiving adequate funding and recruiting

and retaining the talented personnel they need in the midst of a robust

national economy with low unemployment.

While the money

concerns are high for the U.S. Navy and the Marine Corps, after several years

of constrained budgets, the problem is more acute for the U.S. Coast Guard and

the U.S. Maritime Administration, which have not benefited as much from the

last two years of increased funding, officials from those services said in a May

7 session at Navy League’s Sea-Air-Space exposition.

The Navy’s biggest

challenge is “maintaining stable and predictable budgets,” said Rear Adm. John

Nowell, director of military personnel plans and policy on the Navy staff.

Compared to low

readiness the Navy endured in 2017 after several lean years,

“with the money

Congress has provided since then, we have been able to get at”
the readiness low

with higher operating hours, more maintenance and beginning to
fill the manning
gaps at sea, he said.

“I wish I had the budget environment you described.”

Rear Adm. Linda Fagan, commander, Coast Guard Pacific Region

Brig. Gen.

Christian Wortman, commander of the Marine Corps Warfighting
Laboratory, said

the Corps was challenged in maintaining the high personnel
readiness it needed

because of the intense deployment rate of its small force, but
was “seeing the

results” in better equipment readiness due to the budget gains
in fiscal years

2018 and 2019.

But sustained

funding improvement was needed to support the modernization
that would provide

future readiness required to face the Great Power Competition,
he said.

“I wish I had the

budget environment you described,” said Rear Adm. Linda Fagan,
commander of the

Coast Guard Pacific Region. Because the Coast Guard is part of
the U.S.

Department of Homeland Security, it hasn’t enjoyed the budget
boost the branches

under the Defense Department received the last two years,
Fagan noted.

She cited a \$1.7 billion backlog in facility repairs as a readiness issue and the “erosion of buying power every year” from constrained funding. “It is absolutely critical to stop the erosion of readiness we see today,” Fagan said.0

Shashi Kumar, deputy administrator of the Maritime Administration, noted the badly aged fleet of sealift ships that would be essential to supporting any major crisis deployment of U.S. forces, a shrinking number of commercial vessels MARAD leases and the growing shortage of qualified civilian mariners to operate those ships. He also worried about the rising cost of maintaining the ancient ships with limited funding.

All of the officials expressed personnel concerns – which for the Navy, Marine Corps and Coast Guard primarily involve attracting young Americans with the intelligence and technical skills needed for the new era of high-tech warfare when the small numbers of those who can qualify for military service are in high demand in the private sector.

Fagan said the Coast Guard can recruit the talented and diverse personnel it needs but has trouble retaining its female workforce. Nowell said the Navy still needs to fill 6,000 billets at sea, less than half its shortfall two years ago. Wortman

said the Marines Corps has been able to sign up the 38,000 recruits it needs each year but is challenged to retain those with the unique skills – such as cyber – because of the higher pay that private industry can offer.

Kumar said MARAD's problems in finding and keeping qualified civilian mariners is aggravated by the shrinking American-flagged commercial fleet and the fact that much of the government fleet was on standby most of the time, limiting the trained personnel's ability to stay current.

Unmanned Systems Cited as Key by Future of Aviation Panelists



The Navy has previously teamed the MQ-8 Fire Scout UAS and MH-60s helicopters in a squadron. Northrop Grumman.

NATIONAL HARBOR, Md.

– Future naval aviation will benefit from the fifth-generation F-35s, manned-unmanned teaming and the possibility of greatly enhanced rotary wing aircraft being developed under the Future Vertical Lift (FVL) program, a panel of Navy, Marine Corps and Coast Guard officials said.

The naval services also are focusing on improving the readiness of their existing aircraft, and some types of aircraft are coming close to meeting the 80% readiness goal set by former Defense Secretary Jim Mattis, the officials told a forum on the future of naval aviation at the Navy League's annual Sea-Air-Space exposition May 6.

Lt. Gen. Steven Rudder, deputy Marine Corps commandant for aviation, said the Corps' legacy FA-18 Hornets hit the 80% readiness mark last week and were maintaining availabilities in the high 70% rate. And the Corps' new F-35Bs were operating in the 70% range during their recent deployments in the western Pacific, Rudder said.

Angie Knappenberger, deputy director for naval warfare, said the Navy conducted a study to determine what would be needed to improve readiness and found that "we wouldn't get there unless we changed our processes." They have had to improve their support infrastructure, which had suffered from the years of reduced funding under sequestration and on the spare parts supply system, she said.

Looking to the future, Rudder, Knappenberger and Vice Adm. Daniel Abel, the Coast Guard deputy commandant for operations and a veteran helicopter pilot, all

cited unmanned
systems they were looking to add.

“Autonomy is
really hard, but there are some things you can do,” and they
are seeing a lot
of focus on manned-unmanned teaming, Knappenberger said. She
cited the Navy’s
teaming of the MQ-8 Fire Scout UAS and MH-60s helicopters in a
squadron and
will do the same thing with the MQ-4C Triton long-range UAS
and the P-8A patrol
aircraft.

Rudder said the
Marines were narrowing their focus on requirements for their
primary unmanned
aircraft program, the Marine Air-Ground Task Force Unmanned
Expeditionary
system, commonly called MUX, which is to be a large Group 5
rotary-wing UAS
that can operate from amphibious ships. After initially
looking at a wide range
of capabilities, including strike, the Marines currently are
leaning toward an
early warning platform that could provide over-the-horizon
surveillance and
network communications for the expeditionary task forces.

Rudder said the
Marines also are closely monitoring the Army-led FVL program,
which is intended
to produce a rotary-wing manned aircraft with much higher
speed and range than
current helicopters. Although the two prototypes being
produced for the FVL
program are a composite helicopter and a tilt-rotor, Rudder
said the Marines’

preference is a tilt-rotor because they know their tilt-rotor MV-22 Ospreys are fast and they want something that can keep up with them.

Abel said the Coast Guard has been testing contractor-operated Scan Eagle UAS on their national security cutters and are looking at other unmanned systems.

Newport News to Utilize Unique Schedule on JFK, New Cost-Saving Contract on Two More Carriers



The final piece of the underwater hull of the future aircraft carrier USS John F. Kennedy is lowered into place last year at Huntington Ingalls Industries' Newport News Shipbuilding. Matt Hildreth/HII

NATIONAL HARBOR, Md. – The combination of a two-ship purchase and investments in new technologies and facilities at the Newport News shipyard will enable the U.S. Navy to obtain future aircraft carriers with increased survivability and lethality at much lower cost, the carrier program manager said on May 6.

The future Gerald R. Ford class of nuclear-powered carriers will provide the increased capabilities needed in the era of “Great Power Competition” – and the two-ship

contract will save an estimated \$4 billion, program manager Capt. Philip Malone told a Naval Sea Systems Command briefing at the Navy League's annual Sea-Air-Space exposition here.

Malone is responsible for the next three of the Ford-class ships, CVN-79, the future John F. Kennedy, which is under construction, and CVNs 80 and 81, which will be produced under the dual-ship contract signed in January.

In addition to the \$4 billion estimated savings from that contract, Malone said those two ships will benefit from the use of an integrated digital shipbuilding system. Newport News is adopting shipyard improvements that will allow major reductions in the man hours required.

CVNs 80 and 81 also will be built with greater survivability and lethality from an advanced radar, greater electrical power generation, integration of the fifth-generation F-35C Lighting II joint strike fighters and increased aircraft sortie rate over the legacy Nimitz class carriers, he said.

Malone said the Navy will acquire the Kennedy under a unique two-phase delivery, with the first phase providing a carrier that can test its aircraft launch and recovery systems and basic ship functions followed by a second phase that will install

the advanced air surveillance radar and other combat systems. The unusual delivery process was necessary to have Kennedy operational in time to replace the Nimitz, which will hit its 50-year service life later this decade, he explained.

Malone cited Newport News' investments in the digital or 3D computerized shipbuilding process and in new facilities that will enable more ship components to be produced out of the weather. Those improvements were made with monetary incentives from the Navy and will sharply reduce the hours required to build the ships, he said.

Service Chiefs Tout Agility, but MARAD in Need of Funding to Flex Muscle



The sea services chiefs (from left) – U.S. Navy CNO Adm. John M. Richardson, Marine Corps Commandant Gen. Robert B. Neller, Coast Guard Commandant Adm. Karl Schultz and Rear Adm. Mark Buzby of the U.S. Maritime Administration – during their panel discussion May 6 at Sea-Air-Space 2019. Lisa Nipp
NATIONAL HARBOR, Md. – The sudden order to send the Abraham Lincoln carrier strike group to the U.S. Central Command theater in response to threats from Iran is a great example of

the value of the Navy's dynamic deployment concept, Chief of Naval Operations Adm. John M. Richardson said at the Navy League's Sea-Air-Space 2019 exposition.

Although the Lincoln's deployment into the Mediterranean had been planned, "this is a great demonstration of what we've been working on, dynamic deployment," Richardson said May 6. Naval maneuver forces are "dynamic by design," but Richardson said he found it encouraging that if the national command authority needed the Lincoln strike group to go to the Middle East it can do so immediately.

At the opening session of the Navy League's annual Sea-Air-Space exposition, Richardson responded to a question about National Security Advisor John Bolton's announcement that the administration had ordered the Lincoln and its escorts to cut short its planned Mediterranean exercise and sail to the Persian Gulf region after warnings that Iran may be planning attacks on U.S. forces. Bolton said an Air Force bomber unit also was being sent to the region.



The sea services chiefs at their panel discussion at SAS. Lisa Nipp Asked how the Navy would respond to President Donald Trump's decision to reverse the 2020 budget proposal to skip the mid-life refueling of the aircraft carrier Harry S.

Truman, Richardson noted that he had told Congress, which has opposed the decision, that the Truman's early retirement was reversible. "Now we will have to find the resources going forward," to invest in the new technologies, such as unmanned systems, that were to be funded with money saved from retiring Truman.

Appearing on the same panel, Marine Corps Commandant Gen. Robert B. Neller agreed with Richardson that the challenge of effective leaders was to anticipate the need to change their organizations and policies, rather than waiting to respond to a disaster. Neller cited the changes the Marines are making to respond to the growing threats of cyber and electronic warfare attacks from peer competitors as an example. The first shot of a major conflict would be against the networks and the U.S. forces must prepare to operate without the assured communications they have become accustomed to, Neller said.

"This is a great demonstration of what we've been working on, dynamic deployment."

Chief of Naval Operations Adm. John M. Richardson

Also on the panel, Coast Guard Commandant Adm. Karl Schultz said his service was engaging in more national security operations, such as the recent freedom of navigation

transit of the Taiwan Straits, in addition to its heavy load of maritime security and safety missions. Schultz said the Coast Guard was looking forward to getting its first new Arctic icebreaker and hoped to get initial funding for a second one in the fiscal 2021 budget.

Retired Rear Adm.

Mark Busby, administrator of the Maritime Administration, said the materiel readiness of his 46 sealift vessels, which have an average age of 44 years, had gotten a bit worse since his warnings last year. Busby was hopeful Congress would fund the three-part program MARAD and the Navy have urged to modernize his fleet by updating some ships, buying some newer commercial ships and building a small number of vessels. Asked about the threat to global shipbuilding industry from China's rapidly growing ship production capabilities, Busby said U.S. shipbuilding survived only due to Navy production and commercial ships for the Jones Act, which required U.S. built ships for commerce between U.S. ports.

DARPA Director Praises Navy's

Aggressive Use of Autonomous Sea Hunter



Sea Hunter is moored at Joint Base Pearl Harbor-Hickam, Hawaii. The director of DARPA on May 1 praised the Navy's aggressive use of the unmanned surface vessel. Mass Communication Specialist 1st Class Nathan Laird The director of the nation's premier government innovation organization is excited about the U.S. Navy's aggressive use of an unmanned surface vessel to experiment with the military applications of advanced automation and artificial intelligence.

"The most exciting thing I'm really happy with the Navy right now is what they're doing with the Sea Hunter, which is an autonomous 132-foot surface ship that DARPA demonstrated a couple years ago," Steven H. Walker, director of the Defense Advanced Research Projects Agency, told a Defense Writers breakfast on May 1. "The Navy has really taken that and is using it and experimenting with it."

Walker cited Sea Hunter's voyage last fall from San Diego to Hawaii and back with no humans on board to control it, "which I think demonstrates the autonomous capability we put into that program."

"They're really interested in how that helps them with their distributed lethality program," and using Sea Hunter as "the basis for their medium-size and large-size unmanned surface vessels. I'm

really excited about
where they're taking that system."

The Navy is projecting unmanned vessels as a key element of its
future combat fleet and has proposed buying 10 "large"
unmanned ships over the
next five years. It has not defined the size and capabilities
of those vessels.

Although the Navy has not indicated whether it plans to test
weapons on Sea Hunter, the likelihood that some of its future
unmanned vessels
will be armed raises the controversial issue of what control
humans will have
over weapon employment by autonomous platforms.



Sea Hunter completes an autonomous sail from San Diego to
Hawaii and back – the first ship ever to do so autonomously.
U.S. Navy photo
DARPA, which is pursuing advances in artificial intelligence
(AI),
studies the ethical issue of weaponized unmanned systems.

"I think it's still important to have that lethal decision
rest
with the human," Walker said. But, he noted, "Sea Hunter has a
lot of potential
uses that don't involve weaponizing it," such as mine
countermeasures and as a
sensor.

"The key to autonomy, particularly in the ocean, is getting
out
and experimenting, testing how these things work," which was
why he was so
pleased with the Navy's use of Sea Hunter.

Much of Walker's discussion with defense reporters focused on DARPA's work on AI, which it has been doing for 50 years.

"Sea Hunter has a lot of potential uses that don't involve weaponizing it."

DARPA director Steven H. Walker

"We're pretty excited, not only by the latest advances in machine learning, but moving into what we call the third wave [of AI] – how humans and machines become partners. Not just using machines as tools but as partners," he said. "If we actually can build this team, you can think about all sorts of things that warfighters could do more effectively in a time of war."

Walker also discussed DARPA's work developing more powerful lasers in smaller packages and in moving hypersonic technology into useable weapon systems.

Having demonstrated solid state lasers, which while fairly powerful were "still pretty big," DARPA is focusing now on fiber lasers, which have the promise of even greater power in much smaller packages. Walker said he expected to fully demonstrate a high-powered fiber laser by the end of the year.

He said the first military application for those more powerful lasers "comes in ships and ground vehicles, where weight and size are not as big an issue. I think we're still a ways away from putting

these things on
airplanes.”

One of DARPA’s highest priorities is advancing hypersonic technology, which Walker said the United States led the world, but which “some of our adversaries” have turned into capabilities. Hypersonic generally is described as Mach 5 or faster. China and Russia have demonstrated different forms of hypersonic aircraft.

DARPA is working on two applications of hypersonic – a boost-glide missile, which is rocket-propelled to a high altitude then glides at hypersonic speeds to a target, and a propelled system that may use a rocket to get to hypersonic velocity then maintains that speed with some form of air-breathing engine, such as a scramjet.

He expected to fly each of those systems late this year or early in 2020.

“The advantage of hypersonics is not only the speed but the range and maneuverability,” Walker said.

Navy Leaders to Meet May 16 to Assess Sub Construction Delays, Columbia Class Schedule, Secretary Tells House Panel



An artist rendering of the future Columbia-class ballistic missile submarine. U.S. Navy leaders will meet with industry officials in May to examine how they can add more space in the tight schedule to build the first of the Columbia-class ballistic missile submarines, Navy Secretary Richard V. Spencer said. U.S. Navy illustration.

U.S. Navy leaders will meet with industry officials in May to examine how they can improve the increasingly challenged submarine

production program and try adding more space in the tight schedule to build the first of the Columbia-class ballistic missile submarines, Navy Secretary Richard V. Spencer said April 30.

The Navy would like to increase the production of its Virginia-class attack submarines from two a year to three to stop the decline in the already inadequate number of attack boats. But that pace is hampered by the fact that the two shipyards building those boats also are responsible for getting the Columbia class into service by 2031, when the Navy's Ohio-class boomers will be unable to continue their crucial strategic deterrence patrols, Spencer said.

"We do have concerns," Spencer told the House Appropriations Defense Subcommittee. To address those issues, the Navy will sit down with industry leaders May 16 to assess the sub construction yards and the supply chain and seek to "build in margin where we can" for the Columbia-class schedule.

"If we do not, it will run off the rails," Spencer said in response to questions from the panel responsible for providing the money the Navy Department will need for all its programs.

In addition to the questions the appropriators had about the Columbia class, the Navy's self-declared No. 1 procurement priority, the subcommittee's chairman, Rep. Pete Visclosky (D-Indiana), hounded the Navy

leaders on the chronic problems in submarine maintenance and acceptance of new warships with multiple material problems.

Visclosky pointed out that three of the older Los Angeles class attack submarines – Boise, Columbus and Hartford – are no longer certified to submerge because they have not received maintenance that is overdue. He emphasized that Boise was scheduled to go into the repair yard in 2013 but still is waiting for an opening.

And Visclosky was particularly troubled by the Navy failing to request funds to repair the three inoperable submarines in its regular fiscal 2020 budget request but added them to the unfunded requirements list.

Spencer and Chief of Naval Operations Adm. John M. Richardson conceded they were having trouble getting submarines into required maintenance, which was aggravating the inability to meet combatant commanders' requests for the attack boats, with some reports putting the shortfall as high as 50 percent.

The two Navy leaders argued that the submarine maintenance problem stemmed from the sharp reduction in funding during the years when the Budget Control Act forced sequestration.

But Visclosky replied that "sequestration happened some time ago" and Congress "provided a lot of money" the last two years.

Spencer said the shipyards cut their skilled work force during the lean years and are now working to replace those

workers and improve their aged facilities. He and Richardson emphasized the Navy's program to modernize the government-owned shipyards and to incentivize the private yards to also update and expand.

Visclosky also demanded the Navy provide details on the problem highlighted in a recent Government Accountability Office report showing a long list of new ships the Navy has accepted from the builders with a range of deficiencies. He stressed the aircraft carrier Gerald R. Ford (CVN-78), the first in its class of aircraft carriers, is not expected to be operational until 2023, nearly five years later than expected because of numerous construction deficiencies.

The chairman wanted to know how the cost of correcting those flaws was divided between the Navy and its contractors, noting that GAO indicated the government has been paying 96 percent. Spencer promised to provide the data.

CNO Warns Forum of Challenges of 'Great Power Competition'

With the return of the "Great Power Competition," the U.S. Navy's top officer on April 29 emphasized the need to

strengthen ties with allies and partner nations and to condition commanders to avoid turning at-sea incidents into major battles while giving them training that prepares them to fight those battles if necessary.

The Navy also must ensure it acquires new technologies that will win a future war, rather than preserving current capabilities, and that it conducts futuristic training to build a flexible and resilient force that can cope with the unexpected challenges of the future, Chief of Naval Operations Adm. John M. Richardson told the Future Security Forum in Washington, D.C.

“One thing that characterizes our view of success is how we move forward,” Richardson said. The worst thing the Navy could do is remain static, he said.

“What is more relevant for the future? Is it the Harry S. Truman or something else,” he said, noting that revolutionary technologies “are just around the corner.”

The CNO was responding to a question about the Navy’s fiscal 2020 proposal to retire the aircraft carrier Truman at midlife – rather than refueling her – to free up funds to develop the future technologies. That proposal is opposed by key leaders in Congress.

Asked how the Navy was preparing for the return of the “Great Power Competition” with an increasingly antagonistic Russia and rapidly modernizing China, Richardson said it was important to think of tensions in the Black Sea and the western Pacific as regional, not bilateral issues and to help “make all our allies and partners more resilient to this. ... How do we reply as an alliance, a team.”

He also stressed the need to be able to respond faster to the competitors’ actions and “to anticipate what the adversary is going to do, and not be reactive.”

Richardson said the Navy also spends a lot of time focusing on things that can happen at sea and doing everything it can “to mitigate the risk” of those contacts with Russian or Chinese ship escalating into a clash. That includes the protocols they have with China “on what to do when we meet at sea,” to communicate and not overreact.

He said he makes that point in his frequent contacts with his peers in the Chinese navy.

“If we don’t consider each other as enemies, don’t act as enemies” when meeting at sea, he said.

Asked if he was concerned that the Navy has not had to fight a major blue water battle since World War II, Richardson said “it’s a real challenge.” He said that he had a discussion of that issue during a recent visit to the Naval War College in Newport, Rhode Island, and during a dinner with a group of future ship commanders.

“It’s about training. How to make it as challenging, as demanding as possible,” and addressing the challenge of training commanders “to exercise the full scope of their authority.”

He also emphasized the need to use simulation and virtual reality to make training more realistic and to better train Sailors to prepare for the challenges of the future.

Sailors, Marines Head to Australia for 6 Months of

Intense Training, Exercises With Pacific-Area Allies, Partner Nations



U.S. Marines with Mike Battery, 3rd Battalion, 11th Marine Regiment, 1st Marine Division, fire an M777 Howitzer at known targets during training last August at Mount Bunday Training Area, Northern Territory, Australia, during MRF-D 2018. Credit: MARINE CORPS / Photo by Staff Sgt. Daniel Wetzel

A combined-arms task force of about 1,700 U.S. Marines and Sailors have deployed into Australia for six months of intensive training and an array of exercises that will involve contact with perhaps a dozen allies and friendly nations in strategically vital Southeast Asia and the southern Pacific.

The deployment, called Marine Rotation Force-Darwin (MRF-D) 2019, will provide the Marine Air Ground Task Force (MAGTF) a smorgasbord of training – some in jungle and mountain terrain – practicing amphibious and humanitarian-assistance, disaster-relief operations and combined-arms, live-fire drills in a training area the size of Connecticut, said Marine Col. Charles A. Western, the liaison officer to Australian Defense Forces for Marine Forces Pacific.

Asked the value of the Darwin rotations, Western emphasized “readiness.”

Noting that he had made three deployments to Okinawa with an infantry battalion, he said, “When you go to Okinawa, you are at the top of your readiness spectrum when get there,” having conducted all the extensive pre-deployment training, including live-fire drills.

But in Okinawa “some of the training is circumscribed by what you can fire, by how big the training areas are,” Western

said.

What Darwin and the Northern Territory of Australia provides “is the ability to maintain that level of training when deployed, if not increase it. ... When they deploy here, along with the Australians, they focused on their training and their readiness. So, it’s really a great opportunity for them to come out here,” he added.

“Speaking from a tactical level, this is me with my Marine infantry hat on, the biggest reason for us to come to Australia is this big, huge training area – the Bradshaw Field Training Area.”

The MAGTF also will participate in numerous multilateral exercises along the northern and eastern coast of Australia and as far away as Thailand, building relations with close allies and partner nations, Western said.

“That’s one of the pillars of MRF-D, the multilateral engagement. We are arm-in-arm with the Australians in everything we do. And there are 10 or 11 multilateral events that we participate in while we’re here.”

The MRF-D deployments have gradually increased in size since the first Marine Rotation Force-Darwin in 2012, taking advantage of the extensive open area and established Australian bases in the sparsely populated Northern Territory and building on a century of close relations with the Australian military.

“Last year, 2018, was designated the Year of Mateship,” Western said, a play on the Australian habit of calling friends “mates.” Last year marked 100 years since U.S. troops fought alongside the Australian Army in World War I in Europe. “We’ve been shoulder-to-shoulder everywhere since.”

U.S. and Australian forces also fought together extensively in the southern Pacific during World War II and again in Korea,

Vietnam and some of the 21st-century fights against violent extremists.

MRF-D 2019 involves a MAGTF that consists of an aviation combat element (ACE), Medium Tilt-Rotor Squadron 363 from Kaneohe Bay, Hawaii; a ground combat element (GCE), 1st Battalion, 1st Marines; a logistical combat element (LCE); and a command element from Camp Pendleton, California, Western said.

VMM-363, a MV-22B squadron with 10 tilt-rotor Ospreys, will be augmented by four AH-1Z Viper attack helicopters and three UH-1Y Venom utility choppers.

The force of 1,705 Marines and Navy support personnel, such as doctors, nurses, medical corpsmen and chaplains, may be augmented by additional Marines for Exercise Koolendong, the capstone event at the end of the rotation, he said.

U.S. forces began arriving in April and will depart in October.



Capt. Benjamin J. O'Donnell, an infantry officer with 2nd Battalion, 4th Marine Regiment, 1st Marine Division, views targets while providing indirect fire support from M777 artillery, 81 mm mortars and close air support during training last year at Mount Bunday Training Area, Northern Territory, Australia, during Marine Rotation Force Darwin 2018. Credit: MARINE CORPS / Photo by Staff Sgt. Daniel Wetzel

The GCE and LCE will be based initially at Robertson Barracks in Darwin and the ACE at Royal Australian Air Force Base Darwin. During the rotation, the Marines will conduct training and exercises at the Bradshaw and Mount Bundy training areas in Northern Territory, a jungle training area on the east coast, and at multiple other locations along the east coast for Talisman Saber 19 and other bilateral and multilateral events, Western said.

Talisman Saber is a U.S. Pacific Command exercise, held every two years, that will involve U.S. Navy ships, the MRF-D Marines, Australian, Japanese and Canadian forces and “a bunch of other nations participating,” Western explained.

“A big chunk of Talisman Saber is really about sea power, with the Marines and Australians and the Japanese Army amphibious forces.” U.S. Marines will embark on U.S. or Australian amphibious ships and conduct combined amphibious operations with the Australian landing forces.

“All the [U.S.] services are involved. It’s a joint and combined exercise with the Australians,” Western said. “So, the U.S. Air Force is coming down.

“The MRF-D is really just a small part of that,” he said, providing forces to the Okinawa-based III Marine Expeditionary Force, which will command the combined landing force.

MRF-D also will participate in exercise Southern Jackeroon, which will be conducted in the Australian training area, with Australian, Japanese and U.S. Army elements, Western said. They also will provide some subject matter expertise in engineering to the Australians, “a train-the-trainer kind of thing. And we are participating aboard the HMAS Canberra, one of their LHDs [amphibious assault ships] in an exercise in Thailand.

“We are providing some Marines to PacFleet for one of their CARAT exercises, which goes throughout the Pacific area,” he added.

CARAT, or Cooperation Afloat Readiness and Training, is an annual series of bilateral exercises conducted by the Pacific Fleet with countries of the Association of Southeast Asian Nations (ASEAN). Bangladesh, Brunei, Cambodia, Indonesia, Malaysia, the Philippines, Singapore, Sri Lanka and Thailand have participated in previous CARATs.

Other multilateral exercises the Marines will participate in include Exercise Carabaroo, with the Philippines and Australia; Southern Jackaroo, with Japan and Australia; and Indo-Pacific Endeavor, Western said. Carabaroo, which combines the names of the Philippine carabao and the Australian kangaroo, is an urban warfare training exercise conducted in Australia.

Marine Corps Commandant Gen. Robert B. Neller said in a March 18 memo to Navy Secretary Richard V. Spencer that the unbudgeted assignment of Marines to the Mexican border, the unfunded Pentagon-directed force increase for MRF-D, the need to repair more than \$1.7 billion in damage to two East Coast Marine bases and other unexpected activities are "imposing unacceptable risks to Marine Corps combat readiness and solvency."

The unexpected diversion of personnel and funds could force him to reduce support for Talisman Saber and cancel several planned international exercises, including two with Indonesia, Neller said in the March 18 memo.

Western said he is "tracking the possible impact of budget shortfalls. They will not affect the bulk of MRF-D that begins flowing in next month, just the possible Force Enhancement deployment of the Hawaii-based infantry battalion later in the summer."

Some of the MRF-D Marines will take advantage of their deployment to conduct training at the Australian jungle training center, experience that could be increasingly important given the growing focus on Asia.

"Koolendong is really our capstone exercise, a combined force exercise with the Australians," Western said. It comes at the end of the deployment, so they can demonstrate the skills built up during the six months in Australia, he said.

"We bring all elements of the MAGTF together to conduct a

live-fire exercise” in the vast Australian training area. “It’s an opportunity to do a MAGTF-level live-fire event,” something that is difficult to achieve in other training ranges.

Although Koolendong is conducted primarily with the Australians, French troops also will be involved, Western said. “They send a platoon out every year” from their base in New Caledonia, he said.

The level of international engagements by MRF-D is increased because Australia makes a point of inviting the militaries from nations in the region to participate in or observe their exercises with the U.S. forces, Western said.

“It’s their country, and we are more than willing to work with the Australians in their efforts to invite multiple countries to come down and participate. Every year, they have an international observers program in which they bring senior international military officers from the region down to Darwin to see what the Marine Corps and the Australians are doing. It is a bit of outreach,” he said. “Regional engagement is one of our pillars for the MRF-D program.” ■

U.S. Must Add Low-Yield Nuclear Arsenal to Counter Russian Upgrades, Joint Chiefs Vice Chairman Tells

Conference

ARLINGTON, Virginia – The United States' ability to deter a strategic nuclear attack is being eroded by Russia's fielding of new types of weapons, and the U.S. must respond with new nuclear systems, which may include a sea-launched, nuclear-armed cruise missile, the country's second highest military officer said April 25.

"Our strategic deterrence is threatened by new classes of weapons. We have to address that," said Air Force Gen. Paul J. Selva, the vice chairman of the Joint Chiefs of Staff.

One of the weapons that must be matched is the arsenal of low-yield nuclear warheads that Russian President Vladimir Putin has mentioned in a several provocative speeches, Selva said.

Although Russia has had low-yield nuclear weapons for decades, what is new is Russia's recently stated strategy of using them early in a conflict to force the United States to capitulate rather than replying with the high-power strategic weapons, Selva said. "They call that escalate to de-escalate. That's inherently destabilizing."

"Until a few months ago, we didn't possess a similar low-yield nuclear weapon with which to match that threat. We could only respond with a big one," he said. That is why last year's Nuclear Posture Review advocated producing lower-yield warheads, the first of which were completed recently.

Production of lower-yield nuclear warheads, which were phased out of the U.S. inventory after the end of the Cold War, was strongly attacked by opponents of nuclear weapons, who argued that such weapons could make it easier for a president to turn to atomic arms in a conflict.

Selva said: "If any competitor attacks us with a low-yield weapon, we have the option to reply in kind, which is

inherently de-escalatory.”

Asked how the new warheads would be used, Selva said the preference was a sea-launched cruise missile, like nuclear-armed Tomahawk land attack missiles (TLAM) that were deployed on U.S. attack submarines during the Cold War, rather than strategic weapons launched from Ohio-class ballistic missile subs.

“Right now, we don’t possess a sea-launched cruise missile that has a nuclear warhead. We have advocated for it and are working on how we might regain a sea-launched cruise missile,” he said. That weapon “provides the capability to extend our deterrent umbrella over some of our Asian allies that we now have to use intercontinental-range systems.”

Selva, who is a key player in nearly all aspects of strategic weapons development and employment, devoted much of his keynote address to the Strategic Deterrence Coalition conference at the Key Bridge Marriott to the massive program of modernizing all elements of the strategic deterrent triad, which consists of the 14 Ohio-class subs and their Polaris missiles, B-52 bombers and land-based Minuteman III ICBMs.

“What is our backstop to all types of nuclear threat? It is our strategic triad, forces that are capable of replying to any use of nuclear weapons against the United States or its allies?” Selva said.

“We must maintain a credible, safe, secure, reliable nuclear arsenal until we can negotiate” a global agreement “to rid the world of nuclear weapons.”

But Selva said the military has “squeezed every bit of life out of” existing weapons and “left ourselves very little margin to be able to deliver the new systems to replace them.”

The Ohio-class submarines “will age out of the fleet by the time we bring in the Columbia class” that would replace them,

the B-52s would be nearly 90 years old when replaced by the new B-21s and the Minuteman missiles may need a fourth life extension, when only two were planned, he said.

Although Selva said the total program is estimated to cost \$320 billion over 10 years – a figure disputed by private and government analysts – at the peak the program would need “roughly 3.2 to 3.7 percent of the defense budget,” which he called “a bargain.”