



LISA NIPP

Air Force Gen. Darren W. McDew, commander, U.S. Transportation Command, delivers the keynote address at the Sea-Air-Space Luncheon.

Delivering 'Options'

McDew emphasizes role of U.S. TRANSCOM

By DAISY R. KHALIFA,
Seapower Special Correspondent

U.S. Air Force Gen. Darren W. McDew, commander, U.S. Transportation Command (TRANSCOM), told an audience of military, industry and maritime professionals that he believes he runs the best combatant command of the nine, regardless of its little known, if misunderstood, image.

"Some people in my headquarters, when I took command about 18 months ago, [thought] that we just deliver stuff," McDew told the audience at the Sea-Air-Space Luncheon April 4. "No, we deliver one thing: options. We deliver options for the president,

for the secretary of Defense, for this nation and our allies, and that is what makes us so powerful.

"There are nations in this world that can't project or sustain a force more than 90 miles outside their capital. We've been sustaining a force halfway around the world for 15 years. That is powerful," he said.

Though an Air Force general, McDew repeatedly noted the importance of understanding the maritime domain in the context of the nation's global military power and TRANSCOM's role.

"There are 140,000 people in this enterprise," he said. "We can deliver

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Day 3 Event Schedule

- 8 a.m.: Navy Office of Small Business Programs Forum opens, Potomac 1-2
- 8-8:30 a.m.: FST Keynote - "Acquisition Reform and American Jobs" w/U.S. Rep. Steve Knight, Cherry Blossom Ballroom
- 9-10:30 a.m.: Naval Warfare Integration and Interoperability, Potomac C
- 9:30 a.m.: Capt. Tony Rossi, P-8 and P-3 Program Updates, NAVAIR Booth 2327
- 9:30-10 a.m.: Ashley Johnson, "The Energetics Renaissance," NAVSEA Booth 1227
- 9:30-10:15 a.m.: Vice Adm. Michael Gilday, Fleet Cyber Command/U.S. Tenth Fleet Update, IW Pavilion Booth 2747
- 10:30 a.m.: Coast Guard UAS 101, USCG Booth 1031
- 10:30-11:15 a.m.: Margaret G. Palmieri, Digitizing the Navy, IW Pavilion Booth 2747
- 10:45 a.m.-12 p.m.: 21st Century Warfare: Improving Readiness Through Technology, Potomac C
- 10:45 a.m.-12 p.m.: Human Factors: How to Improve Combat Survivability, Potomac D
- 10:45-12 p.m.: Transforming the Future of Naval Shipbuilding, Potomac 3/4
- 11-11:30 a.m.: Frank M. Drennan, Lockheed Martin, The Latest in UUV Development, National Harbor 1
- 12:15-1:45 p.m.: Secretary of the Navy Luncheon & SAFETY Awards w/Acting Navy Secretary Sean J. Stackley, Potomac AB
- 3 p.m.: Exhibit hall closes

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NORTHROP GRUMMAN

Sustainment tail remains a question for naval aircraft

By EVAMARIE SOCHA, *Seapower* Special Correspondent

It's not being ready to fight, but how long naval aircraft could sustain in battle that concerns Marine Brig. Gen. Greg Masiello, Naval Air Systems Command (NAVAIR) assistant commander for Logistics and Industrial Operations (Air-6.0).

"I have a lot of faith in what we have," Masiello said April 4 following a briefing on NAVAIR's AIR 6.0 program at the expo, adding that it may sound clichéd, but "we have to be ready to fight tonight. Do we have the sustainment tail for a long or abbreviated battle" is the question his part of NAVAIR must answer.

Chief of Naval Operations Adm. John M. Richardson has told all naval commanders they should feel uncomfortable about the state of the force right now.

It's widely acknowledged military readiness isn't where it needs to be, Masiello said, noting he and other officers said as much during testimony on Capitol Hill last week.

But "we haven't lost our edge. Our readiness and fleet is not ideally positioned, but forces are ready if needed," he said.

AIR 6.0 is an effort that coordinates logistics support systems and sustainment of naval aviation and weapons systems worldwide using about 4,000 civilians and military personnel.

Being ready for global threats through maintenance and modernization is foremost on Masiello's agenda. To that end, he discussed the finer points of Vision 2020, a plan to improve readiness. He estimated naval aircraft is in the middle, or "proactive" stage, that includes additive manufacturing — using 3-D printers and tools for onsite product needs — budget alignment and NAVAIR's Vector program, a Web-based readiness analysis toolset that debuted in July and lets all working on naval air programs contribute to and see equipment status reports.

Procedures now in place include:

- An aircraft status dashboard that tells fleet members where every aircraft is and if it's flight ready or not and why.



KATE PATTERSON

Marine Brig. Gen. Greg Masiello speaks about Air 6.0 Tools and Resources during a presentation at the NAVAIR booth on the Sea-Air-Space exhibit floor April 4.

- An end-to-end supply map of what equipment and parts are ready for use.

- A supply and maintenance system that identifies trouble in equipment and machines in minutes rather than days.

Additive manufacturing has made a foothold in Masiello's world. He noted Naval Air Systems Command at Patuxent River, Md., used the technology to make small visor-support clips for headgear of the H-1 attack helicopter and "flight critical parts" for the MV-22 Osprey.

Such systems will get AIR 6.0 to the coveted "predictive" stage of Vision 2020, which will include readiness forecasting and predictive analytics, among other tools Masiello and company can use to assess the naval air needs and demands.

It is coming close. Condition-based maintenance is credited with sparing the H-1 program about \$40 million in repairs, 20 precondition landings and 7,000 hours of work. ■

From page 1

an immediate force, and that immediate force is the envy of everybody around the world. That is through our air assets. But, it is the decisive force that we deliver, and that is the ability to take the Army, in particular, to war. That is the maritime force. ... The power and influence that we have in the maritime domain, that responsibility, that overwhelming force of time and place makes us different than every other military in the world.

"Some people believe that we are the most powerful and respected military in the world because we have F-22s and F-35s. It is the strength of our logistics force," McDew said.

He said contested environments remain a key concern for TRANSCOM. "We haven't had to deal with a contested environment in 70-plus years. When was the last time we had

a challenge of any domain? It's been a while, and possibly much longer from a logistics side."

He said TRANSCOM has not deployed in some time, but has been in sustainment mode for 15 or 16 years. McDew noted that the role of the industrial base is critical in terms of reliance on commercial mariners and commercial vessels, what he calls his "fourth component."

"That industrial base of this nation ... is now part of national security," he said. "I cannot do my job and many people can't without the fourth component. With those folks, all the excess capacity is now there.

"We have got to work together, and we have to ask some hard questions about what that means for the fourth component and how do we prepare for a contested environment when I must use commercial mariners and commercial vessels to move the nation to war," he said. ■



LISA NIPP

Rear Adm. Timothy White, commander, U.S. Cyber National Mission Force, speaks during the “Cyber Operations in Sea Services” panel April 4. Joining him on the panel, from the left, are: Rear Adm. Kevin Lunday, commander, U.S. Coast Guard Cyber Command and assistant commandant for C4IT; Maj. Gen. Lori Reynolds, commander, Marine Forces Cyber Command; Vice Adm. Michael Gilday, U.S. Fleet Cyber Command/10th Fleet; and moderator Vice Adm. Jan Tighe, deputy chief of naval operations for Information Warfare and director of naval intelligence.

U.S. remains ‘broadly reactive’ to cyber threats

By WILLIAM MATTHEWS,
Seapower Special Correspondent

The four U.S. adversaries that the nation on which the nation is focusing its attention are being “thoughtful” and “purposeful” in their approach to developing cyber campaign aimed at the United States, the commander of the U.S. Cyber Mission Force said April 4.

Rear Adm. Timothy White, appearing on the “Cyber Operations in Sea Services” panel, also said, “One of the things that I’m interested in engaging with the audience today would be understanding how we move our posture as a nation from being broadly reactive to something where we are doing things as a result of our own campaign and our own planning efforts.”

Of our adversaries, he said, “We’ve organized our forces to focus on the four of the four plus one. That is commonly understood to be those things the DoD [Department of Defense] is organizing itself against. In my case that would always be the ability of a state actor to generate cyber power as an instrument of power counter to U.S. interests. So my attentions are squarely focused on Russia, China, North Korea and Iran.”

He noted that “they have as much access to the commercial sector and technology as we do. ... My sense of what nations are doing in this space is it’s more coordinated, it’s more interoperable, from their perspective, and it’s more structure and it’s more integrated. They are building what I would call campaigns, and they are being very thoughtful about it, they are purposeful in their approach, and there is some design that they are organizing themselves to do and I think that they are on the field in this space and we are figuring out how to get on that field.”

When asked to elaborate on the four threatening campaigns, White declined to describe the adversaries’ cyber capabilities or intentions. But he said the threat is persistent

and is aimed not just at the U.S. military, but also at the U.S. government and the commercial sector.

Vice Adm. Jan Tighe, deputy chief of naval operations for information warfare and naval intelligence chief, agreed that “deliberate campaigns are being carried out” against the United States, and added that U.S. cyber defenders may not be able to see the whole of the campaigns.

White commands a joint Cyber Mission Force and oversees 39 teams that operate in three “structured presentations,” he said, “a protection team, a support team and a mission team.” The teams have three missions: to defend military networks, support military commanders and, when asked, to defend U.S. critical infrastructure.

Against a constant barrage of cyber threats, the Navy appears to be making progress, said Vice Adm. Michael Gilday, chief of the Navy’s Fleet Cyber Command. The Navy has advanced from phase one, which focused on plugging cyber gaps and correcting weaknesses, to phase two, which includes discovering and testing technologies that will get ahead of the threat, he said.

But the Navy and Marine Corps have yet to solve the problem of attracting needed cyber personnel. Thus far, they are resisting the notion of non-standard recruiting.

The Marine Corps commandant asked his cyber commander, “Do they have to have purple hair and nose rings?” His answer was “no,” said Maj. Gen. Lori Reynolds, who heads the Marine Forces Cyber Command. The Corps still expects Marines, even cyber Marines, to be warriors first, she said.

The Navy, too, is wary of changing standards for cyber Sailors, said Gilday. It could, instead, rely more on civilians for cyber expertise. “You don’t have to wear the uniform to play the game,” he said.

The Navy could also develop cyber aptitude tests to find sailors who are already in uniform who have the skills and inclination to become cyber troops, he said. ■



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Lawmakers warn of harm another CR would do to DoD

By JOHN C. MARCARIO,
Seapower Special Correspondent

Lawmakers made pointed comments about a potential government shutdown, or even signing a short-term spending bill instead of a longer one later this month, during the Sea-Air-Space Congressional Breakfast April 4.

“We are starting to get antsy here,” said Rep. Joe Courtney, D-Conn., ranking member of the House Armed Services seapower and projection forces subcommittee.

The federal government’s temporary spending bill, a continuing resolution (CR), expires on April 28. The fiscal year ends five months later, meaning some type of action needs to take place prior to then, and a funding showdown in a divided Congress is brewing.

Courtney and subcommittee chairman Rep. Rob Wittman, R-Va., spent extensive time talking about the

downfalls of signing another CR, or having a shutdown similar to the one in 2013.

“If the CR passes, things that will happen will be very splashy and ugly. People will get a rude awakening. ... We need to avoid the ugly fallout,” Courtney said.

Wittman, however, said he believes there’s a better than 50/50 chance a budget gets passed, noting he’s hearing members have significant resistance to a CR. But getting a compromise across both sides of the aisle will be a challenge.

“The foundation is there to get this done,” he said.

The chairman said the Department of Defense (DoD) does not have an excess amount of time, or resources, and any handicap to their funding will exacerbate the challenges the services currently face.

“We don’t have the luxury of excess resources. We don’t have the luxury of time from concept to operation,” Wittman said. “We have to simplify things on the acquisition side. The world we live in today is a different world that existed in the past.”

Saying the Navy needs to continue to modernize, Wittman noted that it won’t get to President Donald Trump’s campaign promise of a 350-ship fleet if it doesn’t maintain the ships it has and understand the costs associated with it. There currently are 308 ships in the fleet.

Courtney said it will take a generational effort to boost the fleet to 350 ships, noting both Democrats and Republicans would have to work together over an extended period of time to support funding measurers.

“With the right strategy — and the right effort — you can do almost the near impossible,” he said.

In the interim, there is a learning curve for new members of Congress on naval issues, but getting them to understand the readiness and maintenance crises the department would face under another CR has been a particular challenge.

“I just don’t think you can adequately cover all the shortfalls across DoD with a CR,” Wittman said. ■



LISA NIPP

U.S. Rep. Joe Courtney, D-Conn., speaks during the Congressional Breakfast April 4 at the 2017 Sea-Air-Space Exposition. At his left is U.S. Rep. Rob Wittman, R-Va.

First Navy COD-version V-22 Osprey to be assigned to West Coast

By RICHARD R. BURGESS, *Seapower* Managing Editor

The carrier onboard delivery (COD) version of the V-22 Osprey will be based on the U.S. West Coast first, a program official said.

The CMV-22B, a modification of the Marine Corps’ MV-22B, will be based at Naval Air Station North Island, Calif., when the aircraft reaches initial operational capability in 2021. The new aircraft will then be assigned to Naval Station Norfolk, Va., Marine Col. Dan Robinson, the Navy’s Osprey program manager, told reporters during a briefing April 4.

The CVM-22B will replace the Navy’s fleet of C-2A Greyhound COD aircraft, a derivative of the E-2 Hawkeye airborne early warning aircraft. The Navy flies two C-2A squadrons that send detachments of two C-2As each on board deploying aircraft carriers.

Differences from the MV-22B include installation of a

high-frequency radio for long-range communications, a cabin public address system and an increased fuel capacity.

The Navy plans to procure 44 CMV-22Bs, with deliveries beginning in 2020. The Navy has had a long-standing program of record of 48 Ospreys, but only now with the CMV-22B is the Navy portion of the Osprey program coming to fruition.

Robinson said the V-22 program office is working toward a third multiyear procurement of the Osprey, in which the CMV-22 buy would be included, along with the Osprey order for Japan and any subsequent foreign customers.

The type wing — commander, Airborne Command Control and Logistics Wing Pacific — in charge of the Navy’s E-2 and C-2 units has established a detachment at Marine Corps Air Station New River, N.C., to lay the foundation for Navy crew training in the Osprey in company with Marine Medium Tiltrotor Training Squadron 204. ■



LISA NIPP

Randy Forbes, senior distinguished fellow, U.S. Naval War College, speaks during the “Global Maritime Access: Challenges in the Pacific” panel at expo on April 4. With him on the panel are, from the left, Brian Harding, director, East and Southeast Asia, Center for American Progress; Lt. Gen. Ronald Bailey, deputy commandant for Plans, Policies and Operations; Walter Douglas, deputy assistant secretary for East Asia Pacific, Department of State; retired Adm. Dennis Blair, chairman and distinguished senior fellow, Sasakawa Peace Foundation USA; Vice Adm. Fred Midgette, commander, Pacific Area and Coast Guard Defense Force West; and moderator William Ball, former secretary of the Navy.

Panelists urge strong partnerships in the Pacific region

By SARA FUENTES, *Seapower* Correspondent

During a Pacific-focused discussion April 4, a group of current and former government officials and think tank fellows spoke frankly about the need for strong alliances and a clearly defined national security strategy to preserve American interests in the region.

Many reflected on the nervousness of U.S. partners in the region, and how the Obama-era “pivot to the Asia-Pacific” sowed confusion rather than clarity amongst U.S. allies. A national strategy for the region and matching resources, the panelists agreed, would serve to reassure allies and assert the U.S. role as a Pacific nation.

Lt. Gen. Ronald Bailey, deputy commandant for Plans, Policies and Operations, noted, “No one country in the region that can do everything all on its own — it’s all of us acting together, working together that gives us the opportunity to be successful. ... You can’t surge trust. Trust is through partnership, trust is through leadership, trust is through relationships.”

Bailey and Coast Guard panelist Vice Adm. Fred M. Midgette, commander, Pacific Area and Coast Guard Defense Force West, highlighted how U.S. alliances and robust relationships are strengthened through joint military exercises like Rim of the Pacific, bilateral and multilateral agreements and partnerships, and Coast Guard training efforts.

The State Department representative, Walter Douglas, deputy assistant secretary for East Asia Pacific, and Brian Harding of the Center for American Progress, formerly of the Obama-era Pentagon, observed that the new administration’s efforts to highlight relationships in the region, including Secretary of Defense James Mattis’ trip there, were an important step in assuring allies that the United States remains committed to the Pacific.

However, both former U.S. Rep. Randy Forbes, the founder of the China Caucus during his time in Congress, and retired Adm. Dennis Blair, currently of the Naval War College and the Sasakawa Peace Foundation, provided a

historical perspective of resource allocation and presented a case for greater funding for the sea services. From their perspective, military funding and lack of a definitive strategy belies the importance of the region to U.S. interests and creates confusion for our allies.

When reflecting on America’s self-proclaimed pivot to Asia, “everybody had a different answer over what the rebalance to Asia was, and that’s not a good thing,” Harding said.

As Forbes pointed out, as recently as 2007, the Navy alone could meet 90 percent of validated combatant commander requirements, while next year it will meet less than 42 percent.

Blair sees the Navy at a near tipping point in terms of the American role in the region as the nation is no longer “un-challenged” in the region.

Even more worrisome than a lack of resources for Forbes is the lack of a national strategy in the region: “It is our inability as a nation to both formulate and articulate and implement a comprehensive national defense strategy.”

The panelists concurred that the entire region is nervous about China’s efforts to modernize and expand its military and Coast Guard capabilities, and is looking for “more U.S. activity, more U.S. presence — essentially we’re invited,” as Harding noted.

Blair considered a future in which American maritime superiority is seriously undermined by China increasing its naval strength. From a military perspective, he argued, China is making all the right decisions: shifting investments from ground to maritime forces, and investing in anti-submarine technologies and long-range missiles.

“The damage to our interests would be grave, the consequences for the region would be enormous,” if China managed to achieve its goals, Blair said.

The panel also spoke to the importance of allies in achieving U.S. strategic goals, as they help extend American geography. From their perspective, American alliances are key to preserving U.S. interests and military superiority in the region. “We need to use that territory that our allies own to set the battlefield to our advantage when the Chinese call,” Blair said. ■

Navy 'modifying everything we do' to recruit, retain

By JOHN C. MARCARIO,
Seapower Special Correspondent

The Navy is trying to leverage technology — and slightly alter recruiting tactics — to continue staffing the fleet in the years ahead.

“We can’t sit in the station and wait for them to come to us anymore,” Rear Adm. Jeffrey Hughes, commander of Navy Recruiting Command, said April 4 at the 2017 Sea-Air-Space Exposition.

Hughes said the Navy has met its recruiting goal for 120 months in a row, but noted requirements for enlisted Sailors are strict and the market for qualified Sailors is shrinking.

“Fewer and fewer of them have direct ties to the military. ... We need to spend more time virtual prospecting,” he said. Noting that this would allow for greater recruiting mobility, Hughes said the current generation of Sailors prefers to do something online versus using a pen and pencil.

“We are modifying everything we do to get them to see who we are. ... It’s a balance of virtual and physical interactions into all of our processes.”

Vice Adm. Robert Burke, the chief of Navy personnel, said it’s important to do away with geographic recruiting and focus on finding the best candidates everywhere. “The talent does not obey those lines,” Burke said.

This shift will require a more virtual focus, and Burke said that is necessary because he is concerned about a possible decline in recruitment in the coming years. Economic factors, a shrinking force and wage scales are issues the Navy is looking at to try to address the issue now before it becomes a problem.

To meet the challenges of the future fleet, the Navy has launched Sailor 2025, a program aimed at improving and modernizing personnel management and training systems



LISA NIPP

Master Chief Petty Officer of the Navy Steven Giordano speaks during the “Sailor 2025: Preparing Sailors for Today, Tomorrow and Beyond” panel on April 4. From the left are moderator Vice Adm. Robert Burke, chief naval personnel; Rear Adm. John Nowell, director, Military Personnel Plans and Policy; Vice Adm. Luke McCollum, commander, Naval Education and Training Command; Rear Adm. Richard Brown, commander, Navy Personnel Command, deputy chief of naval personnel; and Rear Adm. Jeffrey Hughes, commander, Navy Recruiting Command.

to more effectively recruit, develop, manage, reward and retain the force.

Master Chief Petty Officer of the Navy Steven Giordano said Sailors today are looking for more predictability in assignments and some mobility in their career paths. “We have a responsibility to mitigate as much as we can the stressors of their lives,” he said.

Rear Adm. John Nowell, director of Military Personnel Plans and Policy, said the Navy is looking into adjusting Sailor compensation, how it works its rating scale and modernization.

“How can we put people into the right job and keep them for a longer period of time? We are looking at policies we can change now to support the fleet,” Nowell said.

Rear Adm. Michael White, commander of the Naval Education and Training Command, added that training and educating Sailors, before they enlist or early in their careers, on what they can expect in the future can better help retain the force. ■

DDG-51’s AMDR Radar Has First Successful Ballistic Missile Test

By DANIEL P. TAYLOR, *Seapower* Special Correspondent

The DDG-51’s Air and Missile Defense Radar (AMDR) has just completed its first ballistic missile defense test, DDG-51 program manager Capt. Casey Moton said at the Navy League’s annual Sea-Air-Space symposium.

The program has been focused on testing the AMDR radar in 2017, conducting its first ballistic missile defense (BMD) track in February. That was followed by the first SPY-6 BMD target test out of Hawaii about a couple weeks ago, Moton said. “It was extremely successful, so we’re very excited about the radar’s progress,” he said.

The first engineering development model array was

moved to a missile range facility in Hawaii last June has been tracking targets since October, Moton said. “The program is proceeding very well,” he said.

AMDR is built by Raytheon and it replaces aging legacy radars on the destroyer fleet.

“The radar significantly enhances the ships’ ability to detect air and surface targets as well as the ever-proliferating ballistic missile threats,” Raytheon says on its website. “AMDR provides greater detection ranges, increased discrimination accuracy, higher reliability and sustainability, and lower total ownership cost as well as a host of other advantages when compared to the current AN/SPY-1D(V) radar onboard today’s destroyers.” ■



KATE PATTERSON

Cmdr. Raul Gandara delivers a Coastal Riverine Force and Mark VI Patrol Boat update April 4 on the Sea-Air-Space exhibit floor.

Coastal Riverine Force busier than ever

By NICK ADDE, *Seapower* Special Correspondent

Because of budgetary shifts and intensified mission requirements, the Navy's Coastal Riverine Force is busier than ever. A scion of the same command that oversaw the legendary PT boats of World War II, the force's seven units — three active duty and four Reserve — are responsible for a host of missions.

Operating primarily, but not exclusively, close to port, riverine units escort high-value units, provide force protection, maritime interdiction, aircraft protection and port security. Two of the units are forward-deployed to Guam and Bahrain, using the new Mark VI patrol boats.

"They're proving their worth as we learn how to use them overseas," cCmdr. Raul Gandara of Navy Expeditionary Combat Command, said during an April 4 presentation. "We're doing quite a bit now with fleet integration — operating the craft itself and getting into the link."

The Mark VI boats are transporting Marines and special-warfare operators in and out of tight spots, Gandara said. They also support mine-warfare, explosive-ordnance disposal and mine-neutralization missions, he said. When called upon, they can embark upon missions from forward-operating or afloat-staging bases around the world.

"[With] rotational deployments to Guam, CENTCOM [U.S. Central Command] and EUCOM [U.S. European Command] maritime protection, they're pretty busy folks," Gandara said. He also cited the need to replace the aging FP-Large (34-foot) and FP-small (25-foot) patrol boats. As it stands, the force has had to extend the projected 12-year service life of the 34-foot boats by six years, and pull the 25-foot boats out of inactive status.

The riverine force is asking industry to come forward with plans for a replacement boat, with very specific profiles. The new boats would need to be about 40 feet long and capable of being airlifted. "They also need to be small enough to travel on all those weird, small back roads and on tiny streets overseas," Gandara said.

The new boats also would have to be capable of operating in 3- to 5-foot wave heights at full-load condition, have a range of about 200 nautical miles, and top speed of 35 knots. "People ask us, 'Why not faster?' The enemy comes to us. We don't need to chase them down," Gandara said. ■

Navy's Triton UAV's multi-intelligence capabilities on track to replace EP-3E

By RICHARD R. BURGESS,
Seapower Managing Editor

A signals intelligence (SIGINT) capability being developed for a future increment of the Navy's MQ-4C Triton high-altitude, long-endurance unmanned aerial vehicle (UAV) will enable the Navy to retire the EP-3E electronic reconnaissance aircraft on schedule in 2021, a Navy program official said.

"All Tritons ultimately will be deployed in a multi-INT [intelligence] configuration," Sean Burke, the Navy's Triton program manager, told reporters at the Sea-Air-Space Exposition.

The Navy has long spoken of a "family of systems" to replace the signals intelligence capabilities of the EP-3E, but more of that capability is migrating to the MQ-4C than was previously revealed.

The baseline capability for the Triton is Integrated Flight Capability (IFC 3), which includes a multimission radar, electronic surveillance measures, the Automatic Identification System and an electro-optical/infrared sensor. The MQ-4C will be deployed in the IFC 3 baseline for its Early Operational Capability deployment, in which two aircraft will be staged to Guam in 2018.

IFC 4 is the next capability, a multi-INT package that will include the Common SIGINT Payload that will enable the MQ-4C to replace the EP-3E. Boeing Argon and Sierra Nevada Corp. are developing the SIGINT systems for the payload. The IFC 3 configuration went through flight testing in March. Operational assessment of IFC 3 will begin in August by Air Test & Evaluation Squadron One in conjunction with Unmanned Patrol Squadron 19 (VUP-19), the Navy's first operational Triton squadron.

Three production-standard Tritons were ordered in September under Low-Rate Initial Production Lot 1. VUP-19 will accept delivery of its first Tritons in August and September. ■

Transport, sealift ships delivered at ‘pretty good pace’

By DAISY R. KHALIFA, *Seapower* Special Correspondent

Capt. Henry Stevens, program manager, Strategic Theater and Sealift Program Office, PEO Ships (PMS 385), provided an update on three specific Naval Sea Systems Command (NAVSEA) product lines — the Expeditionary Fast Transport (EPF), the Expeditionary Transfer Dock (ESD) and the Expeditionary Sea Base (ESB) — during an April 4 briefing.



KATE PATTERSON

Capt. Henry Stevens delivers a Strategic Theater and Sealift Program update at the NAVSEA exhibit on the Sea-Air-Space show floor April 4.

From the NAVSEA booth on the floor of the Sea-Air-Space Exposition, Stevens told attendees, “At PMS 385, we’re all about delivering ships at this point. We have delivered 10 ships so far and are getting ready to deliver the 11th ship. Ten ships in less than four years — that is a pretty good pace. They are in service around the globe.”

Stevens said three more ships will be added to the portfolio, among them EPF 11 and 12, which are under contract and under construction. He said an ESP 5 is also under construction.

“In FY [fiscal year] ’16, while it was an exciting year doing contracting and getting more ships under contract and under construction, really a lot of what we did was out at sea on USNS *Lewis B. Puller*, [including] initial operational test and evaluation,” Stevens said. “She is getting ready for going overseas and tasking.”

Stevens expanded on some of *Lewis Puller*’s (T-ESB 3) features, including her flexible platform for any variety of capability that a team might want to bring on board. He said the vessel has an acre and a half of deck space below, and a flight deck above that has a helicopter hanger than can house up to two H-53s inside.

“We can have any type of embarked force onboard that needs to operate from sea,” he added.

Stevens said EPFs continue to do well globally in different fleets around the world whether in theater, or for high-speed transport with helicopter capabilities through H-53s landing on the deck. Likewise, he said, ESDs are “out there globally doing their work.”

Stevens said PMS 385 vessels around the world are being used as they were intended.

“They perform all those missions that they were advertised to do, but what we continue to find is that the ships can provide additional capability and flexibility for our Navy,” Stevens said. “And so we see them doing things such as ISR [intelligence, surveillance and reconnaissance], humanitarian assistance, theater security cooperation, international partnership operations and the like.” ■

Navy F-35C unit price on track for \$100 million by 2020

By RICHARD R. BURGESS, *Seapower* Managing Editor

The unit price of the Navy’s F-35C Lightning II carrier-based strike fighter is estimated to be \$121.8 million for the Lot 10 of the aircraft’s production and headed lower as cost-reduction initiatives take hold and production ramps up.

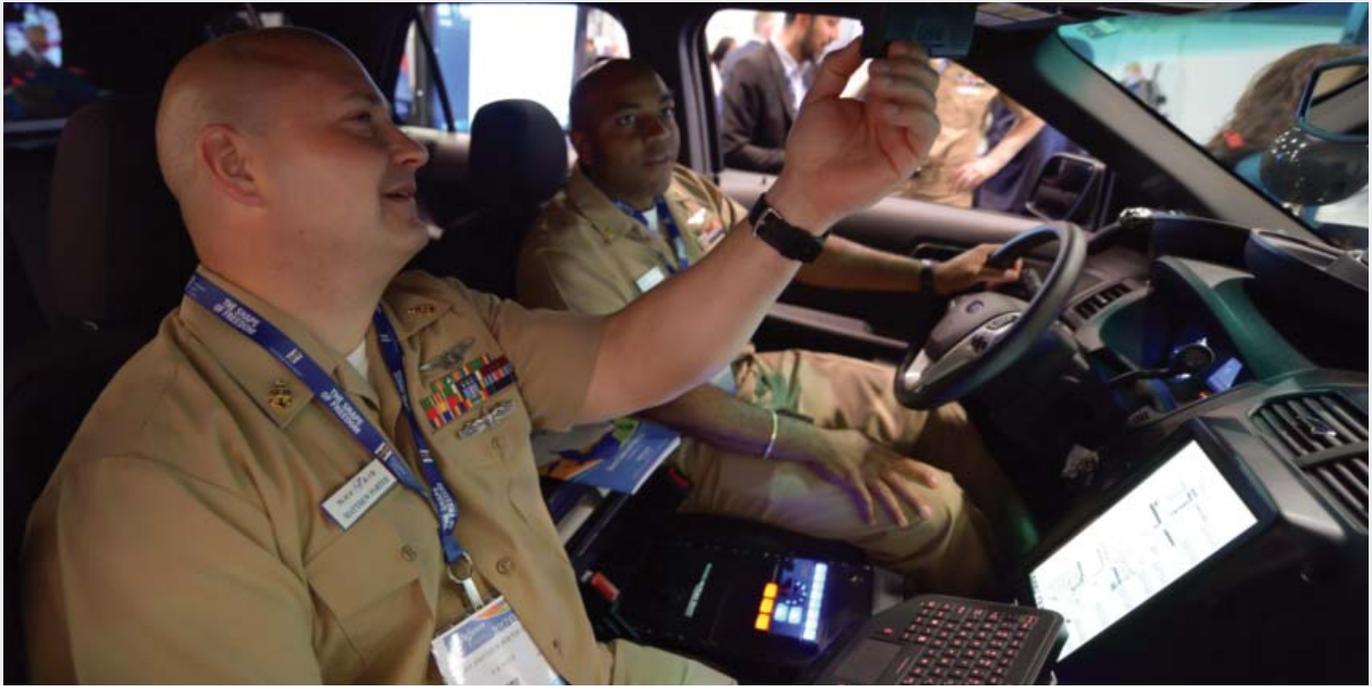
“The F-35 unit price is on track for \$100 million in 2020,” Jack Crisler, Lockheed Martin’s director of F-35 Strategy and Business Development, told reporters at the Sea-Air-Space Exposition.

By comparison, the Air Force F-35A unit price for Lot 10 is \$94.6 million. The F-35 program has a goal of reducing the price of an F-35A to \$85 million by 2019. The Air Force is trying to push the price down further to \$80 million by 2020.

The F-35C is more expensive than the F-35A because of its larger wing and carrier launch and recovery features, but also because of its current low-rate of production compared with the F-35A. The F-35A comprises 85 percent of the Lightning II’s program of record of 3,170 aircraft of all versions.

Lockheed Martin has delivered 27 F-35Cs to date. Four are included on Lots Nine and 10 production. In January, the Navy reactivated Strike Fighter Squadron 125 to be the service’s second fleet replacement training squadron for the F-35C. More carrier qualification trials are scheduled for the third quarter of 2017.

The Navy plans to be ready to begin pilot training in January and to begin to convert the first fleet squadron, Strike Fighter Squadron 147, in March 2018. Initial operational capability is set for 2018 or 2019. ■



KATE PATTERSON

Navy Senior Chief Petty Officer Matthew Porter, left, and Chief Petty Officer Garvin Francis check out the Microsoft Advanced Patrol Platform in the Microsoft booth at the Sea-Air-Space Exposition April 4.

Modernization, expanded workforce coming slowly to FRCs

By EVAMARIE SOCHA, *Seapower* Special Correspondent

Building modernization and more personnel, from enlisted to civilians to officers, are keys to readiness for the Navy's eight Fleet Readiness Centers (FRCs), but it's not happening fast enough — something their leader put on his own shoulders.

"When you have the best workforce, it's what you're reaching for," said Rear Adm. Mike Zarkowski, commander of Fleet Readiness Centers under the Naval Air Systems Command. "I'm not moving quickly and well enough to make that happen."

Zarkowski's remarks came April 4 during a briefing on FRCs at the 2017 Sea-Air-Space Exposition. He answered a question regarding Chief of Naval Operations Adm. John Richardson's comment to all naval leaders that they should feel uncomfortable about the Navy's readiness and use it to get to a higher, better state. All should "be ready to fight tonight," Richardson has said.

One reason is the massive personnel hit the FRCs took around 2013. The workforce shrank to about 8,000 employees because of sequestration, furloughs and voluntary resignations. An aggressive hiring plan aims to get the workforce back up to about 10,000 in a year or two, Zarkowski said.

Those employees, in service and civilian, need the craft and training to all can be a depot-level artisan, he said.

Also, FRCs are in dated buildings that range in age from 40 to 70 years old, Zarkowski said. It's a problem, for instance, working on the new and elite F-35 Lighting II

fighter aircraft in such facilities, where a climate-controlled environment is less than likely and components must be protected from leaking roofs and such.

Zarkowski estimated the FRCs are about in the middle, or "proactive" stage under NAVAIR's Vision 2020, a plan to improve readiness. That plan includes additive manufacturing — using 3-D printers and tools for onsite product needs — budget alignment and NAVAIR's Vector program, a Web-based readiness analysis toolset that lets all working on naval air programs to contribute to and see equipment status reports.

Component production and aircraft maintenance have improved, Zarkowski said. In-service repairs now happen in less than 120 days. However, it's still not enough to get components — some 200,000 for more than 500 aircraft — through the supply line at a good pace.

"We don't just accept that there are time constraints," he said, noting an "all-hands-on-deck" approach to getting aircraft through service according to their required time lines.

Other goals include:

- Standardizing operations at all FRCs so essentially "one depot is like all depots," Zarkowski said.
- The ever-popular additive manufacturing, which is boosting 3-D production of V-22 Osprey components at all FRCs.
- Using NAVAIR's Vector program, combining information from 19 data sets and millions of lines to produce charts, pictures and other resources to study what is happening in the trenches of operations. Vector is a Web-based readiness analysis toolset that lets all working on naval air programs to contribute to and see equipment status reports. ■

Coast Guard official: We will have funds for operations, recapitalization

By DANIEL P. TAYLOR, *Seapower* Special Correspondent

Despite an initial fiscal 2018 budget proposal that would slash the Coast Guard's budget by 12 percent, a top service official said April 4 that he was confident Congress would provide it with the funds it needs to sustain operations.

Vice Adm. Karl Schultz, commander of the Coast Guard Atlantic Area and the Coast Guard Defense Force-East, said he met with lawmakers on Capitol Hill that morning. And while he could not say much about a budget that is very much in its preliminary stages, he believes U.S. Homeland Security Secretary John Kelly "understands" the Coast Guard's importance and the capabilities it brings to the table.

"We will have appropriate funds to sustain our level of operations and our recapitalization efforts that are going on today," Schultz said.

However, the Coast Guard faces some tough near-term challenges. Schultz said his most pressing need is for 1,100 Reservists, which he says the United States will need when the next crisis arises.

"That big contingency, we don't have to look too far around the corner to a Deepwater Horizon or a Hurricane Matthew or an earthquake," he said. "The Coast Guard will be in all those responses."

In high-stakes business of EOD, 'We make sure that we're ready'

By EVAMARINE SOCHA,
Seapower Special Correspondent

Force readiness is not an issue for a small, elite cadre of Navy divers and ordnance disposal experts, who can be found worldwide protecting fleets both military and commercial, said an officer and instructor with this group.

"The caliber of people we have, I am confident in them," Lt. Cmdr. Sean Kido, an Explosive Ordnance Disposal (EOD) staff officer, said April 4 about this division under at the Navy Expeditionary Combat Command. "This is a high-stakes business, and we make sure that we're ready" on a moment's notice.

With about 460 officers, the EOD unit is among the Navy's smallest unrestricted line officer communities, said Kido, who himself is trained for this work. It has about 1,300 enlisted personnel.

Underwater mine countermeasures and unexplored ordnance are a main focus of the specialized Navy unit. The personnel protect naval and special operations against explosive underwater threats, finding and disarming or exploding rogue munitions. Some members may parachute or fly in by helicopter into certain missions, and can find themselves working with other Special Operations units, such as Navy SEALs, Army Special Forces and Marine Expeditionary Units.



LISA NIPP

Vice Adm. Charles Ray, deputy commandant for Operations, speaks during the "Strategic Challenges Facing Our Nation — U.S. Coast Guard Perspective" panel April 4 at the 2017 Sea-Air-Space Exposition, as Vice Adm. Karl Schultz, commander, U.S. Coast Guard Atlantic Command, looks on.

With President Donald J. Trump's emphasis on securing borders, the Coast Guard is in fact pushing to expand its role in the future.

"Clearly, the Coast Guard is in that homeland security mission space," Schultz said. "We'd like to be part of that conversation."

Long term, Coast Guard officials say their continually flat budget is an ongoing concern. Because the budget fails to increase with the rate of inflation, it amounts to a budget cut every year in real terms, said Vice Adm. Sandra Stosz, deputy commandant for mission support, and the moderator of the panel.

"I think that's where the erosion has come in," she said. ■

They also assist civilian law enforcement federal agencies such as the Department of Homeland Security; U.S. Customs and Border Protection; Bureau of Alcohol, Tobacco and Firearms; and the FBI, as well as state and local police bomb squads when needed. They also assisted security at large international events, such as the Olympics or world summits.

Advanced technology helps these trained personnel in locating and detonating underwater mines, Kido said, though they also put themselves at great risk when diving to disarm them.

Members of this force are required to serve three years. For their efforts, EOD technicians get re-enlistment bonuses as well as dive, demolition, special duty assignment and jump pay. They also may qualify for foreign language pay.

This division owes its size to high standards and arduous training, Kido said. Over 12 to 18 months, candidates are schooled at the Naval School for Explosive Ordnance Disposal, Naval Diving and Salvage Training Center in Panama City, Fla. Military personnel can enlist up to age 30 and must pass a rigorous set of physical tests that including hyperbaric pressure testing.

While exciting, the work is naturally dangerous, and personnel have been lost over the years. In May, the 48th annual memorial ceremony for those lost EOD personnel takes place at Eglin Air Force Base in Florida. ■

VH-92 expected to begin flight tests this summer

By OTTO KREISHER, *Seapower* Special Correspondent

The Navy's second attempt to produce a new presidential helicopter is "executing very well," with the first two developmental aircraft expected to start flight tests this summer, just over three years from program start, the program officer said April 4.

The program is moving almost exactly on schedule and its cost is tightly limited by a "fixed-price incentive" contract that would force the contractor to absorb much of any cost overrun.

That is a major change from the earlier effort that was canceled in 2009 after the program cost had soared to \$13 billion, more than twice the predicted price.

The new aircraft, which is called "Marine One" when the president is onboard, is designated the VH-92. It is a modified version of a commercially available aircraft produced by Sikorsky Helicopter, a Lockheed Martin subsidiary.

The key factor in the success of the VH-92 program is the decision to require an off-the-shelf, FAA-certified aircraft, said Marine Corps Col. Robert Pridgen, the Naval Air Systems Command program manager, told reporters at a 2017 Sea-Air Space Exposition briefing.

The Marine One model is based on the commercial S-92, 175 of which have flown a total of 1.7 million flight hours for offshore oil support, search and rescue and VIP transportation, Spencer Elani, Sikorsky program manager, said.

Another key to keeping the program on time and within budget was a tightly disciplined control of the requirements, with Naval Air Systems Command, the White House Military Office and Sikorsky constantly involved.

Making any significant change in the specifications requires a serious justification, Pridgen said.

"We not only learned the lessons" from the failed program, "we applied the lessons," he said.

The major changes to the commercial S-92 are the elaborate and sophisticated communications system that enable the president to stay in contact with national civilian and



KATE PATTERSON

Marine Corps Col. Bert Pridgen discusses the presidential helicopter program with reporters during a briefing at the Sea-Air-Space Exposition.

military leaders while airborne, plus structural strengthening and electronic defensive equipment to protect the president.

The communications system consists of government supplied, in-service radios, Pridgen said. But if new technology matures before the aircraft go into service, it could be added, he said.

The program will buy 21 VH-92s to replace the 11 VH-3s and eight VH-60 helicopters in Marine Experimental Helicopter Squadron One (VMX-1) at Marine Corps Base Quantico, Va.

Sikorsky pilots will begin the flight tests on the two developmental models this summer, and turn them over to Marine test pilots next year, Pridgen said. Initial operating capability, with four aircraft and the required Marine pilots, crew members and maintenance personnel is expected by 2020, he said. ■

Navy's Darrah: 'We cannot accept linear capability growth'

By RICHARD R. BURGESS, *Seapower* Managing Editor

The capabilities of the nation's adversaries are improving exponentially and must be met with improving U.S. capabilities without a huge investment, a Navy procurement official said.

"The pace of change in adversary capabilities is not a linear change; it is an exponential change," Rear Adm. Mark W. Darrah, program executive officer for Unmanned Aviation and Strike Weapons, told an audience at the Sea-Air-Space Exposition April 4. "We cannot accept linear capability growth. How can we grow capability without a huge investment?"

Darrah pointed out that the Navy has, and creates, a huge amount of data in the fleet bit that "they're disaggregated," with the need to tie it all together by leveraging algorithms.

He said the Navy needs to "move from platform-based behavior and move toward wholeness" and a "role-based approach."

He said that the nation's adversaries have gained advantage in certain areas and the United States has lost advantage by a small margin.

Darrah focused the need for growth in capability in three areas: agility, rapidity and improvements in non-kinetic effects in electronic attack; improvements in propulsion technology; and collaborative behavior of sensors and weapons.

He described a collaborative concept where there is an exchange of information between weapons in a heterogeneous salvo against targets, where a failure of one node will be inconsequential because another node has taken over, "never losing an opportunity to keep the engagement active." ■

USMC's CH-53K Program Marks 'Huge Milestone'

By WILLIAM MATTHEWS,
Seapower Special Correspondent

The Marine Corps new heavy-lift helicopter finally got off the ground April 4 when the Defense Department approved moving the CH-53K into its production and development phase. The decision, announced April 4 at the Sea-Air-Space Exposition, marks “a huge milestone for the 53K program,” said Rear Adm. Dean Peters, the Navy’s program executive officer for Air Antisubmarine Warfare, Assault & Special Mission Programs.

Advancing the CH-53K to production and development means manufacturer Sikorsky will deliver two new helicopters to the Marine Corps this year and four more next year, Peters said. The Corps will use this low-rate production period to ensure that manufacturing proceeds smoothly, and continue testing and fine-tuning the CH-53K.

To the Corps and the Navy, the production and development decision marks “a commitment” that the Defense Department “is ready to start investing” in the CH-53K, Peters said. Ultimately, the Marine Corps hopes to buy 200 of the helicopters. The first of them are expected to be operational in 2020, he said.

The CH-53K — also known as the King Stallion — is the replacement for CH-53E Super Stallion helicopters, which have been in service since 1986. The 53Es are truly “tired iron,” Peters said. They have been among the most

heavily used aircraft in the Marine Corps inventory over the past 12 years, seeing saw extensive service in the wars in Iraq and Afghanistan.

While similar in appearance to the Super Stallions, the 53Ks represent a substantial upgrade. The K-models can carry a 27,000-pound external load — three times the external lift capability of the CH-53E, Peters said. They can carry a 30,000-pound light armored vehicle internally or a 23,000-pound Joint Light Tactical Vehicle, he said.

In testing so far, the K model has demonstrated increased reliability and reduced maintenance requirements compared to the CH-53E, Peters said.

While waiting for CH-53Ks to arrive in significant numbers, the Marine Corps is “resetting” the E-model helicopters. Sixteen CH-53Es already have undergone thorough overhauls and emerged “almost like brand new aircraft,” Peters said. There still are 131 to go. The reset helicopters are expected to continue flying until about 2035.

Peters said the Navy continues work on developing a new presidential helicopter, with the first fully outfitted aircraft to fly in June and production scheduled to begin in 2019.

Plans are also under way to modernize the fleet of Osprey tiltrotor aircraft, he said. They are the U.S. military’s aircraft highest in demand, but with 70 different hardware and software configurations among 350 Ospreys flying, maintenance is difficult, Peters said. The goal is to greatly reduce the number of variants. ■

Coast Guard, Navy assess presence, priorities for the Arctic

By JOHN C. MARCARIO,
Seapower Special Correspondent

The U.S. Coast Guard and Navy continue looking at how future operations will work in the Arctic, while building on partnerships in the region.

The Coast Guard is the lead federal agency in charge of response and security operations in the Arctic while the Navy supports the service’s missions. As sea lanes continue to open, and polar ice continues to recede, the region has seen more commercial and tourist vessel traffic and natural resource exploration. With that has come a rising safety and security concerns.

“Is the Arctic a security issue for the Coast Guard? Absolutely,” Michael Emerson, the Coast Guard’s director of marine transportation systems and senior Arctic adviser, said April 4 at the expo.

He echoed a common theme of the service in recent years with regard to the region, saying more resources are needed, including a modernized icebreaker fleet.

The service operates the only U.S.-flag heavy icebreakers capable of providing year-round access to the region. The Coast Guard currently has three polar icebreakers — *Polar Star*, *Polar Sea* and *Healy* — but *Healy* is largely used for scientific research missions. *Polar Sea* has been out of operation since 2010, when an engine casualty left the ship immobile.

In recent budget submissions, the service has requested

funding to build one new heavy icebreaker, which is estimated to cost around \$1 billion and take a decade to build. The service hope to begin construction on one in fiscal 2020.

The Coast Guard’s High Latitude Region Mission Analysis study has said the service needs three heavy icebreakers and three medium-range icebreakers. “You have to have some sort of response capability,” Emerson said.

Fellow panelist, Rear Adm. Timothy Gallaudet, oceanographer of the Navy, said there are several drivers of change in the Arctic, including environmental and commercial activity, along with the emergence of Russia as a major player in the region.

Gallaudet said the U.S. and Russia share information with one another about Arctic matters. “They are doing nothing provocative, it was an interesting change,” he said.

The Navy is looking at increasing its exercises and international partnerships in the region. In the short term, the service will have a more deliberate approach to expanding its presence, but even that will require some level of additional investment compared with what it usually has, which is a seasonal presence. “We are assessing what priorities are needed,” Gallaudet said.

The Navy will be taking part in ICEX 2018, an exercise that assesses the readiness of the submarine force while also continuing to advance scientific research in the Arctic region, along with taking part in Exercise Northern Edge, beginning May 1. ■



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SCHEDULE OF EVENTS

Open to the Public!

Date	Event	Location	Tentative Time
Friday, 30 June 2017	Tournament Day #1	McCormick Place - Lakeside Center	Shooting: 8:00 a.m. - 12:30 p.m. Sitting Volleyball: 12:30 - 3:30 p.m. Wheelchair Basketball: 3:30 - 6:30 p.m.
Saturday, 1 July 2017	Tournament Day #2	McCormick Place - Lakeside Center	Shooting: 8:00 a.m. - 11:30 a.m. Sitting Volleyball: 11:30 a.m. - 2:30 p.m. Wheelchair Basketball: 2:30 p.m. - 5:30 p.m.
Saturday, 1 July 2017	OPENING CEREMONY	Soldier Field	7:00 p.m. - 10:00 p.m.
Sunday, 2 July 2017	TRACK Competition	Lane Tech High School	2:00 p.m. - 9:00 p.m.
Monday, 3 July 2017	ARCHERY Competition	McCormick Place - Lakeside Center	10:00 a.m. - 5:00 p.m.
Tuesday, 4 July 2017	Family Day	Various Events in the City of Chicago	All Day
Wednesday, 5 July 2017	FIELD Competition	Soldier Field	11:00 a.m. - 8:00 p.m.
Thursday, 6 July 2017	CYCLE Competition	Museum Campus	8:00 a.m. - 2:00 p.m.
Friday, 7 July 2017	Medal Rounds	McCormick Place - Lakeside Center United Center	Shooting: 8:00 a.m. - 10:30 a.m. Wheelchair Basketball Bronze Game: 12:00 p.m. - 2:00 p.m. Sitting Volleyball Bronze Match: 3:30 p.m. - 5:00 p.m. Sitting Volleyball Gold Match: 5:00 p.m. - 6:30 p.m. Wheelchair Basketball Gold Game: 8:00 p.m. - 10:00 p.m.
Saturday, 8 July 2017	SWIM Competition	University of Illinois at Chicago	10:00 a.m. - 6:00 p.m.
Saturday, 8 July 2017	CLOSING CEREMONY <i>By invitation only</i>	Navy Pier	7:30 p.m. - 8:30 p.m.

Schedule & Venues Are Subject to Change

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