Keel-Laying for Columbia SSBN Set for June 4

An artist's rendering of the future U.S. Navy Columbia-class ballistic missile submarines. *U.S. NAVY*

WASHINGTON — The keel-laying ceremony for the first new-generation nuclear-powered ballistic-missile submarine (SSBN) will take place June 4.

The keel-laying date for the future USS Columbia (SSBN 826) was mentioned by Rep. Joe Courtney, D-Connecticut, during a May 18 hearing of the Seapower and Projection Forces subcommittee of the House Armed Services Committee. The ceremonies will be held at the General Dynamics Electric Boat Shipyard at Quonset Point, Rhode Island.

The date was announced to employees of Electric Boat the same morning. The missile compartment and other components are

built at Quonset Point. Final assembly of the submarine will take place at the Electric Boat facility in Groton, Connecticut.

HII's Newport News Shipbuilding in Newport News, Virginia, builds 22% of the submarine, including the bow and stern.

General Dynamics Electric Boat was awarded a $5.1 billion contract in September 2017 to complete the design of the lead boat and in November 2020, the company received a nearly $9.5 billion award for construction and test of the USS Columbia and lead work on the USS Wisconsin. Including the Columbia, hull numbers SSBN 826 through 837 have been reserved for the new class, which previously was known as the Ohio-class Replacement Program.

The Columbia design features a new reactor with a core designed to last the life of the boat. The Columbia class also will feature an X-stern plane configuration with a waterjet propulsor, electric drive and integrated power system, a six-mast sail with sail planes and a large-aperture bow sonar. The subs will retain the Trident D5LE missile system.

Advance construction of the Columbia began in 2019 and delivery is expected in 2027. The first Columbia SSBN is scheduled to be on patrol in fiscal 2031 to maintain the undersea leg of the nation's nuclear deterrent force.

The Columbia class is to completely replace Ohio class SSBNs by 2039.

Marine Corps to Neck Down Operational Support Aircraft Types; Increase Indo-Pacific Capabilities

UC-12W *U.S. MARINE CORPS*

ARLINGTON, Va.—The Marine Corps plans to neck down the number of types of operational support aircraft (OSAs) over the next decade in order to achieve economies with reduced operating costs while increasing capability. The Corps also plans to increase its OSA capabilities in the Indo-Pacific region.

"OSA directly provides an economical and efficient alternative for the movement of personnel and cargo by reducing the burden that small payloads place on large tactical aircraft," the recently released 2022 Marine Corps Aviation Plan said. "Moving high volumes of small payloads to widely dispersed Marine air-ground task force (MAGTF) elements poses logistical challenges for Marine Corps aviation; OSA relieves this burden. Marine Corps OSA units perform the same airlift missions whether deployed or at their home stations.

Unpredictable, short notice movements are not compatible with the United States Transportation Command's and United States Air Force's airlift missions or commercial route structures. This flexibility is vital to MAGTF logistics, communications and security in all phases of deployment."

The Marine Corps operates 27 OSAs and keeps two of those deployed to support Marine Forces Europe/Africa and Marine Forces Central Command. The Corps plans to replace four UC-12F, two UC-12M, and 10 UC-35D aircraft a total of 28 UC-12Ws including eight already on strength. The current program of record for UC-12Ws is 12 aircraft.

"The cost of sustaining UC-35s is increasing and the USMC is looking to replace the UC-35 fleet with UC-12W," the aviation plan said. "This will require an increase to the program of record of UC-12Ws to 28. Divestment of UC-35s will be based on the procurement and delivery of the UC-12Ws."

The Marine Corps operates one transport squadron, VMR-1, which flew two C-9B Skytrain II aircraft from Joint Base Andrews-NAF Washington, Maryland, until 2017, when the squadron moved to Naval Air Station-Joint Reserve Base Fort Worth, Texas, to provide crews to share C-40A Clipper transports with Navy Fleet Logistics Support Squadron 59. VMR-1 is receiving two C-40As of its own this fiscal year. The squadron will move to Marine Corps Air Station Kaneohe Bay, Hawaii, by fiscal 2024 to replace the two C-20G Gulfstream IV transports there that support the Indo-Pacific Command.

Pappano: Studying 'Shortish'

Life Extension of Ohio SSBNs as Risk Mitigator

The Ohio-class ballistic-missile submarine USS Wyoming (SSBN 742), supported by USNS Black Powder (T-AGSE 1), prepares to execute an exchange of command and crews at sea. This regularly scheduled exchange of command at sea demonstrates the continuity and operational flexibility of our sea-based nuclear deterrent operations and our ready, reliable ballistic-submarine force. The efficiency of exchanges of crews at sea allows Sailors to reunite with their families and provides a ready, resilient submarine force. U.S. NAVY / Mass Communication Specialist 2nd Class Aaron Xavier Saldana

ARLINGTON, Va. – The U.S. Navy admiral in charge of procuring and sustaining the Navy's ballistic-missile submarines (SSBNs) said the Navy is studying possible short service-life extensions of some Ohio-class SSBNs and even the Ohio-class guided-missile submarines.

The Ohio-class SSBNs are scheduled to be replaced by the

Columbia-class SSBNs now under construction. The first Columbia SSBN is scheduled to be on patrol in fiscal 2031 in order to maintain the undersea leg of the nation's nuclear deterrent force. The margin available in the schedule for the Columbia program is tight.

"Because it is the prudent thing to do, we are evaluating potential – not class extensions – but individual hull extensions for up to five of our Ohio-class SSBNs," said Rear Adm. Scott Pappano, the program executive officer for strategic submarines, speaking May 12 in a webinar of the Advanced Nuclear Weapons Alliance Deterrence Center.

The Ohio-class SSBNs were built for 30-year service lives, which were lengthened to 42 years through an extension program.

"It's very hard to get past 42 years," Pappano said. "We're going to at least evaluate that in the background. The first time we'd actually have to start thinking about doing that – to actually do one – would be in the FY29 time frame. So, we're doing the evaluations right now on what it would take to do a 'shortish' repair availability to extend those ships for a couple of years as a risk mitigator, if need be. My goal is to not have to do that, but we want to understand the opportunities and risks associated with that short extension of the Ohio if we need to go do that, depending on what the world situation looks like at the end of the '20s and into the '30s."

The admiral said the Ohio class has been upgraded with a modernized Strategic Weapon System and COTS [commercial-off-the-shelf] systems and sensors.

"That class is doing very, very well," he said.

Pappano also said that "as part of that we'll also evaluate the SSGNs [Ohio-class guided-missile submarines] right now. That's a bit more of a challenge because those ships are

operated vigorously than the SSBNs are in the current roles they have right now, but we will continue to look forward to doing that.

“Eventually, the Virginia-class [SSN] VPM [Virginia Payload Module] capability will supplant much of that [SSGN] missile inventory,” he said. “Until that comes online, we want to make sure we have the missile shooter capability in the SSGNs for as long as we can, but it’s going to be a delicate balancing act of maintaining the current SSBN fleet versus extending the SSGN fleet. One of the things we’re looking at right now as we go forward is to make sure we provide as much capability to the warfighters as we can at the right amount of risk.”

Ingalls Shipbuilding: Ready to Take on More Navy Shipbuilding

USS Fort Lauderdale was translated via Ingalls' rail car system to the floating dry dock prior to launch. The dock was moved away from the pier and then flooded to float the ship. With the assistance of tugs, USS Fort Lauderdale came of the dock on March 29. HII / Lance Davis

ARLINGTON, Va. – Ingalls Shipbuilding, HII's builder of surface warships, has the industrial facilities and workforce to add to the capacity of its portfolio, a senior Ingalls official said.

"We have the ability to take on more work that we do today," said George Nungesser, vice president for program management at Ingalls, speaking May 11 to reporters at the Modern-Day Marine Expo in Washington.

Ingalls' 11,500 workers are building Arleigh Burke-class guided-missile destroyers, Legend-class national security cutters, America-class amphibious assault ships (LHAs), and Flight I/II San Antonio-class amphibious transport dock ships (LPDs). They also are activating the combat system of the third Zumwalt-class guided-missile destroyer.

Nungesser said that Ingalls has three LPDs under construction. LPD 28, the future USS Fort Lauderdale, will sail away from the shipyard for commissioning in July. Nungesser said this LPD represented the best cost and schedule performance to date in the LPD 17 program.

LPD 29, the future USS Richard M. McCool Jr., was launched in January and is 75% complete. Nungesser said it would be delivered to the Navy by the end of 2023.

LPD 29 and LPD 30 are transition ships to the Flight II version of the class.

LPD 30, the future USS Harrisburg, is 25% complete.

Fabrication of LPD 31, the future USS Pittsburgh, is scheduled to begin in September.

LPD 32 has been requested by the Navy in the 2023 budget. However, the budget plan would truncate the LPD 17 program with LPD 32 being the last to be procured. The Marine Corps has listed advance procurement funding of an additional ship, LPD 33, in its Unfunded Priorities List for 2023.

Nungesser said the Navy did a good job with the technology transition to the Flight II ships, including accommodation of the SPY-6(V)2 active electronically scanned array radar and the CH-53K helicopter.

Ingalls completed the post-shakedown availability of the America-class LHA USS Tripoli (LHA 7), work which including modifying the ship to operate F-35B Lightning II strike fighters.

LHA 8, the future USS Bougainville, is 50% complete.

LHA 9 was authorized and funded in fiscal 2021.

Nungesser said that Ingalls has a solid backlog of work in the short term and is working to modernize its facilities and is

working closely with its vendors to sustain the industrial base. Ingalls is in discussion with its vendors to get price quotes for LPD 32.

He said that it would be ideal for the workforce to have the LPD production centered on building one every two years and LHA production every four years.

Ingalls wants to be the builder of the future Light Amphibious Warship, Steve Sloan, Ingalls' LPD program manager, also speaking in the roundtable.

CNO: Keep R&D Alive for Nuclear Sea-Launched Cruise Missile

A Tomahawk cruise missile is removed from Los Angeles-class attack submarine USS Asheville at Polaris Point, Guam. An SLCM-N would occupy the place in naval armament formerly occupied by the now retired nuclear-armed version of the Tomahawk. U.S. NAVY / Mass Communication Specialist 1st Class Victoria Kinney

WASHINGTON – The Navy's top officer did not request any funds for procurement of the Sea-Launched Cruise Missile – Nuclear (SLCM-N) in the 2023 budget proposal but would like to fund a small amount of research and development to keep the industrial base in place should the missile be funded in the future.

Testifying May 11 before the House Armed Services Committee, Chief of Naval Operations Adm. Michael Gilday said that "having served on a nuclear-capable surface ship in the late 1980s, that mission does not come without a cost. There is a significant amount of attention that has to be paid to any platform that carries that type of weapon in terms of training, in terms of sustainability, in terms of reliability,

in terms of the force's readiness to be able to use them and be able to conduct that mission. I'm not convinced yet that we need to make a $31 billion investment in that particular system to close that particular gap.

"It makes sense to me that we keep a small amount of money against R&D to keep that "warm,' if you will, within the industrial base, while we get a better understanding of the world we live in with two nuclear-capable peer competitors," Gilday said. "At the same time, the fact that we're about to put hypersonics into play this year with the Army, in 2025 with the Navy, that's also a deterrent we should factor in the conversation in terms of the investments that we're going to make, in my opinion."

Rep. Doug Lamborn, R-Colorado, addressed the CNO and reminded the officials present that this year the HASC had heard testimony from Chairman of the Joint Chiefs of Staff Gen. Mark Milley, Vice Chairman of the Joint Chief of Staff Adm. Christopher Grady, U.S. Strategic Command Commander Adm. Charles Richard and U.S. European Command Commander Gen. Todd Wolters that "their best military advice was to continue with the SLCM-N program.

"Do you believe that we should continue the program or at least the research so that we don't lose that capability in the workforce and in our labs that's actually proceeding apace right now and, then, from that, make informed decisions about whether or not we want to invest a significant amount of money in that capability understanding what both of those nuclear-powered peers bring to the table?" he said.

Lamborn said that opponents of SLCM-N say the Navy did not have the bandwidth to handle a nuclear cruise missile aboard ships, but he pointed out that the Navy deployed a nuclear-armed version of the Tomahawk cruise missile on ships and submarines during and after the Cold War.

He asked the CNO if “given the mission of certifying and carrying a SLCM-N, are you confident that the Navy would be up to the task, given that assigment?”

Gilday affirmed that “given the assignment, we would, sir,” while again noting the cost. “I think it deserves some study in terms on how we’re going to balance that, given other things that we’re doing.”

Lamborn told Navy Secretary Carlos Del Toro, who also testified at the hearing, that Del Toro’s predecessor, “promised certain documents and emails related to the then-rumored cancellation of the SLCM-N program. Last year’s NDAA [National Defense Authorization Act] fenced a large amount of money until these documents and the analysis of alternatives for SLCM-N were provided to Congress. We have yet to receive any of this information.

“Despite the proposal in the Nuclear Posture Review to cancel SLCM-N and its being zeroed out of this year’s proposed budget request, when can we expect the Navy to comply with our directives and produce these documents?” Lamborn asked.

Del Toro responded that he “was not aware that those documents had not been provided to the Congress, however I will promise you that I will go back and ensure that we do provide necessary required documents that you have requested.”

Berger: Holistic Look Needed for Maritime Prepositioning

Force

U.S. Marines with Combat Logistics Regiment 3, 3d Marine Logistics Group and Sailors with Navy Cargo Handling Battalion 1 offload a light armored vehicle from the Bob Hope-class vehicle cargo ship USNS Pililaau (T-AKR 304) during Hagåtña Fury 21 at Naval Base Guam, Feb. 21, 2021. U.S. MARINE CORPS / Lance Cpl. Moises Rodriguez

ARLINGTON, Va. — The Marine Corps' commandant sees a continued need for the Maritime Prepositioning Force in the future as his Force Design 2030 initiative is implemented.

The MPF, managed by the Military Sealift Command, is comprised of two squadrons of ships in full operating status. The squadrons are located at Guam and Diego Garcia. The squadrons carry enough carry enough equipment and supplies to sustain more than 16,000 Marine Expeditionary Brigade and Navy personnel for up to 30 days. The ships can offload equipment at established port facilities or while anchored, using onboard watercraft operated by naval support element forces.

The MPS ships complement naval amphibious forces.

Gen. David H. Berger, speaking to reporters May 5 about his update to Force Design 2030, said that "in conjunction with Army prepositioning and the other services' prepositioning, we're going to have to take a holistic look at prepositioning in the future. The current framework, like our current posture around the world, is not set optimally for what the National Defense Strategy requires us to do. So, as we adjust global force posture of the joint force – including the Marines – we're also going to need to adjust maritime prepositioning.

"I won't speak for the Army, but I would think for the joint force, those adjustments have to be made in conjunction with each other," Berger said. "There is no possible way you're going to be able to generate all of the airlift that you need to lift all that we're going to need anywhere in the globe. Prepositioning cuts the time frame to respond dramatically. We're going to have to look at MPF and find out how it matches the adjustments we're going to make with global force posture."

Marine Corps Force Design Update Adjusts MV-22 Squadron Force Levels

An MV-22B Osprey assigned to the Aviation Combat Element from Special Purpose Marine Air-Ground Task Force-Crisis Response-Africa 20.2, Marine Forces Europe and Africa, conducts deck landing qualifications aboard the amphibious assault ship USS Bataan (LHD 5), June 28, 2020. *U.S. Marine Corps / Cpl. Tanner*

Seims

ARLINGTON, Va. — The Marine Corps' Force Design 2030 annual report has announced adjustments in the force levels of its Marine medium tiltrotor (VMM) squadrons that fly the MV-22B Osprey assault transport aircraft.

"We originally planned to divest three MV-22 medium tiltrotor squadrons from the Active Component, which would have resulted in a total of 14 squadrons of 12 aircraft each," said the report, released May 9 by Marine Corps Commandant Gen. David H. Berger. "However, detailed analysis demonstrated that 16 squadrons of 10 aircraft each better satisfies joint force requirements and better supports service needs to organize, train and equip. In particular, this force structure simplifies the formation of a Marine Expeditionary Unit's aviation combat element."

"Quite frankly, it was personnel-driven," said Lt. Gen. Karsten S. Heckl, deputy commandant for combat development and integration, Headquarters, U.S. Marine Corps, and commanding general, Marine Corps Combat Development Command, Marine Corps Base Quantico, Virginia, speaking May 6 to reporters and amplifying the Corps' reasoning for the change in VMM squadron aircraft complement.

"There were many external factors to that primary factor of personnel," Heckl said. "So, there a few levers the commandant can pull on to generate resources. The conclusion that the Headquarters, Marine Corps, staff came to was that manpower was the most appropriate because we were over-sized, we were at an unsustainable number, so that was the logical choice to make."

Heckl said the squadron size of 10 MV-22Bs would give the Corps the flexibility to add more F-35B Lightning II strike fighters to the ACE if it so chose. Currently the ACE typically deploys with six F-35B Lightning II strike fighters or AV-8B Harrier II attack aircraft.

“Right now, the MEUs are going out – and it depends whether it’s 10 or 12 V-22s when the [MEUs] go out [on deployment],” he said. When we start making every deployment with [F-35Bs] and the possibility that the numbers [of F-35Bs] that would go out – those numbers changing – the 10- [V-22s per squadron] makes all the sense in the world.

“Quite frankly, when you take into the equation the attrition rate, pipeline aircraft, training aircraft, the numbers work out pretty well,” he said.

The Marine Corps has cut or is cutting four MV-22B squadrons. The stand-up of VMM-212 was canceled in fiscal 2019. VMM-264 and VMM-166 were deactivated in fiscal 2020 and 2021, respectively. VMM-164 will be deactivated in fiscal 2022. The remaining force will include 14 active-component fleet VMM squadrons, one active-component VMMT fleet replacement squadron and two reserve-component VMM squadrons.

The Force Design annual report also called for an experiment in active-reserve integration of a reserve VMM squadron. The commandant directed the Corps to “perform Active Component/Reserve Component integration proof of concept in 2d MAW [Marine Aircraft Wing] by incorporating VMM-774 into an Active Component Marine Aircraft Group in [fiscal 2023].”

VMM-774 is based at Naval Station Norfolk, Virginia, also the base of two Navy helicopter mine-countermeasures squadrons that have been combined active-reserve squadrons.

Naval Safety Command to

Conduct No-Notice, Short-Notice Inspections

Rear Adm. Frederick R. Luchtman, commander, Naval Safety Command, salutes the sideboys during an establishment ceremony for the Naval Safety Command on Feb. 4. *U.S. NAVY / Mass Communication Specialist 2nd Class (SW/AW) Weston A. Mohr*

ARLINGTON, Va. — The new Naval Safety Command intends to hold no-notice and short-notice safety inspections of Navy commands to identify and understand risk and assess the safety posture of the fleet, the new command's first commander said.

One-star Rear Adm. Fredrick "Lucky" Luchtman, speaking May 5 in a session of the U.S. Navy Memorial's SITREP Speaker Series, also said the new command will become a two-star billet soon, filled by a former carrier strike group or expeditionary commander, thereby giving greater perspective "on all things safety throughout the fleet."

The Naval Safety Command was established from the old Naval Safety Center on Feb. 7, 2022, to elevate the attention to safety, assessment of it and accountability for it in the fleet. All of the former directors of the Naval Safety Center since it was established in 1951 have been aviators, as is the first current commander of the Naval Safety Command, Luchtman. During the 1950s the mishap rate of naval aviation as it upgraded from piston-engine aircraft to jets skyrocketed and the Navy launched the center to assess the causes and propose solutions.

Luchtman reports directly to the chief of naval operations, a reflection of the Navy's increased emphasis on safety, especially in the wake of the fire that destroyed the amphibious assault ship USS Bonhomme Richard.

The admiral estimates that mishaps cost the Navy $1 billion per year in loss of aircraft, steaming time for ships and personnel costs, among other costs. The year 2020 was even more costly with the loss of the Bonhomme Richard.

The Naval Safety Command will be sending assessment teams out to the fleet to determine the effectiveness of the safety

management systems. The command is developing “a cadre of professionals who can truly assess compliance.” Luchtman said one of his goals is to streamline and simplify the safety management system by identifying risk, communicating it and holding accountability at the right level.

“The accountability piece is absolutely key,” he said. Referring the Bonhomme Richard incident, he said, “the system isn’t healthy as it could be.”

Luchtman mentioned one demographic that has a bearing on automotive safety in the Marine Corps, a service that makes heavy use of motor transport. He said 25% of Marine Corps recruits did not have a driver’s license, a percentage far large than a generation ago.

Luchtman’s successor will be a surface warfare officer, Rear Adm. Christopher M. Engdahl, currently commander, Expeditionary Strike Group 2 and commander, Amphibious Force, U.S. 7th Fleet.

Q&A: Vice Adm. William J. Galinis, Commander, Naval Sea Systems Command

Vice Adm. Bill Galinis, center, tours a naval facility. *U.S. NAVAL SEA SYSTEMS COMMAND*

Vice Adm. Bill Galinis, commander, Naval Sea Systems Command, responded to questions about the Naval Sustainment System – Shipyard from Senior Editor Richard R. Burgess.

What is the Naval Sustainment System – Shipyard?

GALINIS: Naval Sustainment System – Shipyard (NSS-SY) is a Navy corporate initiative focused on meeting our on-time ship and submarine delivery commitments at all our naval shipyards. This Navy-wide approach is designed to address all functional areas affecting execution performance in our public shipyards to include planning, material procurement, engineering, waterfront execution, facilities, information technology and fleet partnership. For years, we have struggled to deliver submarines and aircraft carriers back to the fleet on-time from scheduled maintenance periods. Over the last decade, we've worked to increase productivity by growing the size of our workforce, improving our training processes to accelerate learning and get our newest hires to the waterfront as quickly

as possible. In working to improve the on-time performance of the shipyards we realized that we needed to rethink how we approached both the way we plan and execute the work.

At the heart of NSS-SY is the “get real, get better” approach. The direction provided in the CNO’s [Chief of Naval Operations’] Charge of Command to self-assess, self-correct and learn is clear. For us, that means that we need to look at our processes and procedures, understand where there are barriers that hinder or slow production work and then permanently remove them. To do this, we follow a stair-step process that empowers everyone from the deckplate or shop floor all the way up to me to fix issues or elevate them up the chain of command until it reaches the right level where the issue can be addressed. We call this the “fix or elevate” process, and it allows us to identify issues that prevent our production workforce from getting their job complete on time. The issue could be that our mechanics do not have the right tools, drawings or material on hand and we work with all of the Navy’s stakeholders – across the shipyard enterprise, NAVSEA, other Navy system commands, the fleet or Navy leadership as required – to ensure that our people have what they need, when they need it, so they can do their job.

Two additional important elements of the NSS-SY effort are the requirement to standardize practices across our naval shipyard enterprise. This includes starting with how we train our workforce, our business practices, material procurement efforts and work execution processes. There is tremendous opportunity in this area.

During this era of strategic competition, and when you consider the average cost of about $1 million per day to keep a submarine in a shipyard, every day matters when it comes to our availabilities. Every day of maintenance delay costs the Navy steaming days, training days, and forces other ships and crews to stay out longer. With NSS-SY, we are working to ensure that we maximize our skilled workforce so we can

continue to deter aggression and win in a fight.

How and when did NSS-SY originate?

GALINIS: NSS-SY has its roots in Naval Sustainment System – Aviation when Naval Air Systems Command [NAVAIR] took on the challenge to have 80% of our F/A-18E/F Super Hornets and EA-18G Growlers mission capable. NAVAIR not only met but exceeded its requirement, and we in NAVSEA saw the goodness inherent in the NSS process and started applying it to our naval shipyards.

The level of complexity in maintaining a nuclear submarine or aircraft carrier is enormous, so we had to not just scale up what NSS-Aviation did, but really elevate the whole process to a new level. We worked diligently within NAVSEA headquarters and the naval shipyard enterprise to start the process. Initially leveraging the Navy's Performance to Plan initiative focusing on data and data analytics to identify key deficiency areas, we learned pretty quickly that we needed to take a much more holistic approach that brought senior leaders from multiple NAVSEA equities, other Navy Systems Commands, the fleet and Navy leadership.

This process led to the establishment of the NAVSEA Transformation Office led by NAVSEA's executive director Giao Phan and is comprised of nine pillars, each lead by a one- or two-star admiral:

• Engineering: Rear Adm. Jason Lloyd (NAVSEA 05)
• Planning: Rear Adm. Jim Downey (PEO CVN) and Rear Adm. Dave Goggins (PEO SSN)
• Materials: Rear Adm. Ken Epps (NAVSUP WSS)
• Inside Shops: Rear Adm. Scott Brown (NAVSEA 04)
• Waterfront Production: Rear Adm. Scott Brown (NAVSEA 04)
• Fleet Operations: Rear Adm. William Green (USFFC N43)
• Shipyard Resourcing: Rear Adm. Scott Brown (NAVSEA 04)
• Infrastructure: Rear Adm. Troy McClelland (PEO SIOP)

• Information Technology: Rear Adm. Huan Nguyen (NAVSEA 03).

Additionally, within each shipyard, aligned to the waterfront production pillar, we have established execution teams lead by "champions." Our champions are senior, experienced shipyard personnel recognized as experts by leadership and their peers in the areas they are leading. This is really where the proverbial "rubber meets the road" and this team is driving the change we need inside our shipyards.

This team is working to ensure that we are aligned and working together, from NAVSEA headquarters to the shipyard waterfront to provide our skilled mechanics and trades with the material, training, equipment, technology and facilities required to execute their mission on time. These leaders are responsible for solving issues at their level and elevating issues as needed to improve the output of the naval shipyards.

Why the need for a change?

GALINIS: As CNO [Adm. Mike Gilday] wrote in his NAVPLAN, "There is no time to waste – our actions in this decade will set the maritime balance of power for the rest of the century."

We are in an era of strategic competition with China and Russia. Both those countries are making significant investments in their navies and air forces to try and disrupt global dynamics and stability for their own economic benefit. Our Navy serves as the stabilizing force across the globe, and that is true because we are forward deployed and have the greatest Sailors and ships of any nation. Fleet readiness is top priority and foundational to executing our sea control and power projection missions. The work to provide our Navy and our country with materially ready submarines and aircraft carriers starts in our four public shipyards. Our naval shipyards are critical in ensuring that our submarines and aircraft carriers are materially ready to fight and win. NSS-

SY is working to ensure that these front-line assets are delivered on time, every time so the fleet can meet its mission to preserve peace and win wars.

How is it an improvement on the way ship sustainment was done in the past?

GALINIS: The primary difference between NSS-SY and other efforts to improve naval shipyards' performance is the whole-Navy approach we're taking. No longer are we putting the onus on the individual shipyards to figure out how to improve. Instead, we are using metrics, data analytics, and workforce input to drive the procedural changes and business rule updates needed to ensure that we provide the production and engineering workforce with the full scope of what they need to be successful and make every day of a maintenance availability matter.

As I said earlier, we're taking a holistic approach to how the naval shipyards are supported from across the entire Navy. Under Fleet Maintenance Officers Rear Adm. Greene and Capt. [Daniel] Ettlich, both former naval shipyard commanders, we are working with the fleets to improve our productive capacity within each shipyard by adjusting targets for our wage grade, or trade, personnel while also building a path to become a "master mechanic," essentially providing a career in the trades with the appropriate level of training and compensation.

No availability can be completed on time if the planning and engineering isn't done right, so Rear Admirals Downy and Goggins are working to improve our planning efforts by refocusing of planning milestone adherence and the quality and completeness of the planning products delivered to the shipyards. Rear Adm. Jason Lloyd has developed a team to address non-value-added requirements and "engineer work out" of availabilities to improve our on-time performance. Where the on-time procurement and delivery of material has proven to

be one of our bigger challenges, and tied to our planning and engineering efforts, Rear Adm. Epps has implemented Material Planning Conferences tied to our availability planning efforts as well as rebuilding our rotatable pool processes.

On the infrastructure front, under Rear Adm. Nguyen, we're working to improve our IT infrastructure to improve connectivity and information sharing while also working to upgrade computers at the four shipyards to improve productively and reduce unproductive time.

Adm. McClellan is executing the required physical infrastructure upgrades needed to execute maintenance in as efficient manner possible, with active projects in progress at Portsmouth and Norfolk and soon in Pearl Harbor and Puget Sound.

It all comes together on the waterfront and in our shops, and that is where Rear Adm. Brown is focused on a really, "back to basics" effort. As mentioned earlier, there are strong teams within each shipyard, led by our champions, working to implement the required change in this pillar. The focus here is to essentially rebuild our management and execution processes for executing complex ship maintenance and modernization efforts. Additionally, he has a strong effort in place to improve production shop performance, ensuring the production shop workforce has what they need to execute their mission.

USS Pasadena (SSN 752) returned to the fleet Oct. 31 following successful completion of its Drydocking Selected Restricted Availability at Norfolk Naval Shipyard. *U.S. NAVY / Aldo Anderson*

What are some of the lessons learned from the first four submarine pilot projects? Did they emerge from the shipyard on time?

GALINIS: Each shipyard has executed a number of initiatives we call sprints that are designed to quickly test ideas. During the first phase of NSS-SY, we focused on the waterfront production system and piloted OCC [Operations Control Center] and Start of Shift initiatives across four submarine CNO availabilities – USS Mississippi (SSN 782), USS Louisiana (SSBN 743), USS Virginia (SSN 774) and USS Pasadena (SSN 752).

Not every sprint resulted in positive outcomes. One example was our testing a new way to record work time for the

production workforce. We thought we could remove some work hours at the supervisory level but, when we evaluated the pilot, we did not see the return on investment so we ended the pilot pretty quickly so we could put our efforts elsewhere. Although we don't like to see our effort not pan out, it's better that we fail fast so we spend more time in areas that may result in real time or energy savings.

A consistent theme in what we learned with the early efforts was a need to scale successful pilots quickly – the crew boards for example. Our approach here will be to implement pilot efforts where we see the need for improvement, quickly assess the impact of these pilots, and, if they work, scale them quickly across the four naval shipyards.

Our near-term efforts are really focused on the waterfront pillar to rebuild and reinforce the importance of our project management fundamentals. Improving our waterfront execution efforts, combined with near-term wins in material, engineering and IT, is where I believe we will have the most impact on avails in progress.

Looking a little further out, improving our planning efforts, getting this planning done on time with the requisite level of quality, combined with improved on time material procurement and delivery will be impactful. This will also improve our ability to manage the production work during a submarine or aircraft carrier availability.

Have you started any follow-on (post-pilot) availabilities using NSS-SY? Have you expanded beyond applying it to submarines?

GALINIS: Yes, we have. For example, we've established operational control centers that have been fully implemented for all CNO availabilities in progress and even into some of our shops.

The operational control centers are integral to our fix or

elevate approach as issues identified at the waterfront or shop floor are sent there for evaluation and are either fixed or moved up the chain of command. It allows the project teams and trades a single place to send issues they cannot address themselves and serves as a way to bring subject matter experts together into a single space to investigate and address productivity barriers. This effort has driven down work stoppages in terms of numbers and durations on the waterfront and shown some improvement in getting decisions to the waterfront faster.

We've also continued to mature the use of crew boards across our availabilities, incorporating feedback from the waterfront. These crew boards lay out what specific work teams should accomplish that day. In establishing this daily goal, our tradespeople can better understand what they need to do and make every day matter. It also helps to track the status of ongoing work and help identify barriers to completion.

Additionally, the work being done within the waterfront pillar to improve and strengthen work execution principles, what we refer to as "project management fundamentals," or PMF, has been very important. PMF is the tactical process used by our project teams to manage work execution during ship maintenance availability. The team is taking a back-to-basics approach to strengthen the training and understanding of these fundamentals, reinstill consistency of implementation and adherence, measuring throughput and incorporating commercial best practices where appropriate. This is one of our top focus areas to improve availability execution in the near term.

What metrics do you use to assess the success of availabilities under NSS-SY?

GALINIS: Ultimately, the only metric that counts is the number of days of maintenance delays. Our goal is to deliver all availabilities on time by 2023.

We have identified a number of metrics that we know will lead to a decrease in the number of days of maintenance delays. For example, we are looking at on-time task completion, how much production work is accomplished each day as compared to a daily schedule, and how much we are reducing unplanned work, or work that is not identified prior to the start of the availability. We are constantly reassessing how we measure ourselves to ensure we stay focused on the right measurements and tasks.

We also have tangential information about our workforce's buy-in to the program. When we first started rolling out crew boards, they did not go to every shop on every availability. Instead, we tested the concept with a couple shops on a couple availabilities. One day, a supervisor walked past a crew board, saw the goodness and value in sharing that information, and on his own built his crew their own crew board. When you have that type of buy in to a concept, you know you're on to something good.

What new technology, if any, has been introduced as part of NSS-SY?

GALINIS: While NSS-SY is principally focused on improving our business and production practices, and I discussed the importance of standardizing of our practices, equally important is our ability to innovate and improve our processes as well as bring in new technology. We have consistently encouraged and challenged our shipyard to look for improvement opportunities.

A good example of driving innovation into our work practices is the current friendly competition between Portsmouth and Pearl Harbor Naval Shipyards on Virginia-class work practices to drive time and cost out of these availabilities.

On the technology front, we stood up an Engineering Intervention Board to more efficiently and quickly evaluate

new technologies as part of its effort to remove schedule and cost from availabilities. And many of these new ideas come from the waterfront.

Examples of technologies the EIB is currently evaluating include an automated condenser cleaning system that cleans condenser tubes while saving substantial time. We are also looking into an autonomous grit-blasting system that also reduces the workforce requirements. Same for a phased array ultrasonic non-destructive testing technique and laser ablation that removes rust and other materials with a laser beam and not a wire brush or wire wheel.

What are the cost advantages, if any, demonstrated by the NSS-SY projects?

GALINIS: NSS-SY is focused on improving business practices within the shipyards and maximizing the productive time of our artisan and engineering workforce. It’s about on-time work completion that results in on-time deliveries and therefore on-cost deliveries as well. From a shipyard perspective, providing our waterfront mechanics/trades the right material at the right time, the right tools, technical information, etc., will allow them to be more efficient. The more effective we make our skilled tradespeople, the quicker they can complete a job and then move to the next one, which reduces the number of work hours and days in an availability, and the quicker we can buy back idle time for the ships and their crews.

That said, there is a cost component to delivering ships on time. For every day a submarine is delayed in an availability, the Navy expends about $1 million. That includes all the operational costs for the boat. For aircraft carriers, that figure doubles to $2 million. When the ship and its crew is in the shipyard, the Navy is not getting productive capacity from its investment.

Similarly, there is a readiness deficit that we run when we do not deliver on time. For the delayed ship and its crew, that's less time working together as a team, at sea, where they need to be to gain true warfighting proficiency. It also causes us to run deployed crews and their ships longer and harder than we want and that has an impact on our people and warships.

Ultimately, NSS-SY is about delivering ships on time, every time but ensuring our workforce has what they need, when they need it, to get the job done.

What feedback are you getting from the shipyard workers on NSS-SY?

GALINIS: The feedback has been positive. As with every new concept it takes a while for people to really understand what we're doing and why we're doing it. We are really starting to see the momentum build for the NSS-SY efforts. We need to drive the credibility and ownership of this effort to the waterfront. The credibility piece will be built by demonstrating how these initiatives make the job easier for our tradespeople by ensuring they have the right material when they need, they have the right work sequence, correct technical drawings and the ownership element. We are seeing now where the shipyards are using the NSS-SY efforts to drive improvements in the shipyards.

Frankly, our shipyard personnel were a little guarded about NSS-SY to start. They have seen other attempts to improve productivity that have had limited success. Additionally, there was some who thought NSS-SY was going to add an already high workload. While there is some investment/work upfront required, the bottom line here is that the improvements we are making need to make it easier for our naval shipyard waterfront teams to meet their commitments. NSS-SY is about making these teams successful. The focus here is to remove barriers and provide the resources required to enable them to do their job safely and on-time.

Our naval shipyards are national assets, and our people are the heart and soul of this enterprise. We have a leadership team aligned on the imperative to improve – to get real and get better. The shipyard team is committed to meeting our commitments to the fleet in terms of on time delivery. Through the NSS-SY effort, we have developed a process to improve our execution performance, measure our improvements and correct where required and hold ourselves accountable for sustaining this performance across our naval shipyards.

How does NSS-SY relate to the Shipyard Infrastructure Optimization Program?

GALINIS: NSS-SY and SIOP share the same goal of setting our public shipyards up for long-term success with success being measured in the on-time delivery of submarines and aircraft carriers out of maintenance availabilities.

SIOP is focused on recapitalizing the physical infrastructure – upgrading the dry docks and the shipyard infrastructure to include our shop facilities, and then the industrial plant equipment, all required to execute maintenance on new classes of submarines and aircraft carriers.

NSS-SY, on the other hand, is about updating our business practices, work execution processes and procedures to support the on-time execution of ship availabilities and ensure our mechanics and engineers have the tools and material they need to safely execute their work on time and with minimal or no delays.

Separately, NSS-SY and SIOP will result in substantial positive changes within the naval shipyards. When you combine NSS-SY and SIOP together, you have the truly fundamental and unprecedented investment that our shipyards require to execute maintenance on time, every time for generations to come.

Do you foresee expansion of NSS-SY concepts to private shipyards for Navy ship availabilities?

GALINIS: Yes, I do, and in fact we are sharing best practices and lessons learned from our NSS-SY efforts with our counterparts in the private sector. A component of NSS-SY is the Navy adopting industry best practices in order to become more efficient. That said, it will only benefit the Navy to share our best practices with our ship maintainers and builders.

Marine Corps Plans to Activate Second Adversary Aircraft Squadron in 2023

An F-5N Tiger II taxis after landing aboard Marine Corps Air Station Beaufort in South Carolina in 2015 to support Marine Fighter Attack Training Squadron 501 in air-to-air training.

U.S. MARINE CORPS AIR STATION BEAUFORT / Sgt. Dengrier Baez
ARLINGTON, Va. – The Marine Corps plans to activate a second adversary aircraft squadron to meet the future aerial combat training needs of its fighter attack squadrons. The second squadron will provide the East Coast with similar training assets as the West Coast.

According to the 2022 Marine Corps Aviation Plan released this week, Marine Fighter Training Squadron 402 (VMFT-402) will be activated in fiscal 2023 at Marine Corps Air Station Beaufort, South Carolina, scheduled to be safe for flight by the beginning of 2024.

The Corps has long fielded reserve squadron VMFT-401 at MCAS Yuma, Arizona, which flies Northrop 11 single-seat F-5N and one F-5F Tiger II fighters. The squadron is upgrading to 11 F-5N+ and one F-5F+ aircraft.

VMFT-402, which also will be a reserve squadron initially, will be equipped with three F-5N+ aircraft but eventually will operate eight F-5N+ and two F-5F+ aircraft.

To equip the new squadron, the Marine Corps has acquired 11 additional F-5 aircraft from the Swiss air force through the Naval Air Systems Command. The aircraft will be delivered to the Corps over a four-year period beginning in the fourth quarter of 2023.

The Navy and Marine Corps F-5 fleet is going through upgrades to increase capabilities and extend the service life. The fleet is being upgraded with digital cockpits at a rate of two or three aircraft per year. The Naval Air Systems Command plans to integrate TCTS II Tactical Combat Training System – Increment II (TCTS II) to "allow synthetic adversary injects to decrease the forecasted gap in adversary training."

"Serving as a training asset for the entire MAGTF, as well as the joint force, the F-5 has seen adversary requirements grow significantly over the past 13 years," according to the

aviation plan, in large part because of the pilot training requirements of the F-35 fleet replacement squadrons VMFA-501 and VMFA-502. “Annual fleet adversary requirements are expected to also increase for transitioning squadrons from 12,000 air-to-air sorties in [fiscal 2022 to 17,000 sorties per year in order to meet T2.0 requirements in [fiscal 2025].”

The aviation plan said that “Adversary capacity is the greatest issue in Marine Corps air-to-air training, followed closely by range availability and modernization, and training simulator capabilities. VMFT-401 can source up to 3,300 sorties per year, restrained by aircraft utilization and numbers of F-5s assigned. Combining A/A [air-to-air] requirements for fleet training, FRS [fleet replacement squadron] production and weapon school support, the USMC builds an adversary requirement of nearly 15,000 sorties in 2022. Accordingly, the USMC suffers over an 11,000-sortie capacity gap. Aviation is looking at options to close this gap.”

The U.S. military uses commercial air services which fly former military jets in the adversary role, but, according to the aviation plan, “commercial air services cannot satisfy all of the adversary requirements. The future lies in multiple solutions that include using the fleet of F-5s efficiently, exploring low-cost training opportunities, incorporating Live, Virtual, Constructive capability, and commercial air services to augment requirements.”