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THE STATE OF NUCLEAR SHIPBUILDING

HEARING

BEFORE THE

SUBCOMMITTEE ON SEAPOWER

OF THE

COMMITTEE ON ARMED SERVICES
UNITED STATES SENATE

ONE HUNDRED NINETEENTH CONGRESS

FIRST SESSION

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APRIL 8, 2025

THE STATE OF NUCLEAR SHIPBUILDING

TUESDAY, APRIL 8, 2025

UNITED STATES SENATE,
SUBCOMMITTEE ON SEAPOWER,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The Committee met, pursuant to notice, at 2:32 p.m. in room SR–222, Russell Senate Office Building, Senator Rick Scott (Chairman of the Committee) presiding.

Committee Members present: Senators Scott, Sullivan, Tuberville, Sheehy, Kaine, Shaheen, Blumenthal, Hirono, and Kelly.

OPENING STATEMENT OF SENATOR RICK SCOTT

Senator SCOTT. The hearing will come to order. In today's Subcommittee on Seapower hearing, we're going to have an important discussion about the state of our Navy's nuclear shipbuilding effort.

With us today is Rear Admiral Todd Weeks for strategic submarines, Rear Admiral Casey Moton for aircraft carriers, Rear Admiral Jonathan Rucker for attack submarines, and Matt Sermon, who serves as the program manager for the Navy's new maritime industrial base office, which seeks to coordinate and execute investments to strengthen naval shipbuilding and maintenance. First off, thank you each of you for being here today.

As many as you know, I was in the Navy where I served as an operation specialist, was a radar man, really swabbed the deck a lot, cleaned the chains on the USS *Glover*. It's alarming to me when I see some of our ships and hear about the countless delays in production to replace them, especially when these ships and submarines are often a crucial tool in projecting power in our seas and around the world.

Today, the Navy's nuclear shipbuilding efforts are riddled with delays, workforce shortages, and industrial based strength stretched too thin, and we're at great risk of losing ground and falling behind adversaries like communist China. We can look no further than our *Virginia*-class submarines, which are critical America's undersea dominance or the *Columbia*-class ballistic missile submarine, which was intended to replace our aging *Ohio*-class submarines and is crucial to our nuclear triad.

This is just the start of our challenges. It's clear cause for concern. I'm very optimistic that with a focused industrial base President Trump's leadership in the newly announced office of shipbuilding, we're going to get back on track and ensure our naval

forces are prepared to project power and maintain peace through strength.

But like any business organization in need of a turnaround, we're going to need a plan to ensure our shipyards step up, improve retention, invest in new technologies, and work with industry partners to speed up production because our national security depends on it.

Today, the Subcommittee is seeking clear answers on how our witnesses will deal with these challenges and deliver for the American people. I look forward to our discussion and now I'd like to recognize Ranking Member Kaine for his remarks.

STATEMENT OF SENATOR TIM KAINE

Senator KAINE. Thank you, Mr. Chair, and thanks to the witnesses. I enjoyed our talk last week and I'm looking forward to the hearing today, and I welcome you and thank you for your service to the Nation.

Two weeks ago, we had a hearing in the Subcommittee on the state of conventional shipbuilding. While today we'll focus on nuclear shipbuilding, submarine programs and the aircraft carrier program. Many of the same challenges apply that we discussed at the earlier hearing. We don't yet know what the fiscal year 2026 budget request will be for these programs, but we do know that Secretary Hegseth has decided to try to protect *Virginia*-class submarines and executive surface ships from the 8 percent budget cut drill that he directed last month, at least in the initial phase.

So, while we wait for budget clarity today, we can discuss the state of the industrial base that supports our nuclear shipbuilding program and what the Navy is doing to support that industrial base. We also need to discuss the important question, the big, big question of how to get *Virginia*-class, *Columbia*-class, and *Ford*-class delivered on time. This is particularly important for our submarines given the construction schedule, operational demands, and the commitments that we've made pursuant to the Australia, United Kingdom, United States (AUKUS) agreement.

We have to be open to new approaches and admit that what we have been doing needs to change if we want better outcomes. I want to thank the Chairman and I look forward to our witnesses' testimony.

Senator SCOTT. Thank you. Thank you, Ranking Member Kaine. Why don't we just start? Mr. Sermon, you want to start first?

Mr. SERMON. Yes, sir. Thank you.

STATEMENT OF MR. MATTHEW D. SERMON, PROGRAM MANAGER MARITIME INDUSTRIAL BASE

Mr. SERMON. Chairman Scott, Ranking Member Kaine, and distinguished Members of the Subcommittee, thank you for the opportunity to appear before you today. As we commemorate the 250th anniversary of the Navy, we reflect on our unmatched legacy of guaranteed freedom of the seas, a legacy enabled by our sailors, which is not possible without the American industrial base, its workforce, and their ability to leverage modern manufacturing methods to build and maintain the Navy the Nation needs.

Today, we must confront and overcome persistent challenges including workforce shortages and supply chain disruptions that are causing delays in ship deliveries. In order to do this, we must embrace a number of vital opportunities, including adopting advanced manufacturing for our entire maritime ecosystem, expanding and strengthening the network of shipbuilding suppliers, leveraging the power of capital markets for National defense at this time, and removing statutory, regulatory, or policy driven bureaucratic barriers that stand in the way of maximizing maritime capacity.

The maritime industrial base program is leading efforts to reinvigorate the industrial base in order to expand shipbuilding capacity. In this effort, our priorities are: one, systematically expanding and reinforcing supply chain capacity to ensure timely delivery of critical components. Two, addressing workforce challenges through partnering with government and private organizations across key regions in an all-hands-on deck effort that will attract, train, and retain American manufacturing and engineering workers.

The nuclear and conventional shipbuilding and repair industrial base must hire approximately 250,000 skilled and well compensated workers over the next decade. Three, bold and urgent adoption of advanced manufacturing in all aspects of the ship lifecycle. This can be done by integrating additive manufacturing, robotics, automation, and artificial intelligence into how we build and maintain our Navy.

To do all of this, the Navy is working closely with our industrial based partners and has launched nearly 1,200 supplier development, workforce, and advanced manufacturing projects in 40 states. All of them focused on supporting businesses, improving throughput, and updating antiquated tooling and production processes. Foundational investments like these take time to mature. We are planting trees, not growing house plants.

Since 2018, we have expanded parts delivery for submarines by more than 250 percent. This production must more than double again, in order to deliver the nuclear Navy that the Nation needs. We can get this done. In parallel, we have supported industry efforts to recruit, train, and retain over 12,600 new employees in 2024, helping to address critical labor shortages in skilled trades and naval engineering fields.

We're also seeing momentum in advanced manufacturing where the adoption of cutting-edge technologies is driving innovation and improving productivity across the industrial base. The Navy's Additive Manufacturing Center of Excellence in Danville, Virginia has already printed more than 270 parts, and this year we'll partner with the advanced manufacturing industry to mitigate over 1,000 days of delay in parts availability.

These efforts are on track to revolutionize critical parts procurement with the ability to print thousands of parts quickly and with unprecedented quality. In conclusion, our shipbuilding industrial base stands at a pivotal moment, thanks to strong congressional support and by investing in our workforce, infrastructure, and manufacturing technology, we can ensure that the United States Navy remains the world's premier maritime force, not just today, but for the next 250 years and beyond.

Thank you for your dedicated support for our sailors, our crucial industrial base workforce, and their collective mission. I look forward to your questions.

Senator SCOTT. Thank you. Admiral?

STATEMENT OF REAR ADMIRAL TODD S. WEEKS, USN, PROGRAM EXECUTIVE OFFICER STRATEGIC SUBMARINES

Rear Admiral WEEKS. Thank you, sir. Chairman Scott, Ranking Member Kaine, it is my honor to be here today to address the state of nuclear shipbuilding.

As a program executive officer for strategic submarines, I have cradle to grave responsibility for the sea-based leg of the American nuclear triad, the largest and most survivable leg. I provide proactive and focused acquisition, modernization, and lifecycle management for both the new *Columbia*-class strategic submarine and the existing *Ohio*-class strategic and guided missile submarines.

The *Columbia*-class is the Navy's number one acquisition priority and a critical once in a generation recapitalization effort for this foundational leg of the Nation's nuclear triad. The current *Ohio*-class ballistic missile submarine (SSBN) force is reaching the end of its operational life and must be replaced to meet US strategic command operational requirements.

In General Cotton's recent statement to this Committee, he noted that the United States, its allies, and partners are confronted with a deteriorating security environment. The Chinese Communist Party's investment in the expansion of its land, sea, and air based nuclear delivery platforms, along with Russia maintaining the largest and most diverse nuclear arsenal in the world, only reinforces the assertion that no portfolio needs recapitalization more than the nuclear portfolio.

Simply stated, building and sustaining a modernized U.S. naval force that can stand the test of time adapt to the ever-changing maritime threat landscape is more important now than ever. It is a mission that we live each day. The delivery of the lead ship in the *Columbia*-class, the future *District of Columbia,* is projected to be 12 to 18 months late to contract. While this delay is due to a variety of factors, it is unacceptable.

I have directed the shipyards to execute a bold, paradigm shifting approach to recovered lead ship schedule. The program is also pursuing every opportunity to drive and improve velocity, ensuring *Columbia* is appropriately resourced in the shipyards, and prioritize in the industrial base.

The second ship, the future *Wisconsin* is on schedule. We have seen positive continued performance and productivity improvements over the lead ship. *Wisconsin* is approximately 5 percent ahead of where the lead ship was at the same point in time during her construction. Early procurement and construction activities are underway for the next five ships, building on the learning demonstrated on *Wisconsin.* I would like to thank the Committee for your steadfast support of nuclear shipbuilding.

Together with my counterparts, I am committed to rebuilding our shipbuilding industrial base building and sustaining the Navy the Nation needs. I hold myself personally accountable for, and remain

committed to providing SSBNs on time and in budget with the ability to operate anywhere and everywhere, to deter aggression, responding to crises whenever and wherever they happen and to keep our seas open and free.

Thank you for the opportunity to be to appear before you today. I look forward to your questions.

Senator KAINE. [Presiding] There's a vote ongoing now, so you'll see some folks coming in and out. But Admiral Rucker, you're up next.

STATEMENT OF REAR ADMIRAL JONATHAN E. RUCKER, USN, PROGRAM EXECUTIVE OFFICER ATTACK SUBMARINES

Rear Admiral RUCKER. Thank you, sir. Ranking Member Kaine and distinguished Members of the Subcommittee, coming and going, thank you for your opportunity to be here for you today. Your continued support remains instrumental in helping the Navy and industry build and maintain our submarine force and uplift the industrial base to increase production and improve operational availability.

As the program executive officer for attack submarines, I'm both privileged and honored to be responsible for sustainment of the Navy's attack submarines and for the design and acquisition of the most capable attack submarines in the world. The *Virginia*-class, our Navy's unmatched undersea capability is a key component of the United States ability to deliver peace through strength.

The United States force structure requirement is 66 attack submarines. *Virginia*-class submarines are also a vital component of The AUKUS partnership, which is a generational opportunity to deepen diplomatic, security, and defense cooperation in the Indo-Pacific, including the sale of *Virginia*-class submarines to Australia.

To meet U.S. fleet requirements, the Navy must first achieve a production cadence of one *Columbia*-class plus two *Virginia*-class submarines per year. This is what we call 1+2. To then meet AUKUS commitments, we'll, this will subsequently ramp to 1+2.33. To accomplish this, the U.S. submarine industrial base is undergoing its largest recapitalization effort in nearly 50 years.

Over the last decade, we have more than doubled our annual submarine tonnage production, and we must double again this decade. As of March, 2025, the Navy has taken delivery of 24 *Virginia*-class attack submarines with 14 additional submarines under construction. In 2024, the Navy and industry team delivered two *Virginia*-class submarines to the fleet, *New Jersey* and *Iowa.* We are tracking to deliver two more submarines in 2025, *Massachusetts* and *Idaho.*

However, our 2024 annual production rate of *Virginia*-class submarines per year was 1.13 compared to our need of 2.0. The main causes for this are workforce challenges, material and supplier delays, and shipbuilder facilities and infrastructure issues, all of which are driving cost increases and scheduled delays. Together, the Navy and industry are aggressively addressing these challenges. In fiscal year 2018, Congress began appropriating funding to help lift the submarine industrial base to increase capability and capacity.

This funding started to grow significantly in fiscal year 2023. We are executing a holistic strategy across the shipbuilders and industrial base. Increasing production takes time. Our dividends are not fully matured, but we are seeing initial benefits of the investments and we expect much more to come.

Submarine shipbuilding and sustainment is my life, and I am fully committed to improving things. Continued strong collaboration between Navy, industry, and Congress is crucial to executing these important efforts. I want to thank the Subcommittee for your steadfast bipartisan support of the U.S. Navy and our industrial base, and I look forward to your questions. Thank you.

Senator KAINE. Thanks, Admiral Rucker. Admiral Moton, you're up.

STATEMENT OF REAR ADMIRAL CASEY J. MOTON, USN, PROGRAM EXECUTIVE OFFICER AIRCRAFT CARRIERS

Admiral MOTON. Ranking Member Kaine and all distinguished Members of the Subcommittee, good afternoon and thank you for the opportunity to discuss our Navy's vital shipbuilding mission.

I am honored to lead the team of sailors and Navy civilians of the program executive office aircraft carriers. My team is proud to both deliver and sustain these mighty instruments of national power. We consider our mission a solemn obligation to our Navy and our Nation. The results of our work are visible daily from USS *Harry S. Truman,* operating in the Middle East, with *Carl Vincent* on route to join her, to the *George Washington* maintaining steady presence in the Pacific.

We see it in our oldest aircraft carrier, USS *Nimitz* beginning her final deployment after 50 years of service, and our newest carrier, USS *Gerald R. Ford,* continuing to bring next generation capability to the fight as she prepares for her upcoming second deployment.

Our future *Ford*-class aircraft carriers are under construction at Newport News Shipbuilding, where we continue working closely with the shipbuilder to address challenges and improve performance. CVN 79, the future USS *John F. Kennedy* is 95 percent complete, but delivery is pressurized by remaining critical path work. Supply chain issues have impacted CVN 80, the future USS *Enterprise* with sequence critical material delaying the ship. We are rigorously incorporating all lessons learned into production.

CVN 81, the future USS *Doris Miller* is early in construction but has benefited from earlier material buys and an innovative dry dock modification that will allow simultaneous carrier construction. The Navy and industry are responsible and accountable to improve this performance. With my partners here at this table, we are attacking shipbuilding challenges with investment and improvements in our industrial workforce, supply chain resiliency, and shipbuilding infrastructure.

Specific to carriers, we have transitioned new construction to digital products, implemented projects to expand and distribute production capacity, made focused improvements in critical system production techniques, and worker training and efficiency, and accelerated the adoption of advanced manufacturing.

Our guidepost remains our statutory force structure requirement of 11 aircraft carriers, the most survivable, lethal, and adaptable airfields in the world. As an enterprise, we will deliver *John F. Kennedy* to the fleet on the fastest possible path to combat readiness. We will continue to stabilize and improve class shipbuilding production. In service, we will continue to improve overhaul and maintenance, and we stand ready to extend the service lives of these 50-year platforms as appropriate, as we have already done on *Nimitz* and *Eisenhower*.

We will do all of this working collaboratively with industry, knowing that we are accountable to every citizen for providing the protection they deserve. I want to thank Congress and specifically this Subcommittee for your steadfast support of our Navy, our sailors, our shipbuilding mission, and our industry that enables it. I look forward to your questions.

[The joint prepared statement of Rear Admiral Casey J. Moton, Rear Admiral Jonathan E. Rucker. Rear Admiral Todd S. Weeks, and Mr. Matthew D. Sermon follows:]

JOINT PREPARED STATEMENT BY REAR ADMIRAL CASEY J. MOTON, REAR ADMIRAL JONATHAN E. RUCKER. REAR ADMIRAL TODD S. WEEKS, AND MR. MATTHEW D. SERMON

INTRODUCTION

Chairman Scott, Ranking Member Kaine, and distinguished members of the Subcommittee: thank you for the opportunity to appear before you today to provide an update on the Navy's nuclear shipbuilding programs—programs that are foundational to America's military strength, global leadership, and national security.

This year marks the 250th anniversary of the United States Navy—a moment to reflect on two and a half centuries of unwavering commitment to defending American interests at sea. Since Congress authorized the Navy's first six frigates in 1794, the United States has built and sustained the most powerful and capable naval force the world has ever known. That success was not inevitable—it was earned through foresight, sustained investment, and an enduring partnership between industry, Congress and the Navy.

Today, that legacy is under pressure. Our adversaries are investing heavily to challenge our maritime dominance and assert themselves as the world's preeminent naval power. They are building fleets, expanding shipyards, modernizing capabilities, and positioning forces to undermine the international order and threaten regional stability. We cannot afford to cede the advantage we have built. Maintaining our position as the world's foremost maritime power requires bold action, clear resolve, and continued National support.

A superior naval force has long been a pillar of American deterrence and global influence. At the core of that force is our nuclear powered fleet—a critical asset that ensures global presence, credible deterrence, and sustained combat power. Ballistic missile submarines provide the most survivable leg of the Nation's nuclear triad. Attack submarines deliver unmatched lethality and stealth in undersea environments. Nuclear-powered aircraft carriers and their strike groups enable rapid, sustained operations across the globe—reassuring allies, deterring adversaries, and responding decisively in times of crisis.

But this fleet's effectiveness depends on the strength of the industrial base behind it. America's shipyards, suppliers, engineers, and tradespeople are the engine of maritime readiness—and they must be modern, resilient, and resourced to meet both today's operational demands and tomorrow's challenges. Together with our industry partners, we must focus on growing capacity, driving innovation, accelerating deliveries, and modernizing production and sustainment to ensure we stay ahead of those who seek to surpass us. We are executing a generational shipbuilding increase as we ramp to the one *Columbia*-class and two *Virginia*-class serial production per year, often referred to as "1+2". Subsequent to this, we will further ramp to 1+2.33 to support delivery of a conventionally armed, nuclear powered attack submarine capability to Australia under Pillar 1 Optimal Pathway of the tri-lateral AUKUS Security Pact.

As the current security environment becomes more complex, the U.S. Navy is aggressively implementing new, agile ways of operating, integrating, and maintaining our forces. We are harnessing innovation, strengthening partnerships, and investing in the people and infrastructure that make our maritime dominance possible. The future of American sea power depends on the decisions we make now.

STATE OF MARITIME INDUSTRIAL BASE

The U.S. maritime industrial base is a critical enabler of the Navy's ability to deliver and maintain combat capability necessary to execute its missions around the world. The industrial base consists of public and private shipyards, private industry partners, highly skilled workforces, original equipment manufacturers, complex supply chains, and organic resources. While U.S. shipbuilders continue to produce the highest quality, safest, and most advanced warships in the world, our maritime industrial base faces significant challenges and, as a result, cost and schedule performance remain poor. These challenges are common across nuclear and conventional shipbuilding with both Navy and industry sharing responsibility. Identified challenges in nuclear shipbuilding include atrophy of our manufacturing industrial base, workforce shortages related to macroeconomic and demographic trends, diminished workforce and supervisor proficiency, supply chain disruptions, slow adaptation of advanced manufacturing technology, and limited overall investment across the industrial base.

Historic underinvestment and industry consolidation following the end of the cold war have led to inadequate capacity at our nuclear shipbuilders and in their supply chains, leading to workforce-constrained build schedules that do not meet the needs of the Navy and the Nation today. The remaining prime shipbuilders and subcontractors face shortages of available skilled workers in both the trades (welders, pipefitters, electricians, etc.) and design/engineering workforce leading to schedule disruptions, delayed delivery of critical components, and associated cost and schedule challenges. The Navy faces its own challenges, as well, with burdensome acquisition processes and overly cumbersome technical and logistics requirement and processes, along with historically inconsistent demand signals—factors that discourage innovation and participation from non-traditional industry partners.

COLUMBIA-CLASS SUBMARINE PROGRAM OVERVIEW

The *Columbia*-class Ballistic Missile Submarine (SSBN) is the Navy's top acquisition priority and is a critical once-in-a-generation nuclear recapitalization effort for the Navy and the Nation's nuclear triad. The current *Ohio*-class SSBN force is reaching the end of its operational life and must be replaced to meet U.S. Strategic Command (USSTRATCOM) strategic deterrence requirements.

The first *Columbia*-class submarine, the future USS *District of Columbia,* must be ready for patrol by fiscal year 2031 to meet USSTRATCOM requirements. The *Columbia*-class is the largest, most powerful, and most advanced submarine this Nation has ever designed or built—approximately 2.5 times the size of a current *Virginia*-class submarine, and 10 percent larger than the existing *Ohio*-class submarines. It is designed for a longer service life, better operational availability, and better survivability than the *Ohio*-class—designed to be effective and relevant through at least the 2080's. *Columbia,* with the TRIDENT D5 Life Extension 2 (D5LE2) missile, will ensure the effectiveness and availability of the Nation's sea based strategic deterrent through the rest of this century.

The lead ship of the class started full construction in fiscal year 2021 and is more than 50 percent complete. This ship is the first SSBN built in 30 years, and the first lead ship of an SSBN class built in almost 50 years. Based on shipbuilder performance, supply chain challenges, and the complexity of first-of-class construction and testing of this new submarine, delivery is projected to be 12 to 18 months late to contract delivery date. The Navy is working with both General Dynamics Electric Boat (GDEB) and Huntington Ingalls Newport News Shipbuilding (HII-NNS) to implement an aggressive, alternative build strategy to recover up to 12 months of schedule, improve overall performance, and deliver the lead ship as rapidly as possible.

The second ship of the class, the future USS *Wisconsin,* commenced full construction in October 2023. Relative to the lead ship, performance is improving through learning, updated build plans, and increased proficiency. This ship is on schedule to deliver within contractual schedules.

Through the Polaris Sales Agreement, the Navy is supporting the United Kingdom's four-ship *Dreadnought*-class SSBN, a generational recapitalization of the UK's Continuous At-Sea Deterrent. With the Common Missile Compartment, the ship-

builders provide missile tubes and associated components for both *Columbia* and *Dreadnought.*

Continued adequate and on-time funding for advance procurement, advance construction, and continuous production for the class, as reflected in our budget requests, is critical to improved supply chain performance, reducing construction schedule risk, enabling cost savings, and meeting USSTRATCOM requirements throughout the *Ohio* to *Columbia* transition. The Navy appreciates Congress's continued support of the *Columbia*-class as a national priority.

VIRGINIA-CLASS SUBMARINE PROGRAM OVERVIEW

Virginia-class fast attack submarines (SSN) provide critical multi-mission undersea warfighting capabilities. As of February 2025, the Navy has taken delivery of 24 *Virginia*-class submarines with 14 additional under contract. USS *New Jersey* (SSN 796) delivered in April 2024 and USS *Iowa* (SSN 797) delivered in December 2024. The Navy and industry team is tracking to deliver two more submarines in 2025, the future USS *Massachusetts* (SSN 798) and the future USS *Idaho* (SSN 799). The second ship of the Block V contract (future USS *Arizona* (SSN 803)) will introduce the *Virginia* Payload Module, which incorporates four additional large diameter payload tubes to help mitigate the loss of undersea strike capability with the retirement of *Ohio*-class guided missile submarines (SSGN). All Block V ships will incorporate acoustic superiority improvements.

Beginning in 2011, the *Virginia*-class program began a ramp to achieve a production rate of two SSNs per year in support of Navy force structure requirements. Construction performance achieved a build rate close to 1.9 per year for approximately 3 years, but post-COVID [Corona Virus Disease] performance has dropped to a production rate of 1.13 at the end of CY 2024. Key drivers of the drop in production include workforce challenges, first time quality, material and supplier delays, and lead ship issues associated with the *Virginia* Payload Module variant. The Navy is working closely with the shipbuilders to drive improvement throughout the *Virginia* enterprise.

The Navy appreciates the support of Congress in providing an additional $5.7 billion of fiscal year 2025 supplemental funding to fully fund cost increases in the two fiscal year 2024 boats and the single fiscal year 2025 boat, as well as providing wage increases and funding shipyard productivity enhancements across the nuclear shipbuilding portfolio. These investments are critical to address issues associated with workforce development and retention along with recapitalization of shipyard industrial facilities and equipment.

STATE OF SUBMARINE CONSTRUCTION & PATH FORWARD

In February 2023, the submarine Program Executive Officers (PEOs) and shipbuilders (GDEB and HII-NNS) established a production execution plan to ramp to serial production of 1+2 by the end of CY2028 "), which would then serve as the foundation to ramp to 1+2.33 in the early 2030's to support AUKUS.

With the Navy's additional investments to strengthen the submarine industrial base as well as ongoing Navy and industry actions, we've seen performance improvements in the following areas: hiring at shipbuilders increased by 41 percent in 2023 and exceeded hiring targets in 2024; capacity of vendors in key market spaces has increased, shoring up single source suppliers and developing new suppliers to ensure material is available; and strategic outsourcing and manufacturing technology are on track to support increased production and material availability.

Despite these improvements, we have not observed the needed and expected ramp-up in *Columbia*-class and *Virginia*-class submarine production rates necessary to keep pace with the 1+2 strategy. The Navy, submarine shipbuilders, and supply chain enterprise underestimated the effort required to transition from the peace-dividend era, low-rate submarine production and sustainment to the increased 1+2 production needed for an era of near-peer competition. While both submarine programs have experienced delays, there are unique challenges in each program that we are aggressively working to correct.

To help address this, both *Columbia*-class and *Virginia*-class Submarine Programs, in coordination with Supervisor of Shipbuilding, GDEB, and HII-NNS, have instituted intrusive program office deck plate presence to help inform and drive improvement. In addition, the Navy and the shipbuilders conducted in-depth reviews into the underlying drivers of performance issues to execute lines of effort to drive increased production and inform new production rate projections. Looking ahead, increased improvement efforts will continue, and—coupled with ongoing investments—are expected to produce improvements in calendar year 2025 with additional gains projected across the FYDP.

FORD-CLASS AIRCRAFT CARRIER PROGRAM

Ford-class aircraft carriers (CVN) are the next generation of aircraft carriers designed to improve survivability, increase lethality, and significantly drive down total ownership cost over their expected 50-year service life. The replacement of legacy systems and multiple improved design features are meant to reduce maintenance and manning needs and allow service for decades with reduced periods of downtime. Despite enduring their own higher first-in-class and subsequent platform cost and schedule challenges, *Ford-c*lass carriers are beginning to make an impact on the Fleet.

The USS *Gerald R Ford* (CVN 78) completed a highly successful deployment in January 2024 in support of Combatant Commander objectives, including the initial response to the Hamas attack on Israel, with critical new systems performing well. CVN 78 spent 239 days underway, sailed over 83,476 nautical miles, and worked with 17 nations throughout its deployment during critical strategic exercises. Her crew and embarked air wing logged over 17,826 flight hours and 10,396 sorties, conducted 33,444 flight deck moves, 3,124 hangar bay aircraft moves, 2,883 aircraft elevator moves, 16,351 aircraft fueling evolutions, and transferred 8,850 pallets of cargo and mail. CVN 78 is currently completing workups for her next deployment, upcoming shortly.

John F Kennedy (CVN 79) is nearly 95 percent construction complete and has a contract delivery date of July 2025, however, we assess significant pressure to that date. The pressure meet the contractual delivery date is driven by critical path challenges, primarily in the Advanced Weapons Elevators and Aircraft Launch and Recovery Equipment. Initial class design challenges are resolved, as evidenced by *Ford's* successful operations, however, early class production-focused challenges and associated learning continue on CVN 79. All lessons learned and improvements by both the Navy and industry teams are being implemented in-construction on CVN 80 and 81. The Navy and shipbuilder HII-NNS are hyper-focused on a CVN 79 delivery plan that results in the fastest path to a combat ready CVN, crew, and air wing.

Enterprise (CVN 80) construction is 44 percent complete, and *Doris Miller* (CVN 81) 20 percent complete, with *Doris Miller's* material procurements pacing significantly ahead of previous *Ford*-class carriers thanks to the two-ship buy. CVN 80 continues to experience schedule challenges driven by late sequence critical material that will significantly delay delivery past the contractual date. The Navy continues to work with our shipbuilding partners and critical path vendors to identify levers for schedule risk reductions. CVN 81 risk is also reduced by earlier material procurement and the completion of the shipbuilder's new construction dry dock for simultaneous CVN construction.

Despite the construction challenges on CVN 80, the Navy remains committed to reducing and controlling the cost of *Ford*-class aircraft carriers and continues to benefit from the $4 billion acquisition savings achieved through the two-ship block buy contract award for CVN 80 and CVN 81. Cost growth to date has not eroded the two-ship savings assessment. Additionally, the aircraft carrier industrial base has significant overlap with the submarine industrial base, both at the shipyard and at major suppliers. The Navy's investments in the submarine and maritime industrial bases have in many cases benefited aircraft carrier programs by improving performance, efficiency, and capacity at critical suppliers, which will help to realize the designed *Ford*-class life cycle cost savings of $5 billion per ship when compared to *Nimitz*-class carriers.

MARITIME INDUSTRIAL BASE PROGRAM

With the help of Congress, the U.S. Navy is addressing these challenges through a whole-of-government and whole-of-nation effort to develop and nurture the shipbuilding industry with significant investment in the industrial base that is required to meet a generational increase in demand for shipbuilding. Since 2018, over $10 billion has been appropriated for SIB efforts. The Navy's strategy to improve the health of our MIB is focused on six key lines of effort: growing capability and capacity in the supply chain, modernizing shipbuilder infrastructure, expanding capacity of key suppliers to take on work traditionally executed by shipbuilders, developing the critical maritime manufacturing workforce, operationalizing advanced manufacturing technology, and improving government oversight.

In September 2024, the Navy established the MIB Program Office to lead enterprise efforts to help restore America's shipbuilding capacity and to ensure the Navy can build and sustain the fleet required to support the National Defense Strategy. This strategic reorganization integrates the submarine industrial base (SIB) and surface combatant industrial base programs into a cohesive entity focused on the

overall health of the maritime enterprise. The transition to the MIB Program represents a comprehensive approach to revitalizing America's shipbuilding and ship sustainment ecosystems, enabling the Navy to holistically address challenges and opportunities, respond to a comprehensive Navy demand signal, while also opening the aperture on efforts and investments to meet future defense demands more efficiently.

The Navy has implemented a data-driven and data-informed process to ensure our investments and initiatives are targeting the primary needle-movers and enablers of shipbuilding and ship sustainment schedules. As part of this process, we assess and track impacts of Navy investment at multiple levels. At the individual project level, the Navy implements discrete, measurable return on investment metrics for each project with a mandated feedback loop to measure progress. At the aggregate level, we assess multiple individual projects with shared objectives; and at the portfolio level, we assess projects and aggregate-level impacts relative to production schedule drivers. The Navy's data-based assessment and decisionmaking process for industrial base investment enables a standard approach to assessing impact and identifying challenges and opportunities, improving coordination, and integrating perspectives among a range of stakeholders. Collectively, these efforts support flexible decisionmaking to meet a dynamic supply chain environment.

The Navy is seeing early indications that investments appropriated to date are helping to stabilize targeted sectors of the industrial base that provide critical materials for new construction programs and in-service ships. Since fiscal year 2018, we have launched more than 725 supplier development projects with more than 300 suppliers across 33 states to add capability, capacity, and resiliency to the supply chain, including developing alternate suppliers for critical components. The Navy has invested more than $1 billion over the past few years to improve the on-time delivery of components that are build sequence-critical for nuclear shipbuilding programs—material that must be delivered on time to maintain production schedules. The Navy is also executing strategic outsourcing efforts to smartly shift some workload to other shipbuilders and key suppliers to enable long-term sustainable growth in capacity to deliver the submarines that we must have. This includes the innovative partnership with private capital and industry to create the United Submarine Alliance Fund and the subsequent purchase of prime shipbuilding industry land in Mobile, Alabama.

The Navy's six regional Talent Pipeline Programs have placed more than 6,700 trades workers in the maritime sector and, through our partnership with the Southeastern New England Defense Industry Alliance, more than 6,750 workers have been trained and placed in the shipbuilding industrial base. The Accelerated Training in Defense Manufacturing rapid trades training program in Danville, Virginia has trained more than 875 students in key maritime trades, and in January 2025, opened the National Training Center which will scale the program to 1,000 graduates per year by the end of 2025.

The Navy is working with shipbuilders, suppliers, and a consortium of non-traditional companies and academic partners to move shipbuilding into the era of advanced manufacturing and automation, leveraging commercially proven technologies like additive manufacturing (AM) and robotics at scale across the industrial base while working to integrate next generation capabilities like artificial intelligence to improve efficiency and productivity. The Navy's Additive Manufacturing Center of Excellence (AM CoE) in Danville made significant progress in maturing and operationalizing additive manufacturing, printing more than 350 parts and leading efforts to scale AM by producing production-ready technical data packages, responding to emergent material needs, centralizing non-recurring engineering, and qualifying AM suppliers to enable parts production at scale. The AM CoE is already helping get our ships back to sea, where the AM CoE has printed numerous parts for ships and submarines in response to emergent needs, saving over 900 days of delay to date relative to traditional procurement paths. The CoE is on path to print an additional 50 parts in 2025. The combined efforts of the Navy's MIB Program are focused on improving elements that impact nuclear shipbuilding schedules.

CONCLUSION

As we commemorate the 250th anniversary of the U.S. Navy this year, we reflect on a legacy built on strength, sacrifice, and an enduring commitment to protect our Nation's interests at sea. That legacy endures today through the unmatched strategic power of our nuclear fleet.

Ballistic missile submarines form the bedrock of our Nation's strategic deterrent, providing an enduring and survivable capability that ensures any adversary must think twice before threatening the United States or its allies. Fast attack sub-

marines deliver asymmetric advantage—capable of operating undetected across the world's oceans to gather intelligence, hunt enemy submarines, and deliver precision strike. Nuclear-powered aircraft carriers serve as unmatched instruments of national power, enabling sustained air operations, supporting joint force integration, and reassuring allies through persistent presence in areas of strategic importance.

Together, these platforms form the backbone of the Navy's ability to deter aggression, defend the homeland, and uphold the international rules-based order. But their strength depends on the health and resilience of the industrial base that builds and sustains them. Maintaining and enhancing this base is not just a strategic necessity, it is a generational obligation.

The Department of the Navy remains committed to working alongside Congress, industry, and our partners to accelerate production, strengthen our supply chains, and develop the skilled workforce we need to, deliver these vital assets on time and on budget. We owe it to our warfighters, our allies, and the American people.

As we look to the future, our responsibility is clear: to ensure the U.S. Navy remains the world's premier maritime force—ready, resilient, and capable—for the next 250 years and beyond.

Thank you for your continued support.

Senator KAINE. Great. We will jump in. I'll begin with a 5-minute round of questions. I know then the Chairman should return promptly and I'll go vote. Let me ask a question general before I get into the particular platforms, which is the adjudication of resources and workforce to these three very important platforms: *Columbia*-class, very important, *Virginia*-class, very important carrier, very important.

You cite some of the reasons for delays or not being able to do the work we need to do in a timely fashion. The reasons you cite are similar supply chain issues, workforce issues. As you work together with the two primary shipyards, from a Navy standpoint, how are you sort of prioritizing and adjudicating the, you know, progress on *Virginia*-class vis-á-vis *Columbia* vis-á-vis carrier? If you could talk about that please?

Admiral MOTON. Sir, I'll just briefly open up by, obviously all of the platforms are important. It has to be in all of the above strategy. *Columbia* is clearly our highest program priority, but the carriers bring in a central mission, and *Virginia* is critically important to the fight. We work together, we have to do what makes our programs most efficient, but we work together every day ensuring that our plans for both shipyards support construction to meet our objectives for both.

We work with Navy leadership to ensure that we do that. Tradeoffs have to be made at some point and there is a balance process. Our going in position is that we have to accomplish it all and that's what our plan is designed to do.

Senator KAINE. I completely agree, but your point about the *Columbia* being the primary acquisition priority, that is because it's the one place where we cannot have a gap. We cannot have a gap in the triad. You have been able, I think Admiral Weeks, you've been able to manage the gap a little bit through the extension of the useful life of the *Ohio*-class. So that's helpful. *Columbia* has to kind of take lead as we're trying to adjudicate because this is an area where no gap is really allowable. Is that correct?

Rear Admiral WEEKS. Yes, sir. So I 100 percent agree with Admiral. We work very hard to make sure that the programs don't come into competition with each other, because the only thing that loses when we do that is the American people. Absolutely, *Columbia* is the Navy's number one acquisition priority. As you state, we are

doing select service life extensions for our *Ohio*-class submarines to make sure that we have sufficient margin to make sure that we continuously meet the United States Strategic Command (STRATCOM) requirement for 10 operational SSBNs. Yes, sir.

Senator KAINE. Great. Thank you. Admiral Rucker, please give us an update on the status of the contract for the two fiscal year 2024 *Virginia*-class option votes and the 5.7 million in emergency funding Congress provided in the Continuing Resolution (CR) for fiscal year 2025.

Rear Admiral RUCKER. Thank you for the question, sir. I would also echo the importance of all the programs. Where we stand right now is we on the fiscal year 2024 ships, which is two boats as well as the 5.7 billion. We have finished up primary negotiations. We're finishing up documentation as well as getting final approvals, answering questions for the various stakeholders to be able to support awarding the contract in the near term.

Senator KAINE. When you say near term, give me a sum estimate of what near term means.

Rear Admiral RUCKER. Yes, sir. Right now, as we finish up answering questions making sure that the documentation is correct depending as we finish those, we're kind of in the final throws. So I don't want to give you a time because it's a little bit contract sensitive, but I would commit to you that it's not too far in the distant.

Senator KAINE. Great. Well, you know, this Committee and the full Committee is going to be deeply involved between now and the end of June on the National Defense Authorization Act (NDAA). So I hope that we can have a solid answer on that one as we get into the finalization of the committee's work product.

Last year we had some significant discussion about the Surface Advanced Warfighting School (SAWS) proposal that was made by industry with respect to this particular platform. Now that's not in your control. That is probably Secretary of Defense (Sec Def) and White House and Office of Management and Budget. But ever since the proposal came to light last year, I've had two basic questions. If we don't do SAWS, what do we do instead?

What can we do to make sure that we don't end up in a position where we need a proposal like SAWS in the future? Could you share your thoughts on those two questions?

Rear Admiral RUCKER. Yes, thanks for that question, sir. What I would say is the most important thing, whichever path we choose, whether it to your term SAWS or a different path, the main thing we're focused on is outcomes. What we were able to do through the analysis that we did over the last year or two, is clearly identify across both shipbuilders and the Navy what investments would be required, what's required with wages.

So in the end, we're looking and really do appreciate all the congressional support for the money we need for the 24 ships and the anomaly funding because that has investments and wages in there to get after what we need. So right now, we're focused on working with senior leadership to achieve those outcomes, which is increase submarine production to deliver the submarines the Nation needs.

Senator KAINE. I'm assuming the second half of my question, what do we do to avoid getting in a position like this in the future?

The outcome strategy has to be one that's sustainable and not just episodic?

Rear Admiral RUCKER. Yes, sir. I would agree. The goal is the ramp to that 1+2 in the most efficient and a quick process that we can.

Senator KAINE. Great. Thank you. Mr. Chair, I yield to you.

Senator SCOTT [Presiding] Senator Hirono.

Senator HIRONO. Thank you very much, Mr. Chairman. Mr. Chairman several reports highlight significant workforce shortages across the U.S. shipbuilding industrial base, particularly in skilled labor necessary for new ship construction. Without addressing this issue, we risk continued delays and increased costs in delivering much needed vessels.

So, my questions, what specific actions is the Navy taking to recruit, train, and retain a skilled workforce to support shipbuilding efforts? By the way, and what is causing the labor shortage issues that I just referred to?

Mr. SERMON. Thank you, ma'am. I'll actually hit the second question first because I think it frames out the overall answer. Over the last if I go back 40 years to 1985 when we were producing submarines specifically and aircraft carriers at the rate that we need to now, we were about 30 percent manufacturing as a Nation, our percentage of our workforce. Today we're about 12.

So, in a more service-based economy, it makes competition for people, for resources really challenging. What we are doing is really a three-pronged approach, right? It is actually, you know attracting workforce. We've established buildsubmarines.com campaign that has resulted in 2.7 million job applications with thousands and thousands of jobs on a website that we work with a nonprofit partner and gotten attention kind of across the industrial base. That's an attraction example.

In training, we've worked both with the shipbuilders now working with the public shipyards as well starting relatively recently with the formation of the Maritime Industrial Base (MIB) program and working with the supply chains across six of our most intense regions to support partnerships between community colleges and those supply chain partners to do that.

Finally you know, retention. We have additional work to do here, but our critical team that's building and maintaining our nuclear ships should be paid more than the service industry wage. Over time, that wage gap that we had for many years has gone away. So, you know, we're interested in addressing that, but also very critically we have to train supervisors.

Another thing that causes retention issues is inexperienced or poorly trained supervisors, and we have the least experienced supervisors that we've had at any point in our history that we can mine data for, and so we have to address that issue as well.

Senator HIRONO. Clearly, without an adequate workforce, and you have retirements, you have people, all of that, that you have to be very focused. Are you focused on the areas that I talked about? It doesn't, you know, it doesn't happen. The workforce doesn't happen because it's a good thing. You have to be very intentional about getting the people you need and to retain them. So, I conclude that that's what you're doing.

Mr. SERMON. Yes. Yes, ma'am.

Senator HIRONO. So, one of the other issues is that there are always massive cost overruns. The estimates that we get for how much a ship will cost usually is way off. Is there a way that you can better tell us what the costs are so that we're not facing massive overruns due to basically an inability to estimate what the cost will be over time? Have you thought about using an independent entity to estimate the cost that might be involved?

Admiral MOTON. Yes, ma'am.

Senator HIRONO. Who wants to respond to that?

Admiral MOTON. I will do that, ma'am.

Senator HIRONO. Go ahead.

Admiral MOTON. In general, in shipbuilding, you know, good cost estimates are key to informing the process. They're key to understanding the business case. I know that's recognized as the best case in shipbuilding. I know that Government Accountability Office (GAO) has recognized that and the business case itself as best practices for shipbuilding. So, I completely agree. Our process is set up so that when we are getting ready to procure a new class or new ships, we actually have independent cost estimates.

There's a team that we work closely with, but does their own cost estimates depending on the buy, we often have other sources of cost. We talk to Congressional Budget Office (CBO) and others. So we do take several inputs all designed to increase the fidelity of those estimates and improve our budgets.

We then obviously have to perform. The other half of your question is cost efficiency. Clearly that's part of the National efforts that Mr. Sermon talks about and that we're working at each of our shipbuilders to improve their cost performance.

Senator HIRONO. I can't tell if my time is up, I think it is. So I will submit other questions for the record, Mr. Chairman. Thank you.

Senator SCOTT. When you contract with the private sector, do you mandate that they contract or do they voluntarily bid and not do what they said they're going to do? Voluntarily, you don't have a mandate that they have to sign a contract with you, right?

Admiral MOTON. Sir, it depends in which area of shipbuilding. I know certainly in aircraft carriers and nuclear shipbuilding, our shipbuilders, you know, we have our two primary builders. For aircraft carriers, Newport News Shipbuilding is our only supplier. It doesn't mean that we don't hold them accountable. It doesn't mean that we don't aggressively look at their bids. But we do have to partner with them and collaborate as we do that. I do believe that we can do both.

Senator SCOTT. Senator, are you ready to go or are you, okay, Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman, and thank you all for being here today. I'm sorry I missed your testimony. So, if you've addressed the questions that I'm going to ask, please forgive me.

I know we're here to have a conversation about building the Navy's nuclear fleet, but we also need to maintain those ships once they're built. That maintenance and sustainment mission is one that I'm very focused on because the Portsmouth Naval Shipyard

is half in New Hampshire and half in Maine. So, we claim it. So, Mr. Sermon, how is the Navy prioritizing those Single Integrated Operations Plan (SIOP) investments to ensure that we have the public shipyards that are going to be necessary to maintain the fleet?

Mr. SERMON. Thank you for the question, ma'am. My organization actually works closely with the SIOP office on the intersection between those fundamental infrastructure investments and things like dry docks and buildings at our public shipyards and how my organization is pressing to use additional advanced manufacturing. So how do we put together the new facilities the additional people needed with advanced manufacturing?

So, working very closely with them on that, and, you know, understand, there's you know, particularly at Portsmouth, as I happen to know, a very mature SIOP program ongoing and tracking with them as the new dry docks come in, as the new buildings come in, how do we best leverage technology and the workforce efforts that we're doing across New England frankly from Electric Boat to Bath Iron Works (BIW) and with Portsmouth. How do we put all those things in battery together and the organizations really focused around putting all the things the workforce to manufacturing technology and the infrastructure with these partners together for better results.

Senator SHAHEEN. Well, thank you, and as I'm sure you know since you sound like you've been up to Portsmouth, the work that's going on there is going to make them much more efficient in terms of the job that they're doing, which will integrate better with the shipbuilding that's happening at BIW and Electric Boat.

Mr. SERMON. Yes, ma'am.

Senator SHAHEEN. I want to followup on Senator Hirono's question about workforce. I appreciated the comments that folks made about the effort to hire, recruit, and retain skilled workers. It's been an ongoing challenge at the shipyard. I know as people have retired because one of the challenges is just our unemployment rate is so low, there are a lot of options for people. The uncertainty right now around what's happening in the Department of Defense has created a lot of anxiety and concern that it's going to make the situation worse.

So, I know that the Department of Defense (DOD) has indicated that our public shipyards should be exempt from policies like the Deferred Resignation program, the mass firings, but my understanding is also that the actual policy guidance has been very slow to arrive. So, what can you say that will reassure folks that that policy guidance is actually going to come and they don't need to worry about their current jobs and look for something else because we do value the job that they're performing. I guess that's for you, Mr. Sermon.

Mr. SERMON. Thank you, ma'am. What I can say is that I am confident in the demand signal for submarines. I'm confident in the demand signal for repairing submarines and quite frankly, because you talked about BIW and that work too, as my organization reaches to support across shipbuilding and ship repair very confident in our need for surface ships and that continued work ongo-

ing. Honestly, that's what I would say is I'm confident in that demand signal for the Navy.

Senator SHAHEEN. Well, I agree with that, but I guess it doesn't address the policy guidance question and the slowness with which the Secretary's office, I guess, has come down to reassure people that they're not going to be fired. I don't know if somebody else would like to address that.

Admiral MOTON. Ma'am, I would just offer at the general, I think all of us would agree that we need a strong professional workforce in shipbuilding and ship sustainment, including at Portsmouth Naval Shipyard and all of our naval shipyards. You mentioned the exemptions that have been announced for the public shipyard workers. I think all of us also earnestly have to agree though that we need to perform as efficiently as we can.

Senator SHAHEEN. I would just point out that in Portsmouth, they have been on time and on budget.

Admiral MOTON. Yes, ma'am. I would just close by saying that it's our job to do both. To have that professional workforce and to be efficient.

Senator SHAHEEN. Well, I would hope that when possible, you would urge that the policy guidance reflect that intent.

Admiral MOTON. Yes, ma'am.

Senator SHAHEEN. Thank you. Thank you, Mr. Chairman.

Senator SCOTT. Senator Tuberville.

Senator TUBERVILLE. Thank you, Chairman Scott, for this hearing. I hadn't been in this business long, but I've noticed shortcomings of shipbuilding since I've been on this Committee and Armed Service Committee. We build components for submarines, the *Columbia*-class and the *Virginia*-class at Austal in Mobile, probably most of you know that. It's pretty new to us, but I've noticed a recruiting as Senator was alluding to workforce.

I know Austal has gone out and going through fast food joints and everything else, trying to find welders and people that can actually work and understand it. So it's an ongoing process. Admiral Weeks, how does this module production support your goal of increasing summary and construction rates?

Rear Admiral WEEKS. Sir, thank you. Thank you for that question. So, as we look at the constrained capacity in our primary building yards, it's really important that we recognize that broadening that shipbuilding industrial base, the shipbuilding base beyond those two yards is really the opportunity we need to be able to, again, bring more folks to bear, bring, you know different geographical regions to bear, and alleviate the strain on our primary yards, right?

That will then allow them to do most efficiently what only they can do, which is things like outfitting, final assembly, and testing. So both——

Senator TUBERVILLE. Are we seeing an increase in production by doing this?

Rear Admiral WEEKS. Yes, sir. Sir, it has been, you know, anytime you put something new in a new facility that's not done that kind of work before, you expect that it's going to take a little bit of time to come up to speed. That's exactly what's happening. We are now, you know, especially with Austal, we've been on the path

long enough now that we're starting to see the improvement that we expected.

Both Admiral Rucker and I have been down to Austal multiple times partnering with both Electric Boat and the company there to make sure that they're on track to get where they need to be and, you know, they're doing well. Yes, sir.

Senator TUBERVILLE. Yes. You think it'll help us catch up with the Chinese and their expansion of their submarines? They're really, they're flying past us. You think it's going to be possible for this type of procedure to really help catch the Chinese?

Rear Admiral WEEKS. Yes, sir. I think it's absolutely critical that we expand our industrial base. That is the only way we're going to be able to compete. Yes, sir.

Senator TUBERVILLE. Thank you. Admiral Rucker, what can the Navy and Congress do to accelerate outsourcing of module production?

Rear Admiral RUCKER. Thank you for the question, sir. I agree with everything Admiral Weeks said and the importance of outsourcing. Where we stand today, we have a goal by 2026 to get up to about 7 million man-hours annually. That's equivalent of a surface ship destroyer from our submarine yards out to the industrial base. As of end of 2024, we were at about 3 million hours, so we're about halfway there.

As Admiral Weeks said, we've been down to Austal. They've already delivered the first two large submodules for *Virginia*-class. They've got three more they're working right now. The next one's going to be delivering this summer, and then they keep on going. We need that strategic outsourcing to increase the overall capability and capacity for large structural fabrication, machining, electrical. So we're going to continue to work with the shipbuilders to ensure that we can execute that efficiently and effectively.

Senator TUBERVILLE. Admiral Moton, any thoughts on strategic outsourcing as a method to increase our shipyard output?

Admiral MOTON. Yes, Senator. I completely agree with my colleagues on the importance. I think it's a critical part of our strategy, as you say, to improve our pace of shipbuilding. I would note in the example of Austal, the aircraft elevators for CVN 80 and 81 are both being built there as well. So we've done that.

Closer to Hampton Roads, outsourcing has been an important part of Newport News Shipbuilding strategy to improve on aircraft carrier production. They've gone to several suppliers to help with construction of modules, including a site just across the river in the Hampton Roads area that's focused on adding real estate and the ability to do panels more quickly to support our carrier shipbuilding. So I agree, it's critical.

Senator TUBERVILLE. Now, visiting Austal, I noticed that especially in submarines, Nickel is a huge part of very important parts of the submarine and our supply chain there. Any three of you can you give update on, do we have a, a better supply of nickel now? Is it getting worse? Because we don't have a lot of nickel in our country. Anybody want to answer it? Mr. Sermon?

Mr. SERMON. Yes, sir. Thank you for the question. Nickel is as you point out, sir, is among the fundamental metals and alloys that we're continuing to work with OSD, Office of Secretary of Defense,

to take a very careful look at and address. As you pointed out, we do continue to have both price fluctuations, which are of course related to supply but committed to addressing those, sir.

Senator TUBERVILLE. Thank you. Just one other question if I could. Mr. Sermon, the Navy and Capstone Investments put $150 million each to buy land from Alabama shipyard just recently which is just next to Austal. Can you describe how this partnership came about and what's your plans for growing the industrial base using, you know, this land? Do you know anything about this?

Mr. SERMON. Yes, sir. I'm familiar, and thank you for the question. So, when we talked about outsourcing and we understand as Admiral Rucker and Admiral Weeks pointed out we're about 3 million hours into that outsourcing that we have to do annually, we have to get to seven. We need as an enterprise, we need additional space, we need additional workforce, we need additional production.

We've got a very promising work started at Austal. We've got work started at BAE Systems in Jacksonville. We've got work started at Rhodes in Philadelphia as well, that are really going to bring us into battery. More land is needed, more you know, waterfront land. That facility that is Alabama shipyard, actually 60 acres of that 355 acres there will remain as in battery maintaining our military sealift command.

Much of the rest of that, our intention in an opportunity zone public private partnership is to work to bring that land into battery, much like it was that exact same land was in battery building liberty ships and tankers during World War II, is to bring that in battery for supply chain activities, for submarine modules, and most importantly from my perspective, advanced manufacturing that will fundamentally teach us across the entire industrial base, the entire nation, how to build ships, unmanned vehicles, and other kinds of naval activities better and more efficiently.

Senator TUBERVILLE. Yes, I'd love to get into the cell drone discussion, but thank you, Mr. Chairman.

Senator SCOTT. Thank you, Senator. So first off, thanks each of you for your answers. Mr. Sermon, so you run the maritime industrial based program. Since 2018, you've received funding above normal funding. So how much is it and what's the return that we can tell our taxpayers?

Mr. SERMON. Yes, sir. Thank you for the question. Since 2018, we've received about $6.7 billion that's focused on the 1+2 mission. Then I believe around $3.16 billion that's focused on submarine sustainment mission. Those have been focused in a handful of areas, as we mentioned, supply chain uplift, what we've seen there, and that's where we started. Fiscal year 2018 to 2022 is focused on supply chain uplift.

The statistics we have from the projects that took place between, or were funded between 2018 and 2022 and together with that and the rising demand signal, we've actually increased the parts output from 16 percent of what is required in order to execute 1+2 to just over 40 percent. We have to continue to advance that, and you know, the plan for the money that's in battery now, we haven't seen the results yet because it takes between 24 and 48 months,

depending on the type of project to really bring those things into battery.

But 1,200 projects across workforce, across supply chain and across advanced manufacturing are in battery working to get our production rates better, sir.

Senator SCOTT. You know what I don't get is, I never understand how with government, private companies can bid, not do their contract, and then somehow government's responsible for somehow putting up more money to get something done. It seems like if they bid up for something, they know what employees cost, it's their responsibility to go get these employees, not government's responsibility.

So, it's never made sense to me. So, let's talk about contracts. So, you all, every one of you have dealt with companies that have not performed on their contract. Do they have any negative, did anything bad happen to them? Do they, like, do they have penalties? What's the repercussions of not doing what they said, they're the ones that committed to it. You're not the one committed to it. I guess all of you have dealt with this, right?

Admiral MOTON. Yes, sir.

Senator SCOTT. So, if you could just say what's the accountability part of this?

Admiral MOTON. Sir, I will just say in, you know, when we choose a contract type, it is different for each type of ship that we're procuring in the circumstances. All of them come with various tools. You obviously cost plus is a different strategy. Fixed price puts more accountability on the shipbuilder. We have fixed price for share lines, which strongly incentivize them to have positive cost performance. Every contract has often a typical set of incentives that go along with that incentivize the shipbuilder to perform in schedule or other key program aspects.

We hold the contractor accountable by first of all, the profit that's associated with those, and sometimes with other measures, but it differs for each contract depending on what we're executing.

Senator SCOTT. Admiral Rucker?

Rear Admiral RUCKER. Yes, sir. Thanks for the question. I agree with my colleague, Admiral Moton. What I would also say is, in addition to holding them accountable via their profit and how much money they make or lose, we have had cases where vendors have not performed. One of our strategic outsourcing vendors, in which case we move the work from them to other vendors. So we do take action when we do see something that is affecting our production.

Senator SCOTT. Are they responsible for any increased cost if you have to move it?

Rear Admiral RUCKER. Depending. It goes back to what Admiral Weeks said, sir. It depends on the contract structure. So, my answer is it depends. In some cases, they are fixed price contracts, which they're fully responsible. In other cases, it might be a cost contract depending on if it's a development one or not. It depends on the amount of risk and how we share that risk.

Senator SCOTT. Admiral Weeks?

Rear Admiral WEEKS. Yes, sir. I would add that, you know, in extreme cases, we can also withhold payments. So we will retain some of the payments if the companies are not performing to the

contract. So that is another tool that's in our inventory if we need to use it.

Senator SCOTT. Mr. Sermon?

Mr. SERMON. Yes, sir. As Admiral Rucker said, we've had 17 suppliers where we've stood up additional suppliers where we were single source previously with the submarine industrial base investments. To fully address your question, sir, I would say that the direction that we are headed with these maritime industrial base efforts with partnering across the submarine aircraft carrier community is particularly in submarines, is to get to leverage competitive forces to get the best results. Both in terms of schedule and cost out of our industrial base. As we buildup the maritime industrial base we are positioning ourselves to better leverage those forces.

Senator SCOTT. Thank you. Senator Sheehy.

Senator SHEEHY. Thanks for your time today, gentlemen. How do we boost our forward submarine tender capability? My understanding is we're pretty low on those right now.

Rear Admiral RUCKER. Thanks for the question, sir. Right now, we have two. Right now, they're helping us if you're probably familiar with the maintenance that was done over in Australia. We actually positioned our tender there to help the USS *Hawii* was over there doing maintenance. USS *Minnesota* as well. Right now, those two tenders are what we are using. As part of the budget process, the evaluations ongoing on what's going to take to replace them,

Senator SHEEHY. How many do you think we need to be fully operationally capable for the whole fleet?

Rear Admiral RUCKER. So, the answer depends. It depends on where we end up with the fleet, sir. I'd have to take that for the record. I'm not the expert on how many we need right now, so I'd have to take that for the record.

Senator SHEEHY. Do you have enough?

Rear Admiral RUCKER. The two that we have today, they're fully utilized, sir.

Senator SHEEHY. Then you know, as we explore a near peer environment, is the *Virginia*-class and another *Columbia*-class as well, is that where we need to be operational wise, do you think as far as capabilities for a near peer engagement? Or do we think there's a next gen investment we need to make for our undersea dominance?

Rear Admiral RUCKER. Yes, sir. Thanks for the question. As the Program Executive Officer (PEO) for attack submarines, I own not only the *Virginia*-class construction and sustainment, but also the development of the Next Generation Attack Submarine (SSNX). The *Virginia* is an extremely capable platform. There's no peer like it in the world, so it is executing missions today for national security.

However, as we look out in the future and where the rest of the world is going, we are realizing what we need to add in terms of payload, speed, stealth, and survivability. So that's what we're looking for the next generation attack submarine. But our intent is to continue for the 2025 shipbuilding plan, continuing to build *Virginia*-class in parallel as well.

Senator SHEEHY. Our replacement capability for that, you know, which ties back to our maritime industrial base you know, if we

enter into a sustained conflict, our ability to replace vessels, should they be attrited. Do you feel confident we have the ability to have replacement both undersea and for our surface vessels?

Rear Admiral RUCKER. Great question, sir. For our submarines, our four public shipyards or what have the primary capacity to repair our submarines as well as our two private shipbuilders, we've been undergoing material strategy to ensure that we can uplift and provide, working with Matt Sermon's team and the rest of the industrial base to provide the necessary spare parts that we have on the shelf so that as we need to do those repairs, they're more available.

We've obviously, as we went down to low-rate production had less on the shelf. So now we're in the process of not only improving summary construction, but our sustainment efforts as well.

Admiral MOTON. Sorry, I would just briefly add as well on the sustainment side, you know, that the ability of our naval shipyards and our private shipyards to do a quick repair is a big focus. I know for Naval Sea Systems Command and other organizations they basically—the ability to respond to battle damage is something that we have significantly increased focus on in recent years. It's a key part of how we would respond to any conflict.

Senator SHEEHY. Yes, and I think my concern is, you know, we've become very comfortable, you know, in the not near peer environment where, you know, we may have damage, but my biggest concern is when it's a near peer conflict and we're losing ships, i.e. they're destroyed and sunk, and our ability to replace those at a rate higher than the adversary. Right now, our adversary builds vessels 230 times faster than we do.

So, the advantage we had last time we had a big naval war in Westpac was our ability to replace those vessels rapidly. Now that advantage lies with our adversary. So two things either have to happen, one or both. We have to be eminently survivable under any combat conditions or we have to be able to replace, and right now we can't replace, so.

Admiral MOTON. Yes, sir. We do need to do both.

Senator SHEEHY. Yep. Then one final question. I think as we see relatively low intensity conflict, you know with our Naval Combat and the Red Sea what have you learned as far as our—I don't think we've had any major vessel damage from that, but of course we've had magazine replacement, you know, and we've had to keep those ships combat operational. Are there many lessons that you've gleaned from the fleet now that we've actually seen for the first time in decades, some pretty steady naval combat that we can adopt quickly?

Admiral MOTON. Sir, I will just say, obviously you know, that's not day to day, you know, as an aircraft shipbuilder, but as a naval officer, I've been extremely proud to watch what's happened in the Red Sea. Our fleet has responded magnificently. You know, getting our assets on station, supporting them in theater has been significant. I know that, you know, Admiral Cooper and others have talked explicitly about the incredible performance of the crews, of our carrier strike groups.

We are learning on the fly. We are outpacing anyone's ability to keep up with us as we adapt to the tactics and techniques that

have been used, and made improvements on the fly to ensure that our entire Navy force out there is able to respond. Obviously so far it's been successful, and so we have learned a lot but we have a lot to be proud of as well.

Senator SHEEHY. Thank you.

Senator SCOTT. Senator Blumenthal.

Senator BLUMENTHAL. Thanks, Mr. Chairman. Thank you all for being here today. Thank you for your testimony and your service to our Nation. I want to begin on submarines. I was at the commissioning of the *Iowa* on Saturday. As always with all the commissionings and christenings, a stirring and moving event, and a tribute to the great workforce at Electric Boat (EB). I was talking to Mark Rayha, I'm sure you're familiar with him. He seemed pretty optimistic about the progress on hiring enough of the skilled workforce that are necessary in the thousands. Is that your assessment as well, Rear Admiral Rucker?

Rear Admiral RUCKER. Thanks for the question sir, and good to see you again. Good seeing you at the *Iowa* on Saturday. I will applaud you for being able to make it up there, given your schedule I know.

Yes, sir. I would agree. From 2022 to 2023 we saw across both ship loaders about a 41 percent increase in their hiring. In 2024 they pretty much met their goals. Our challenge now is to continue to work with them on their attrition. Those rates have come down since 2022. However, they're still higher than they need to be, especially in the one to 2-year workforce range. So that's an effort that we are working together with them to address.

Senator BLUMENTHAL. Is there anything you would recommend our doing in the NDAA to make possible or make more likely meeting that workforce challenge?

Rear Admiral RUCKER. Yes, sir. There are multiple things that we're doing, so appreciate the question. I would say the workforce is one of the number one things that is needed to be able to build the submarines and aircraft carriers. Wages is one of the top things, and so appreciate Congress's continued support and the funding that came in the emergency supplemental, the 5.7 billion of that, about 520 million of that is specifically to go after wages on current contracts across all three of our programs. That's something as we move forward, we can hopefully be able to continue to do that so we can pay the people that do the work what they should earn and deserve to earn.

Senator BLUMENTHAL. They're in the midst or they're beginning contract negotiations with a number of their unions, I believe, and I think that's very important to meet the goals and challenges of their workers in an era of rising prices and possibly even higher prices in the future.

Let me ask you if I may on the subject of cost, both the *Columbia*-class and the *Virginia*-class programs depend on nuclear grade steel, high yield steel, steel alloys, other kinds of extremely specialized materials coming from a supply base that has shrunk over the last few years. I think in the 1980's there were 17,000 suppliers. Today, they're around 5,000. Will tariffs impact the costs of producing our nuclear submarines?

Rear Admiral WEEKS. Senator, thank you for that question. As I'm sure you're aware, you know, the vast majority of the components that go, you know, certainly into the *Columbia*-class, but also the *Virginia*-class are American made components. You know, the Navy anticipates that there may be some cost increases associated with tariffs, however, it's really too early to be able to assess what those might be.

Senator BLUMENTHAL. I'm sorry. Maybe it's going to be up to the suppliers to determine what the——

Rear Admiral WEEKS. No, sir. I mean, the Navy, you know, as we have, you know, work together with industry to evaluate what the, you know, as costs change and go up or go down depending on what market you're talking about, again, it's all sort of rides, you know, all the things we procure for the, you know, certainly in the commodity space like steel and things like that, really do ride on kind of what the market is, right?

As the things sort of ebb and flow, our ability to work together with industry to be able to evaluate what the impact would be to our program specifically.

Senator BLUMENTHAL. So, we really don't know at this point.

Rear Admiral WEEKS. We do not know. Yes, sir.

Senator BLUMENTHAL. Let me ask you, what is the timetable for the *Columbia* currently being constructed and the next two, if you can tell us?

Rear Admiral WEEKS. Yes, sir. So, lead ship *District of Columbia,* right now, we are projecting it to be 12 to 18 months late, the contract. However, we're taking action right now to accelerate and recover as much schedule as we possibly can. The second ship, *Wisconsin,* is currently on schedule. So, we are on schedule to deliver that ship at the 80-month contract.

The next five ships we're really in the early construction phase of those. So, we're not in a position yet to be able to evaluate where they are relative to the delivery schedule. However, all the activities that we have going on right now are all on track.

Senator BLUMENTHAL. So just to be more precise, the *Columbia* will be ready in about 2027?

Rear Admiral WEEKS. Sir, it'll be closer to 2029.

Senator BLUMENTHAL. In 2029?

Rear Admiral WEEKS. Yes, sir.

Senator BLUMENTHAL. The next, the *Wisconsin,* what year?

Rear Admiral WEEKS. Sir, *Wisconsin* will deliver in 2032, but I——

Senator BLUMENTHAL. In 2032?

Rear Admiral WEEKS. Yes, sir.

Senator BLUMENTHAL. The one after that, the *Groton?*

Rear Admiral WEEKS. So that sir, would be in 2034.

Senator BLUMENTHAL. In 2034? I recognize I'm out of time, Mr. Chairman, maybe if we have a second round and I can stay, I'll come back with more questions. Thank you.

Senator SCOTT. Senator Sullivan.

Senator SULLIVAN. Thank you, Mr. Chairman, and gentlemen, thank you for your testimony. By the way, as a senator, I've gotten to kind of dig deep into the whole history of the nuclear Navy and it's really remarkable organization. You guys are all part of some-

thing that's very special. It started out under some really unique leadership with Admiral Rickover, and then the systems in which we continue today have a long-term billet assignment for the admiral in charge of the nuclear navy, an 8-year assignment.

So one of the things I tried to do last year, and I raised this in the hearing 2 weeks ago on conventional surface shipbuilding, is saying, "Hey, why wouldn't we want to do something similar on shipbuilding?" I asked Vice Admiral Downey from Naval Sea Systems Command (NAVSEA), should we make the NAVSEA billet like the head of Navy nuclear reactors 8 years. That way you can actually oversee shipbuilding.

It was interesting, I didn't know this, but Admiral Downey said, "Well, NAVSEA is a 3-year billet, but it often gets extended." Which actually kind of makes my point. So last year I had a provision that this Committee passed and voted on pretty strongly bipartisan vote that got in the Senate, NDAA bill for having Nav Sea to have an 8-year billet, just like the head of Navy nuclear reactor.

So that individual and then be done retired, can actually seriously oversee shipbuilding, not have to look at your next billet assignment. What do you gentlemen think about that? I think Admiral Downey kind of liked the idea. I like the idea. I think we're going to re-attack it again. Think Navy stripped it out last year in the conference with the house. I have no idea what the hell the house was doing, but the Navy didn't like it for some reason.

Why? Why wouldn't we want to do that? It works for you guys. Why wouldn't it work for shipbuilding writ large? Anyone have a view on that?

Admiral MOTON. Sir, I'll just start. I probably have a little bit of a unique perspective on my panel here in PEO carriers. I'm actually not a nuclear trained officer. I have immensely enjoyed working with Naval Reactors over the last 2 years in the job and have been incredibly impressed with——

Senator SULLIVAN. Do you think part of their impressiveness is the fact that the head of Navy nuclear reactors has an 8-year billet, and retires pretty much?

Admiral MOTON. I do. I'm certain that steady capable leadership is part of their success. Absolutely.

Senator SULLIVAN. Would that help in shipbuilding?

Admiral MOTON. You know, longevity, the ability to see programs through a long period of time, I think is always helpful. People often bring up other factors such as the, you know, being change agents and bringing fresh sets of eyes. From my perspective——

Senator SULLIVAN. If your fresh set of eyes are leaving every 3 years, you're——

Admiral MOTON. Yes, sir. It has to be looked at from, you know, for every job from a PEO's perspective, you know, I certainly trust Navy leadership to balance that properly, and that they'll do——

Senator SULLIVAN. Yes. Not always. Sometimes we know what we're talking about here.

Admiral MOTON. Yes, sir.

Senator SULLIVAN. Sometimes we don't, but sometimes we do. Let me move on to another question. I just literally walked out of a meeting with Admiral Caudle and we were talking about the same issue. He mentioned to me from 1960 to 1964, the United

States produced 41 Boomer strategic submarines. 41 in 4 years. So we can do this. We all know we can do this, but we had a lot more shipyards back then.

In the last 30 years, the number of public shipyards has been halved leaving four, and only seven private new construction yards still in existence. What's more concerning is that we have only two private nuclear shipyards and both of those are on the East Coast. The good news is there's very strong bipartisan support right now in the Senate and the House to help the Navy fix its shipbuilding crisis. Now you have the support of the President of the United States. In the State of the Union has said he's making this a priority.

Do we need more shipyards? Do we need West Coast shipyards? If we did, I think this Congress would say, "How many? We'll pay for them." What do you guys think? Open any and all.

Rear Admiral RUCKER. I appreciate the question, sir. I think with our two nuclear shipbuilders today we've been talking so far to the Committee about all the work we're doing to move work outside of the two shipbuilders to what we call strategic outsourcing. The number we were talking about, it's about 7 million hours per year. So the equivalent of a surface ship, a destroyer that we're pushing out to the industrial base to other locations from a public——

Senator SULLIVAN. Do we need more shipyards?

Rear Admiral RUCKER. So, the shipyards, we're actually evaluating that right now, sir. We have a joint study going on with the Secretary of Defense's office, the Cape as well as the Navy that will be finishing up. We're in evaluation right now of what will be required.

Senator SULLIVAN. What do you think, Admiral?

Rear Admiral RUCKER. I actually am and have the team that's running that study, and I'm waiting to see the final results, so I'll be able to get back to you later this year, sir.

Senator SULLIVAN. Admiral Weeks?

Rear Admiral WEEKS. Sir, I agree with Admiral Rucker that we absolutely need more shipbuilding capacity in this Nation. So, whether that is you know, discrete shipyards or as our current strategy is, which is to shift work out across the Nation, right? Not necessarily be constrained by coastal areas. I think, you know, again, my perspective, the right answer is we've got to grow our capacity. I think that comes in lots of different ways. I'm looking forward to seeing the results of the study that Admiral Rucker referred to, to make sure we're being smart about how we pursue it.

Senator SULLIVAN. Mr. Sermon, Admiral Moton, any of you guys have a view on this?

Mr. SERMON. Sir, I think it's critically important that we get the shipyards that are both public in the maintenance world, and as you mentioned, our two nuclear yards to full capacity at three shifts and humming there as we assess this, which is part of what the study that Admiral Rucker is participating in is doing.

The workforce efforts that we're undertaking to do that, to be able to really take advantage of three shifts at the public shipyards and take advantage of manning there, as well as how we use advanced manufacturing. We've both got uplift possibilities.

Admiral MOTON. Sir, I, you know, completely agree with my partners up here. You know, aircraft carriers are a little bit different, obviously the size of the platform, there's only two naval shipyards that are able to work on them, and one shipyard that's able to build. But collectively, I think it's an important part of the discussion. We are actually part of the study that Admiral Rucker mentions, I can assure you that it is data-based. It is, you know, looking hard at the future capacity and the future workload, and it's going to inform the right decision, I'm sure.

Senator SULLIVAN. Sorry, Mr. Chairman, there was one final question on aircraft carriers. We have one company in America that can build aircraft carriers. Is that right?

Admiral MOTON. That's correct, sir. Newport News Shipbuilding from Huntington Ingalls Industries (HII) is our carrier shipbuilder.

Senator SULLIVAN. Thank you.

Senator SCOTT. Senator King.

Senator KING. Thank you, Mr. Chairman. I want to followup on this line of questioning. Everybody around here for the past three or 4 years has been talking about rebuilding the defense industrial base, expanding the defense industrial base. How do we do it? Is that a matter of more contracts for the big prime contractors? Is it bringing new people into the business? Is it encouraging smaller companies?

I mean, this is one of these things everybody talks about, but I never hear much in the way of specifics about how to go about it. Mr. Sermon, what are your thoughts?

Mr. SERMON. Thank you, Senator. My three primary focus areas that are absolutely aimed at capacity, are getting the workforce that we need.

Senator KING. That's going to be my next question.

Mr. SERMON. That's not just at the shipbuilders, but in the supply chain across the Nation, right? Not just on where the shipyards are on the coast.

Senator KING. Isn't one of the big issues supply chain, second and third order suppliers?

Mr. SERMON. Yes. Yes, sir. It absolutely is. My second item is foundational investment in our supply chain. What we have in the submarine community in particular, about 70 percent of our critical suppliers are single or sole source, meaning we don't have a backup method. Getting a backup supplier, or getting that supplier to where they're very competitive, both in terms of schedule and cost, is crucially important.

Senator KING. One of the problems, we've had testimony before, the full Committee, that smaller companies have given up trying to contract with the Pentagon. It's so burdensome, slow, so much paperwork, and we're losing the opportunity to develop this capacity in anything but larger entities.

Mr. SERMON. Yes, sir. I think it's absolutely necessary for us to lower some of those barriers to entry to get more suppliers in. One of the ways we're pursuing that is through advanced manufacturing. We see that, you know, we know, to get to the full 100 percent capacity required for the 1+2 number that we use, that we're going to require many, many additional components across the industrial base. When we look at capacity and look at workforce and

look at what our foundational infrastructure is, we know we'll need advanced manufacturing for that.

Senator KING. What are the bottlenecks in the *Columbia* program? Is it suppliers? Is it Electric Boat? Where could we poke to improve the throughput?

Rear Admiral WEEKS. Yes, sir. I'll address that as the PEO for *Columbia.* So it is all the things that Matt Sermon said, is absolutely supply chain challenges. I would offer that because of the unique authorities that we have with the *Columbia* program, so the, you know, advanced construction, advanced procurement authorities, we've been able to minimize some of those impacts. We do still feel them.

We also have this, you know, the challenges in the shipyards themselves, right? The workforce you know, the green workforce we have in those shipyards, their ability to not be as efficient as they need to be. Those are also pacing us. Then unique to *Columbia,* at least on the first ship is we have the first of class sort of learning that you always have with a first of class. We're working through those as well.

Senator KING. Let's talk about workforce. You fellows have mentioned it two or three times. I believe we're headed into a time when workforce—well, workforce is a huge barrier now. I was with the building supply companies in Maine today. They have workforce problems. Everybody's facing workforce problems, and we always talk about wages. I think, Admiral, you mentioned wages, but I believe we're going to have to start talking about things like childcare and parking because those are the things that are necessary in order to enable people to get to work.

I hope the Navy is, and I know they are in some cases, thinking about those kinds of, that's a legitimate part of the workforce proposition is these kinds of ancillary benefits, if you will to attract workers that we need.

Rear Admiral RUCKER. Yes, sir. I would 100 percent agree with you. Congress did a great job in the Fiscal Year 2023 NDAA about talking about workforce incentives and matching with the shipbuilders and our industry partners. When we established contracts, we've been putting those into some of the near, you know, most recent shipbuilding contracts. Many of those are looking at things such as childcare, parking, quality of supporting the workforce to then allow them to be able to be the most effective and efficient at their jobs.

Senator KING. That has to be part of it. Mr. Chairman, I'm going to associate myself with Senator Sullivan's comments about tenure tour. I think of myself after 3 years, I barely was learning how his place worked and to learn all you learn in 3 years and then move on, I think that's a discussion that should be had more generally.

I'll never forget interviewing General Dunford when he left Afghanistan and all the knowledge that he had that was walking out the door. So, I think that's something that we ought to be talking about generally, not only in nuclear shipbuilding or shipbuilding generally, but across the board, particularly at these high expertise positions. Thank you, Mr. Chairman. I yield.

Senator SCOTT. Thank you. Senator Kaine.

Senator KAINE. I don't want to ask about the content of these communications, but I just want to ask sort of the fact of communications. Have any of you been consulted about how the proposed shipbuilding office at the White House should be composed and what mission that they should take?

Admiral MOTON. Sir, I'll say that, you know, that all of us had the opportunity to actually review the draft executive order for the White House Office shipbuilding and the other measures that are in there. We were able to provide feedback. So it was very positive that we had the ability to do that and continue to have feedback. I know at kind of the higher secretariat level, there's active discussion going on, on that process and how that's going to work. We're supporting that process from our level as PEOs.

Senator KAINE. Great. Yes, I don't want to ask about the content of communications because that's really for the executive, but the fact that you've been consulted, that's a positive and been offered the opportunity for feedback. Admiral Rucker talk a little bit about the collaboration going on with the Australian shipbuilding industry around the *Virginia*-class program.

Rear Admiral RUCKER. Yes, sir. As you mentioned earlier, the importance, and I kind of talked about the importance of the AUKUS partnership both of our ally partners to be successful, Indo-Pacific AUKUS is a key tenet of that. I've been fortunate we have our AUKUS Integration and Acquisition office currently led by Ms. Atkins. But just in the last 2 weeks, I got to sit down with the entire UK leadership at the one to two, three-star level to have a update with them on what we're doing with our capabilities jointly.

Then as part of AUKUS, the Australian, both the Australian Submarine Agency and the Australian Submarine Corporation was just over 2 weeks ago, meeting with them. So far, we're seeing great efforts that they're leaning forward with the workers that are at Pearl Harbor Shipyard, about 154 of them. Part of our discussions, one of the lessons learned that we learned about is that's a lot of trades. So we're talking about what we need to do to also uplift their engineering and planning personnel as well. That's kind of a takeaway we learned is something we need to get after as well.

Senator KAINE. Thank you. Admiral Moton, I want to give you a chance to brag on the *Ford* a little bit. You know, this Committee's been very focused over the years on the delays and cost issues with the *Ford*-class, with the arresting gear, with the weapons elevator, with the launch system. Those systems continue to pose challenges in future ships.

However, the *Ford* is now under deployment. Talk to us about how the *Ford* is performing, and particularly in those three areas that had been trouble spots. Give us a report.

Admiral MOTON. Yes, sir. Senator, thank you for the opportunity to do that. So our entire organization, the PEO, I know Newport News, we're all very proud of the performance of *Ford* so far. *Ford* had a highly successful initial deployment. *Ford* was there. *Ford* was the initial response from the United States following the Hamas attack on Israel. One of the best pictures that I have is actually the, the *Eisenhower* and *Ford* sailing together. The ship did extremely well. The crew did well.

I can tell you that during that deployment service the ship, including the crew, including the catapults, including the resting gear and the elevators, did over 10,000 aircraft sorties during that deployment. Weapons onto aircraft and conducting those sorties. The elevators themselves, lots of discussion there. Obviously, the elevators have done on *Ford* over 43,000 cycles. I'm——

Senator KAINE. This is all the elevators. So you're not operating with like 7 of the 11. You got all of them going?

Admiral MOTON. Yes, sir. I will tell you, as a program executive officer, my job is not only construction and sustainment. So there are absolutely early class sustainment issues. Things like changing, you know, where and how many spares and those kinds of things. We are every day taking the lessons learned from *Ford* to improve that. But overall, the systems are doing well and the ship is underway right now, preparing for her next deployment and doing exceptionally. So we're very proud.

Senator KAINE. My understanding is that CVN 79 is probably not going to deliver till March 2026. Is that correct?

Admiral MOTON. So, CVN 79 at *John F. Kennedy* is 95 percent complete. So the progress is good there, but we are having critical path challenges. Right now, in principally two areas in the aircraft in the advanced weapons elevators, and also the advanced arresting gear. The shipbuilder is very focused. I will be quick to point out that the challenges that the shipbuilder is having are not design related. The elevators and the catapults and the aircraft launch recovery gear are performing exceptionally, as I just mentioned.

The ship, this is the second class. We're still learning a lot of lessons on production. These are complex machines and that's what we're seeing. We're executing a variety of improvements, both on 79 as much as we can, but particularly on 80 and 81. I do anticipate that that's going to delay the delivery of *John F. Kennedy*. We are focused very much on mitigating that and getting to combat readiness as quickly as possible, and we're assessing that and we'll have more details.

We are looking at all avenues to improve the timeline that I can get *John F. Kennedy* to the fleet

Senator KAINE. On 80, the contract delivery date was September 2029, but Secretary Del Toro's 45-day review suggested it would be more like January, 2032. Is that still how it's tracking?

Admiral MOTON. I think that was January 30, sir. But I take your point. So CVN 80, as I mentioned earlier, has been delayed by sequence critical material major items of, material that are late to the ship and are causing delays to the critical path and forcing the shipbuilder to change our build cycle. We are doing everything we can to get that equipment intense oversight from both the Navy and Newport News Shipbuilding.

I do actually anticipate that that performance has continued to degrade from what we reported a year ago. I'm estimating about—a year ago, we reported up to 26 months late. I'm estimating now 28 months. We are doing everything we can with the shipbuilder to improve that prognosis.

Senator KAINE. I said January, 2032, and you're right, I meant January, 2030, because It's the *Doris Miller* where the contract delivery date is 2032.

Admiral MOTON. *Doris Miller,* yes, sir. You're correct. *Doris Miller* is on track for 1932. So the other thing that is helping with *Doris Miller's* schedule is, number one, we bought the material for *Doris Miller* much earlier than we did for *Enterprise.* That in and of itself is preventing those critical path challenges to 81. The other thing we did very innovatively was with the shipbuilder, do a modification to the dry dock that's going to actually allow *Enterprise* and *Doris Miller* to construct at the same time that's going to mitigate the impacts to *Doris Miller.*

Senator KAINE. Great. Thank you. Yield back, Mr. Chair.

Senator SCOTT. Thank you, Senator Kaine. Mr. Sermon, I guess, I don't know if it was you did this or somebody else, but you shifted from executing industrial based funding through shipyards to a new not-for-profit Blue Forge Alliance. Can you talk about how much money we've given to Blue Forge Alliance and if we've gotten a return?

Mr. SERMON. Yes, sir, I can. So, since 2023 we have done approximately 200 supply chain projects as well as numerous workforce efforts, as well as coordination of our advanced manufacturing, bringing together colleges and our technical community efforts via nonprofit company called Blue Forge Alliance.

That company has about right around $2 billion that has, has flowed through it to the industrial base, on the efforts I talked about, primarily on supply chain projects, right? The company is a nonprofit. The company has a overhead rate and an execution rate that is actually less expensive for executing these projects than we had as we were executing them with the shipbuilders.

Just as importantly the projects that they are executing it has, and I believe that the shipbuilders would share this perspective takes pressure off of the shipbuilders supply chain team who is buying this 5x, really 6x by components increase across the industrial base.

We bring the Blue Forge Alliance team into battery to go and execute the actual investment projects that raise capability and capacity. By no means stuck on like, "Hey, we got to use Blue Forge Alliance for this either."

My plan going forward is to maximize bringing in partners from across the defense industrial base from other parts of the United States from other industrial base places of excellence where we've seen these kind of uplifts and learning and having more partnerships to ultimately get us to 1+2 to get us to 1+2.33. Thank you.

Senator SCOTT. Thank you. Admiral Weeks when you talk about the different ballistic missile submarines, when they're going to be ready, is that actually ready to go to combat or is that that just delivered and there's still going to be a lot of work to do afterwards?

Rear Admiral WEEKS. Yes, sir. The dates I was quoting earlier were delivery dates out of the shipbuilder. There is another, you know, approximately 18 months of time it takes from when the ship is delivered till it's ready for first patrol. Lead ship is a little

bit longer, but we are partnering with the fleet to shrink that to as small of a period of time as we possibly can.

Senator SCOTT. Is that still way later than what they thought?

Rear Admiral WEEKS. Yes sir. We're still looking at, you know, it basically carries forward into that on patrol date, although we're looking to shrink some of that as well as the, as I mentioned earlier, the work we're doing with the shipbuilders to try accelerate delivery schedules to get the ship delivered as soon as possible. So that's the fastest right now, that's the thing we can do.

We're also, again, working with the fleet to optimize that post-delivery to first patrol timeframe to make sure we're cutting out all the extra stuff in there and make sure it's really just the things we have to do.

Senator SCOTT. Admiral Moton, so how many shipyards can we build at nuclear aircraft carrier and how many do we have?

Admiral MOTON. Sir, you know, given the size of the aircraft carrier and the specialized facilities we only have one shipyard in the United States that's capable of building them, and that's Newport News Shipbuilding under HII.

Senator SCOTT. Could they be built overseas? Are there shipyards overseas?

Admiral MOTON. Not that immediately could build a carrier. I'd have to, you know, check and see if there were one that were big enough potentially. But obviously with the nuclear power aspects of the carrier, the complex machinery, which is part of what makes *Ford* capability so special you know, I would say it would probably be unlikely in my opinion that we could do that overseas. But, you know, I'm always willing to look at any alternative to improved performance.

Senator SCOTT. If they don't perform, then what do we do? We don't have any options?

Admiral MOTON. Sir, Newport News Shipbuilding is our partner in building aircraft carriers, but we also hold them accountable under the contract. All of the provisions that are in there are designed to incentivize their performance. If they don't do that properly, they don't get those incentives. We do that and we hold them accountable in many other ways day to day on their performance. But at the end of the day, we do have to partner with them. I do believe that we can do both and both are PEO Navy organizations such as the supervisor shipbuilding exercise, accountability of the builder at all possible levels, at the same time as we work with them to produce the ships.

Senator SCOTT. Wouldn't it be beneficial to have competition?

Admiral MOTON. Sir, it's always beneficial to have competition. Prior in my career as a captain, I was the destroyer program manager for the *Arleigh Burke*-class. I very much enjoyed having two shipbuilders that were in competition with each other as we built that class. It has to be a class-by-class basis and obviously the carrier brings special constraints.

Senator SCOTT. So Admiral Rucker, so we're continuing to be way behind on the *Virginia*-class program. I mean, is it really anything that's happening now? Because didn't they tell us before we were going to be on time and it still hasn't happened. I mean, what's realistic? Same question I asked Admiral Weeks. When you say

you're going to deliver something, it doesn't mean it's ready to go to war, right? There's significant delays after that.

Rear Admiral RUCKER. Yes, sir. Thanks for the question. I'll kind of work my way from your second question here first. When we deliver *Virginia*-class today, they're the highest quality platforms in the Navy. Independently assessed by our, what's called our inserve team. They have the highest quality score of any ship in the Navy. From the time we've delivered them, we've worked with the fleet based on the fleet's needs to actually deploy multiple submarines.

So, both *New Jersey* and *Rickover* both deployed before their post shakedown availability and *Iowa's* on track to do that this year as well. So, my answer is on that, we do support the fleet and let them use them and adjust our schedules when world events require that. Where we stand today on production, sir, we need to continue to improve. It's both an issue with the supply base and at the shipbuilders.

We've got actions ongoing, both with congressional help to support the uplift of the supplier base. We've already seen some bottlenecks removed. We have more to go and then at the shipbuilders we need to get after their production capacity as well.

Senator SCOTT. So, we're producing a little over one a year, right? What are we funding? Are we funding more than that?

Rear Admiral RUCKER. We have funded two. The Congress has appropriated two and authorized two in the past. The 2025 budget has one that's in there. The advantage of that one, which I've talked on the record before about, is right now the production system is, what I would say is out of balance across manufacturing, kind of the steel production outfitting and final assembly and tests. We need to get that back rebalanced.

We actually slowed down portions of the production system that we're at a two per year rate to make sure the whole system could then be uplifted together. That one boat in 2025 allows us to resynchronize and rebalance the production system. Then going forward, the two per year rate that we anticipate doing allows us to do a more efficient ramp up to get to the two per year that we need to achieve.

Senator SCOTT. So, does it make sense to keep funding at a rate way in excess of what we're producing?

Rear Admiral RUCKER. Great question, sir. I understand that perspective. Part of the continuing to look going forward as we go into the 2026 budget, obviously that's still being looked at, but the advantage of the two per year is if you look across the production system, we need all phases of it to get to that two per year.

If we go back down to one per year looking out in the future, the ability to ramp back up the two would cause us to have those same challenges of ramp, which we're going through now. We have a clear plan working with Matt Sermon's team and the industrial base and then with our shipbuilders on a path to get there. So going back down, we would still have to get back up again to support what we need for our four structure of 66 submarines, and then also our AUKUS partners.

Senator SCOTT. Just didn't seem to make much sense when we're funding two, we're not getting two, but if we don't keep funding

two, we'll never get to two. It seems completely out of whack of what we're spending.

Rear Admiral RUCKER. Understand, sir, which is why in 2025 we put one forward to kind of allow the system to catch back up and ensure we get rebalanced.

Senator SCOTT. All right. Anybody have any questions?

Senator BLUMENTHAL. Yes, I have a couple. Thanks Mr. Chairman. If I understand correctly, we funded one for 2025, but we're funding two for the successive years when we hope to be back on two subs a year?

Rear Admiral RUCKER. The current PB 2025 shipbuilding plan has two per year in it right now. Yes, sir.

Senator BLUMENTHAL. Let me ask you Admiral Moton, and I apologize if I'm being repetitive or just plain dumb. How far behind was the *Ford* on schedule? In other words, how far behind its scheduled completion date was it?

Admiral MOTON. Sir, actually I will have to take that for the record. I do not, you know, having been the PEO only for——

Senator BLUMENTHAL. For 3 years.

Admiral MOTON. Actually, I do not know the original scheduled date for *Ford,* right? It was certainly behind. It delivered in 2017, but then also it delivered in an incomplete state and required the Navy several years through our Make *Ford* Ready program to get it ready, right? We have to do better than that. Understanding the challenges that we're still having, we have to continue to improve. It was unacceptable. I don't have the original delay number and I'd have to get that for you, sir.

Senator BLUMENTHAL. Is the *John F. Kennedy* behind schedule?

Admiral MOTON. Sir, the *John F. Kennedy* is largely complete except for critical path work primarily in the weapons elevators.

Senator BLUMENTHAL. Well, I know. I heard you say that. But when was it supposed to be delivered?

Admiral MOTON. Sir, it's current contract date is this summer. It's supposed to deliver this summer. There have been some changes in *John F. Kennedy* schedule over time. The Navy shifted the plan on how we were going to take delivery of the ship. We also made a decision to pull a lot of the work that we had done on *Ford* after delivery into earlier on *John F. Kennedy* All of that being said, that caused a date shift. The current date that the shipbuilder is accountable for is this summer, and that's the date with the challenge.

Senator BLUMENTHAL. This summer. But that's later than what was the date, the projected date. When was it supposed to be done?

Admiral MOTON. It's later than the original contract date, but the Navy made a decision to pull capability into the ship so that it's combat readiness, like when it was ready to go with the fleet would be on time. That was what was done with *John F. Kennedy.* I know that is slightly confusing, but it was done to ensure that we had a fully combat ready carrier on the schedule to meet fleet needs.

Senator BLUMENTHAL. I have to confess, I don't understand that answer.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. If I'm a home buyer, I go to a contractor, he says I'll have the home ready for you to move in——

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL.—in Christmas of 2025. If it's ready 2 years later, I can say it's 2 years behind.

Admiral MOTON. Yes, sir. In this case in your analogy, we would have the original schedule for the home. The home buyer may want to put a pool and we decided that we're going to go ahead and put the pool in before we take the custody of the——

Senator BLUMENTHAL. I understand that point that maybe its capabilities were increased.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. But my question is, the original *John F. Kennedy,* when was it supposed to be ready?

Admiral MOTON. I do not have the original delivery date in front of me, sir.

Senator BLUMENTHAL. Can you get these answers for us?

Admiral MOTON. Absolutely.

[The information referred to follows:]

Admiral MOTON. The Detail Design and Construction (DD&C) contract awarded to Huntington Ingalls Industries Newport News Shipbuilding (HII-NNS) on June 5, 2015, initially envisioned a two-phased delivery approach for USS *John F. Kennedy* (CVN 79):

Phase I (Hull, Mechanical & Electrical—HM&E): Completion targeted for September 2022, providing full propulsion, safe navigation, and limited aircraft launch and recovery capability.

Phase II (Combat & Warfare Systems): Completion targeted for September 2024, installing remaining combat and warfare systems, including Enterprise Air Surveillance Radar (EASR), delivering CVN 78-like capability.

Subsequently, Section 124 of the fiscal year 2020 National Defense Authorization Act, Public Law 116–92, mandated a shift to a single-phase delivery to ensure CVN 79's operational readiness with the F–35C Joint Strike Fighter before Post Shakedown Availability (PSA). While this required integrating additional work during construction, this new single-phase delivery targeted completion for 2024, achieving the most efficient path to fleet operational status.

However, in 2023, to optimize work scope placement to achieve the mandated F–35C capability at ship delivery and to mitigate risks, the single-phase delivery date was revised to July 2025, while shifting work originally planned for PSA into the construction period.

Finally, compliance with 10 USC 8671 (Determination of Vessel Delivery Dates) required the Navy to deliver vessels that are "assembled and complete." Accordingly, the Navy's current estimated delivery date for CVN 79 is March 2027, with preliminary acceptance expected in 2026.

Senator BLUMENTHAL. The reason I'm asking is you've got two more?

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. The *Enterprise* and the *Doris Miller.*

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. They're supposed to be ready in 2030 and 2032.

Admiral MOTON. Correct.

Senator BLUMENTHAL. Are they going to be ready in 2030 and 2032?

Admiral MOTON. Well actually *Enterprise* was supposed to be ready in 2028, sir.

Senator BLUMENTHAL. Twenty twenty-eight.

Admiral MOTON. We are now projecting it's going to deliver in 2030 based on the——

Senator BLUMENTHAL. That's 2 years behind.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. The *Doris Miller* 2032, was that supposed to be ready in 2030?

Admiral MOTON. 2032 is the date for the *Doris Miller*. We assessed that *Doris Miller* is still tracking to that partly by the earlier material buys and the dry dock updates that I talked about earlier. I'll just say, Senator, you know, my apologies as a lot of those dates were long before I was with the program. I will get you a crisp answer on the dates for both 78 and 79.

[The information referred to follows:]

Admiral MOTON. The Detail Design and Construction (DD&C) contract awarded to Huntington Ingalls Industries Newport News Shipbuilding (HII-NNS) in September 2008, established a contractual ship delivery date of September 2015 for USS *Gerald R. Ford* (CVN 78). The actual ship delivery occurred in May 2017.

This delay can be primarily attributed to challenges inherent in the first-of-class nature of the CVN 78 program, which incorporated numerous advanced technologies. Key factors contributing to the delay included:

- First-of-Class System Integration Challenges: Initial systems installation faced developmental, production, and testing challenges associated with a lead ship.
- Advanced Technologies: Complex manufacturing of new technologies led to certification delays and delayed system turnover to the Navy.

Senator BLUMENTHAL. I appreciate that, and again, I hate to ask questions that maybe I should know the answer to. The *Ford* costs how much?

Admiral MOTON. Sir, that's another one that unfortunately I do not have the final *Ford* cost in front of me.

Senator BLUMENTHAL. I would appreciate knowing what it costs.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. What it was projected to cost.

Admiral MOTON. Yes, sir. I will get that for you.

[The information referred to follows:]

Admiral MOTON. The USS *Gerald R. Ford* (CVN 78) projected cost at the time of the 2008 Detailed Design and Construction contract award was $10.5 billion. The final cost for CVN 78 was $13.224 billion.

Senator BLUMENTHAL. What is *John F. Kennedy* going to cost?

Admiral MOTON. *John F. Kennedy* is projected to cost $12.9 billion.

Senator BLUMENTHAL. Twelve point nine.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. In other words, $13 billion?

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. The *Enterprise?*

Admiral MOTON. Thirteen point five billion dollars, sir.

Senator BLUMENTHAL. How about the *Doris Miller?*

Admiral MOTON. Fourteen billion dollars, sir.

Senator BLUMENTHAL. Fourteen?

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. Is the *John F. Kennedy* actually—that figure $13 billion, is that what it was projected to cost or is that higher?

Admiral MOTON. That is our current estimate. It is higher than the original cost. I will have to get you the original cost in anticipation of your question.

Senator BLUMENTHAL. I would appreciate that as well.

[The information referred to follows:]

Admiral MOTON. The USS *John F. Kennedy* (CVN 79) projected cost at time of the 2015 Detailed Design and Construction contract award was $11.498 billion. The cost for CVN 79 in President's Budget 2026 is $13.196 billion. Key factors contributing to the increased cost included:

- Transition from a dual-phase to single-phase delivery approach
- F–35C Joint Strike Fighter capability prior to Post Shakedown Availability (PSA)
- Shifting PSA work into the main construction period
- Shipbuilder production inefficiencies leading to increased costs

Admiral MOTON. There have been that's the total cost of the carrier, not just the shipbuilders, but also all the equipment. There has been growth on both. It's unacceptable. I will say that all three of these ships were awarded pre Corona Virus Disease (COVID) so that they were affected by COVID performance and also the continuing escalation that we're seeing. None of that's an excuse. It's just a fact. The bottom line is we should have been able to deliver on the original cost, and that's our commitment.

Senator BLUMENTHAL. Okay.

Senator SCOTT. Have you done analysis of if you could give us this, what was the starting date? What was the original cost? What's it now? All right. Then what the reasons, and then the last one could be is, okay, so they didn't do it. The people that were responsible, I mean, do they suffer anything?

Senator BLUMENTHAL. Yes, that was actually—Mr. Chairman, thank you for anticipating my next question. Were there any penalties for the cost overruns or delays? Again, going to my analogy on the house, somebody said, I'm going to get the house ready for you in Christmas of 2025. It turns out it costs twice as much and it's delayed by 2 years.

I would say, "Hey guys, I'm not going to pay you what I promised to. You're going to have to pay, you're going to suffer some penalty." To go to the Chairman's question, I think that's one of the questions I had. Were there any penalties and will there be penalties for the cost overruns on the *JFK,* the *Doris Miller,* and the *Enterprise?*

Admiral MOTON. Yes, sir. So, first, Senator, I will absolutely get you the question that you asked for. In terms of penalties, the way that the contracts are set up, *Ford* was a little bit of a different—as the leadership *Ford* was a cost-plus contract. You know, and that's a, that's kind of a separate discussion.

For 79, for 80, for 81, those ships are fixed price contracts with what we call an incentive share line, or basically the shipbuilder's profit is degraded as their cost of building the ship goes up. So they are absolutely paying a cost penalty for the shipbuilder cost growth on those ships.

Senator BLUMENTHAL. How much does their return or their profit go down? Do they absorb all of the costs overrun or?

Admiral MOTON. So, the way that the—you know, to immediately absorb all of it would be what we call firm fixed price. For shipbuilding, what we often do, including on *Ford*-class, is what we call a fixed price incentive fee. There's a target that they are supposed to hit with a target profit associated with that. Then we share either the overruns or underruns.

So, if there's an overrun you know, for every dollar on the overrun, the shipbuilder has to basically eat a certain amount of that out of their profit. Then the Navy pays. It's part of how we balance risk with the shipbuilders. It changes from contract to contract, but the contract is basically the same.

Senator BLUMENTHAL. So, the Chairman is a business person, so he can ask this question a lot better than I.

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. But my question is, what is the percentage of profit on these ships?

Admiral MOTON. It differs from ship to ship, sir. Again, depending on kind of where you are in the class, it's a different construct, right? I could certainly give you an example. You know, I think typically a typical ship percentage for profit may start out as perhaps 14 percent profit, right? Then that profit would degrade as cost, as cost performance degrades.

Senator BLUMENTHAL. If the shipbuilder of an aircraft carrier hits the target cost, for example, on the *John F. Kennedy*——

Admiral MOTON. Yes, sir.

Senator BLUMENTHAL. Which is not going to happen, it would've been 14 percent. Do you know what it will be now that there have been some increase in cost beyond what it was supposed to be, cost overrun?

Admiral MOTON. Sir, I do know exactly where the Navy anticipates that the shipbuilder will end up in terms of cost and profit on that ship. That is a number that we typically do not say publicly in terms of reporting their returns.

I would be completely willing to get specifics of those numbers to the Committee outside of the hearing. But we do know precisely where we think their performance is and what the impact of that will be on their profitability on that contract.

Senator BLUMENTHAL. I would appreciate—I don't know how the—I don't want to be presumptuous here, but I would appreciate——

Senator SCOTT. You know what we should do is we can pull up—I'll get my office to do it and I'll just send around to everybody. Let's get everybody's profitability of—they're public. Most of them are publicly traded companies. We can just look at those numbers, and so you don't have to look at it—you know, it's not going to be perfect because they'll have all these different programs as Senator Kaine said. But that's one way to look at it.

Admiral MOTON. Yes, sir. Sir, we can absolutely get it to the Committee. We can get the specific information. Certainly, to your point, sir, there's public information. I know that Newport News Shipbuilding has publicly talked about, you know, declining cost performance and declining margins including on their carrier work. They've said that in their own statements. We certainly assess that that's true. It's just that for the specific numbers we would get that to you separately.

Senator SCOTT. What I'll do is I'll get my team to just get all the—I get a pool of them. There's a lot of public—you know, we can get from all these analyst reports too, so I'll just get around to everybody. So all the ones that deal with, you know, Seapower.

Senator BLUMENTHAL. Great.

Senator SCOTT. That might be helpful.

Senator BLUMENTHAL. Thank you.

Senator SCOTT. Okay, anything else?

Senator KAINE. Just two quick things. So one, this is a good kind of conversation back and forth about accountability and contracting mechanisms. So let me put one other contracting question into the mix, and I'm going to shift to something else. Block buys. So, you know, I've been a block buy fan. You make a block buy that should enable you to achieve cost savings by pre-ordering, you know, supplies, etc, etc.

I wonder whether you have to factor in a downside to block buy, which is the block buys that were done, say in *Virginia*-class were done at a time when we didn't know we were going to hit COVID and have big inflation. So, you lock in a contract and you lock in a price. Then we had this significant inflation event that nobody was projecting.

I kind of wonder if you rolled it backward, would the shipyard or would we have wanted to do a block buy, if we had the crystal ball, we might've said maybe it's not a good time to do a block buy.

So now we hope we don't have COVID type emergencies that put all kinds of inflationary pressure on things. But the block buy has a lot of positives, but they may not be all positives. So, for purposes of thinking about the best way to contract, to deliver a result and to have an accurate assessment of the cost and the timing, I'm not asking for an answer, but it's made me rethink a little bit about whether block buy is 100 percent the virtuous solution. Do you want to say something on that Dick, but then I'll move to an unrelated issue? Go ahead.

Senator BLUMENTHAL. Yes, I guess I'd be interested. I think that's a really important point. I guess my question is, both of you Admiral Rucker and Admiral Moton have emphasized the importance of advanced buying of materials, which I think is critical.

When you advance buy the materials, is it at a certain price so that even if you know their tariffs and inflation, and obviously steel and aluminum maybe subject to tariffs, the aluminum goes into these ships, but do you get the raw materials that you advance by at a fixed price or does it rise with inflation?

Rear Admiral RUCKER. Thanks for the question, Senator. The answer is, it depends on the contract. But back to your question on block buys, we do block buys. We get an advantage of what's called economic order quantity funding in addition to the advanced procurement. By doing that, we actually, the shipbuilders, when we negotiate with them and they go do it, they lock in forward pricing rates so they actually can get a reasonable bulk buy, kind of like a Walmart. So that is a benefit.

The downside to your point Senator, is if there is some type of catastrophic change just like they can benefit from it and they did in early blocks, that unpredictable thing can result in a downside. Then we have to work with them on what makes the most sense on how we adjudicate it.

Senator KAINE. Please go ahead, Admiral Moton.

Admiral MOTON. Sorry. I would just add another tool that we have for the scenario you're talking about is something we call economic price adjustment that we put in many of our contracts often

contracts have an economic price adjustment for material. We do that so that if there's general market increase in particular types of material some of that we are able to adjust the cost of the contract to account for that.

We quite frankly, do that because we found if we don't do that, the shipbuilder's perception of risk is oftentimes going to cause them to increase their prices, possibly even more dramatically. So, we consider it a risk balancing tool.

Senator KAINE. The unrelated question I wanted to ask Mr. Sermon, you mentioned in your opening testimony, the additive manufacturing program in Danville, which is really designed to do two things. One, it's to train workers that Danville cluster to train the workforce, but also with additive manufacturing, it's also to come up with new strategies for dealing with supply chain issues.

Is the Navy looking—I had heard that the Navy was thinking about doing another one in the upper Midwest, either Wisconsin or Michigan. Is that model something that the Navy is looking at dispersing more generally to try to help us deal both with workforce issues, but also to develop new technologies around innovative production through additive manufacturing of supply chain items and parts?

Mr. SERMON. Thank you, sir. Specifically, we are looking to leverage on the training side and as you said the accelerated training and defense manufacturing efforts in Danville that will provide 1,000 workers to the industrial base across the whole Nation in steady state with which they'll be in next year.

We'll do that going forward, we have had it critiqued and reviewed by the supply chain folks who've gotten those workers and have had outstanding feedback on you know, saving 300 days in terms of brokers getting to full capability and capacity.

We absolutely are looking to and we have in a much smaller version as we were doing the Michigan Maritime Manufacturing program that we stood up, we used some of the lessons learned to partner with the folks in Michigan. It's a smaller scale, but we will continue to look for opportunities to apply that.

On the advanced manufacturing, particularly metallic additive side of that, what the effort in Danville has been primarily focused on is we have struggled as—I would frankly say as certainly as the navy more broadly in the entire nation, I've studied our economy—to get additive manufacturing demand into that industrial base, right?

We have, because of cost concerns, because of schedule concerns, because of is that material really better than how we were doing castings and forgings? We struggled to establish the additive manufacturing community. What we're doing in Danville is focusing on a set of materials that are six materials that are really impactful to the submarine, aircraft carrier, and shipbuilding industrial base, and maturing those materials.

Then working with the Navy and working with the shipbuilders and working with suppliers to then get a demand signal out to the additive manufacturing community for those materials. With a formula that's like, here's exactly how you do it. So that as we bring additive manufacturing partners in, we would actually have an established demand signal for them, be able to put, you know, those

kind of incentives toward building that capacity. But pressing that out further I think is absolutely important sir.

Senator KAINE. Let me just say this just for my two colleagues who are here. On this demand signal side, I have some tremendously innovative additive manufacturers in Virginia who say I keep getting like, awards from the DOD for being an innovator, but then getting no orders. Like I'm tired of getting the blue ribbon, but not getting any orders.

I think you're right. Finding the area where you don't just have the innovators, but you're actually putting a demand signal in so that they can get work through their innovation, that's going to be helpful.

On the workforce side, this thing in Danville is fascinating. They usually have, you know, 50 to 100 going through a cohort at a time, and it's about an 8-week full-time. They come from around the country and around the world.

So, the last time I was there, you know, kids from rural Virginia, kids from the Pacific Northwest, Aussies, a lot of Afghans who are here, you know, they already work to defend the Nation and they're here on a special immigrant visa and they've decided, "I don't want to drive an Uber. I've worked with the U.S. military, why don't I be a shipbuilder?"

You walk into this class and you see them all learning together and then they fan back out among the industrial base all over the country and some back to Australia to work. But they've had a common set of experiences to train. Then you do find that it reduces the training needed once they get back. It probably increases the retention too, if they've been into this program. So, it is really a program worth seeing, and it is bearing some fruit, but thank you for giving that report and I yield back.

Senator SCOTT. Anything else? Well, first of all, thanks for coming. I can't imagine how frustrating it has to be for you to come and, you know, have to respond on how late things are. Because none of you seem like you're the type that don't want to get things done on time and on budget and all these things. So thank you for all your hard work. We do have to make a—we have to figure this out.

We are falling behind communist China. We don't really have a choice. You know, we've got to figure this out and we might have to figure it out pretty fast depending on what they do. So, I was talking to Senator Kaine, hopefully with the secretaries that we're getting, hopefully with President Trump's leadership, this new Office of shipbuilding, that we're going to be able to make a dramatic change to get something accomplished.

Because my concern is, we don't know when communist China is going to take action. If we're not ready it's going to be horrible for our country and we're going to put a lot of men and women at risk. So, thank you. This adjourns the meeting, but I guess we'll leave the record open for two or 3 days—two days, I guess, if anybody wants to add anything. Thanks.

[Whereupon, at 4:19 p.m., the Committee adjourned.]

[Questions for the record with answers supplied follow:]

QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

SHIPBUILDING AND MAINTENANCE

1. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, President Trump has expressed a vision where we work with our allies to make use of their existing shipbuilding capacity, leverage lessons learned from their shipyards and encourage their investment in our own Maritime Industrial Base (MIB). What is the role that you see our allies playing in expanding our navy shipbuilding infrastructure and growing the Navy?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. As a maritime nation, the United States must have a strong and resilient maritime industrial base capable of securing our national and economic security. The Navy is closely engaged with our allies to understand their approaches to shipbuilding and how we can leverage best practices to improve efficiency and productivity. The Navy is working closely with partners from across the Federal Government to carry out the President's Executive Order "Restoring America's Maritime Dominance," including identifying opportunities to work our allies in executing the President's vision.

2. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, what is your view on expanding the authorities for overseas preventive maintenance on U.S.-based ships?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The Navy appreciates the authority provided by title 10 U.S. Code § 8680, which was recently expanded to allow preventive maintenance on surface ships, which may not exceed 21 days in duration nor affect any homeport by more than 2 percent of its workload.

3. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, what, in your mind, are the biggest barriers facing our Naval shipbuilding industry and how do you plan to approach them if confirmed?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The Naval shipbuilding industry faces several significant barriers that are jeopardizing performance and efficiency. Key challenges include workforce recruitment, training, and retention; workforce proficiency and efficiency; supply chain delays and associated material lead times; and slow integration and adoption of manufacturing technology.

The Navy's Program Executive Offices (PEOs) and Direct Reporting Program Manager for the Maritime Industrial Base (DRPM MIB) are focused on removing these barriers through targeted initiatives and investments with the support of industry partners. Navy investments are increasing nuclear shipyard worker wages, helping to improve workforce attraction, recruitment, training, retention, and execution; growing capability and capacity in the supply chain; and operationalizing advanced manufacturing technology.

4. Senator SULLIVAN. Rear Admiral (lower half) Rucker and Rear Admiral Weeks, I am very concerned about both our ship and submarine readiness. I know the Navy has established an 80 percent surge readiness goal, but we are nowhere near there today. Xi is deathly afraid of our submarines. What will you do to get submarines in and out of maintenance on time?

Rear Admiral (lower half) RUCKER, and Rear Admiral WEEKS. The Navy is executing major initiatives to increase readiness of attack submarines by increasing material availability at the start of a maintenance period, outsourcing discrete work, addressing obsolescence aimed at reducing submarine maintenance durations, and addressing public shipyard execution and efficiency.

The Navy continues efforts to enhance collaboration between the public and private sectors, aiming to sustain a robust industrial base and enhance cost-effectiveness and schedule adherence for both submarine maintenance and new construction initiatives.

U.S. Strategic Command sets requirements for the Navy's strategic submarines. The Navy is meeting those requirements.

5. Senator SULLIVAN. Rear Admiral (lower half) Rucker and Rear Admiral Weeks, what will you do to simultaneously increase sub maintenance capacity?

Rear Admiral (lower half) RUCKER, and Rear Admiral WEEKS. Increases in throughput and on-time delivery of submarines from maintenance availabilities will

ultimately lead to an increase in submarine maintenance capacity. The Navy is focused on the development of the workforce, enabling nonstop execution of work on the deck-plate, and improving the availability of new and refurbished parts and components to ensure projects have the material needed before the maintenance availability begins. Enabling non-stop work and improving overall throughput are key to ensuring the readiness of our fighting submarine fleet.

While additional work is in progress to improve schedule adherence and minimize delays, current efforts are having a positive impact. With this focus, submarine throughput has increased by 22 percent from fiscal year (FY) 2024 quarter 2, and work stoppage durations have been reduced by 33 percent over the same period.

Navy will continue to focus on increasing throughput and on time delivery of submarines from maintenance availabilities, driving increases in submarine maintenance capacity.

6. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, will you commit to working with the Senate Armed Services Committee to review military specification requirements for naval vessels created and executed by Naval Sea Systems Command (NAVSEA) and to proactively recommend the removal of those deemed most burdensome?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. It is important to ensure we are not overengineering our vessels and not overburdening our industry partners in the design and production of our fleet. In support of these notions, it is prudent and necessary to review the specifications placed on our ship classes to determine whether they are current, necessary, and reasonable. The Navy is working closely with partners from across the Federal Government to carry out the President's Executive Order "Restoring America's Maritime Dominance," identifying proposals to accelerate procurement timelines and strengthen the U.S. maritime industrial base by following commercial approaches to shipbuilding where ever possible, and we are committed to working with this Committee on this important issue as well.

7. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, the delays identified by the previous Secretary of the Navy's (SECNAV) 45-day shipbuilding review paint a damning picture whereby five major ship classes are delayed by 12 to 36 months. Do you believe the regular congressional authorization and appropriation cycle and Department of Defense (DOD) planning, programming, budgeting, and execution (PPBE) process can deliver ships on time and on budget?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The shipbuilding timeline can be influenced by a complex set of factors including requirements stability, availability of materials, workforce capacity and capability, technical challenges, and external global supply chain disruptions. The PPBE process and congressional cycles, while critical for ensuring appropriate funding and oversight, sometimes present challenges in responding at the speed of relevance to these issues. A particular challenge is the consistent cycle of Continuing Resolutions (CR) which result in negative consequences far beyond the timeframe of the CR if certain flexibilities aren't also provided.

Ultimately, while the current processes provide a solid foundation, the ability to dynamically and responsively manage programs will be necessary to meet the growing demands of our Navy and ensure we stay ahead of emerging threats.

8. Senator SULLIVAN. Rear Admiral (lower half) Rucker, recognizing that attack submarines are one of our biggest advantages compared to the People's Republic of China (PRC). Do you agree that our inability to produce at least two submarines per year, and deliver them on time, increases risk in the Indo-Pacific during this decade?

Rear Admiral (lower half) RUCKER. Yes, I do agree. Our fast attack submarines (SSNs)—particularly the *Virginia*-class—remain one of the United States' most significant asymmetric advantages in the Indo-Pacific region, where undersea superiority is essential to deterring adversaries and preserving freedom of maneuver for joint and coalition forces. China is expanding its submarine fleet at a rapid pace, and Russia continues to modernize its undersea forces in the Pacific. In this context, any delay in restoring and sustaining a minimum two-boat-per-year production cadence directly increases operational and strategic risk in this decisive theater.

As Admiral Paparo recently testified, the U.S. submarine force provides a "generational advantage"—an advantage that cannot be assumed to persist without deliberate investment. Returning to a stable two-per-year build rate for *Virginia*-class submarines is critical to the Navy's global posture.

Sustained undersea dominance requires predictable procurement, strong industrial base support, and timely delivery. Failing to produce at least two attack submarines per year—and to deliver them on schedule—exacerbates risk in the Indo-Pacific, erodes combatant commander flexibility, undermines strategic deterrence and places alliance agreements at risk.

9. Senator SULLIVAN. Rear Admiral (lower half) Rucker, I have been a strong supporter of AUKUS [Australia, United Kingdom, and United States] since its launch, and believe it is a potential game changer for U.S. and allied posture in the Indo-Pacific as well as the weapons capabilities at allied disposal. The nominee for Secretary of State, Senator Marco Rubio, was enthusiastically supportive of AUKUS in his confirmation hearing and I agree with him that AUKUS is a "blueprint" for future consortium partnerships with allied nations facing global threats. Do you agree?

Rear Admiral (lower half) RUCKER. We must increase submarine availability and production if we are going to meet U.S. requirements in the Indo-Pacific and realize AUKUS Pillar I. The United States cannot afford to weaken its own submarine forces during this critical period, which is why President Trump is leading a whole-of-government approach to revitalize American shipbuilding. Significant investments are needed by industry in the U.S. Submarine Industrial Base (SIB) to increase production rates.

On Submarine Rotational Force-West, I remain concerned that Australia has fallen behind on timelines necessary to support infrastructure requirements for our sailors at HMAS Stirling. We are working with Australia to determine whether timelines can be recaptured, however, analysis still needs to be done. We will continue to work to ensure appropriate cost-sharing arrangements with our allies and partners, and to address worrying trends in our submarine industrial base.

10. Senator SULLIVAN. Rear Admiral (lower half) Rucker, our inability to produce at least two submarines per year obviously creates doubt in Australia that we can deliver three to five *Virginia*-class submarines as part of the optimal pathway for Pillar I. What would you tell your Australian counterparts to assure them of our commitment to increasing Virginia production and executing the optimal pathway?

Rear Admiral (lower half) RUCKER. I would tell our Australian partners that I am laser focused on getting *Virginia*-class production to what we need in the United States; that thanks to Congress we are investing billions of dollars through the Submarine and Maritime Industry Base Programs to uplift our submarine production and sustainment. We are also encouraging our Submarine Industrial Base partners to make concurrent investments in their own enterprises as well.

We must expeditiously increase submarine availability and production, however, if we are going to meet U.S. requirements in the Indo-Pacific and realize AUKUS Pillar I. The United States cannot afford to weaken its own submarine forces, which is why President Trump is leading a whole-of-government approach to revitalize the American shipbuilding industry.

2025 GOVERNMENT ACCOUNTABILITY OFFICE REPORT

11. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, in a 2025 Government Accountability Office (GAO) report on shipbuilding, one of the recommendations was for the Secretary of the Navy to develop performance metrics to assess the programmatic and aggregate effect of investment in the Navy's ship industrial base. This echoes a similar recommendation from a 2024 GAO report on Amphibious Ship readiness. What is the importance of these metrics, and which metrics should the Congress be tracking to ensure that the intent of these investments is being reached?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The Navy has implemented a process to ensure our investments strengthen and grow the maritime industrial base are targeting the primary needle-movers and enablers of shipbuilding and ship sustainment schedules. As part of this process, we assess and track the impact of Navy industrial base assessments at multiple levels, including individual project level, aggregate level across multiple projects with shared objectives, and portfolio level assessing impacts to shipbuilding production drivers.

This approach enables us to assess performance against current shipbuilding demand in addition to projected future demand as the industrial base scales to meet growing demand to ensure we are working to achieve gains that are sustainable. Collectively, these efforts support flexible decisionmaking to meet a dynamic supply chain environment.

12. Senator SULLIVAN. Mr. Sermon, one of the things we certainly need to be tracking is the retention of workforce. In my opinion, we are expending a lot of effort and treasure to get people in the door of these shipyard, we need to ensure we are keeping them. What are you doing to increase retention through the Maritime Industrial Base?

Mr. SERMON. Encouraging young Americans to seek careers in the skilled trades will require the collective efforts of Federal, State, and local governments, as well as our industry partners. Next-generation workforce members must see a viable career path that is adequately compensated, has clear purpose, and provides opportunities to advance. We must fundamentally change how we view skilled trades—they must be seen as a critical component of our national security, and the Navy team is actively working to elevate those conversations at a national level through messaging and partnership.

The Navy has made significant investment to attract, recruit, train, and retain the maritime industrial base workforce. The fiscal year 2025 Continuing Resolution (Public Law 118–158) funded wage increases and infrastructure productivity enhancements for nuclear shipbuilding programs, to help improve worker retention. In addition, our six regional talent pipeline programs provide dedicated coaching for small and medium suppliers to implement attraction and retention best practices. Navy funding is also supporting quality-of-life improvements at the shipyards, such as a new childcare facility at Bath Iron Works. To maintain improvement of recruiting and retention, we must continue to urge industry to provide competitive wages in order to attract and retain its workforce, continue to address K–12 education, career and technical education/university education, incumbent workforce matters, and the ecosystem improvements to ensure people want to stay.

DUAL BUY OF COHEN VETERANS NETWORK'S 82 & 83

13. Senator SULLIVAN. Mr. Sermon and Rear Admiral Moton, in your provided testimony you cited an acquisition savings of $4 billion dollars by doing a dual buy of CVN 80 and 81. In last year's National Defense Authorization Act (NDAA), the House version of the bill included language "encouraging" the Navy to review and revise the future *Ford*-class acquisition strategy starting with CVN 82 and included funding for a dual buy of CVN's 82 and 83. The Senate included funding for CVN 82. Neither of these provisions made it into the final bill. Can you explain the benefits to the taxpayer and our maritime industrial base of doing a dual buy of these ships?

Mr. SERMON, and Rear Admiral MOTON. The Navy is assessing the procurement of CVNs 82 and 83 as part of the fiscal year 2027 budget review. A block buy has the potential for significant savings and would send the industrial base a clear demand signal.

14. Senator SULLIVAN. Mr. Sermon and Rear Admiral Moton, can you articulate the risks to our maritime industrial base of not doing a dual buy of CVN 82 and CVN 83?

Mr. SERMON, and Admiral MOTON. Both the Navy and our Nation's shipbuilding industrial base face many challenging demands for time and resources, but we must balance our construction plans for nuclear-powered aircraft carriers (CVNs) with other national conventional and nuclear shipbuilding priorities. Reduction in steady State demand signal for equipment and components for construction will negatively affect the overall health and future growth of the shipbuilding industrial base.

15. Senator SULLIVAN. Mr. Sermon and Rear Admiral Moton, included in the NDAA was a request for procurement of CVN–82 to take place not later than fiscal year 2028. Can you address the risks to our maritime industrial base of procuring any later than fiscal year 2028?

Mr. SERMON, and Rear Admiral MOTON. The timing and method of procuring future aircraft carriers (CVNs) will be reviewed by the Administration as we determine budgets and shipbuilding plans. Our job is to inform that process regarding both the industrial-base implications and the most efficient shipbuilding approach. Not procuring CVN 82 by FY28 could result in the narrowing of the industrial base and reduction in number of suppliers.

SHIPYARDS AND AUTOMATION

16. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, the number of public and private shipyards in the U.S. has been halved over the last 30 years, leaving only two private nuclear

shipyards on the East Coast. Do we need more shipbuilding infrastructure on the West Coast?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The Navy is working to grow the capability and capacity of our shipbuilding industrial base across the country, with investments to strength our supply chain, modernize shipbuilder infrastructure, generate capacity for key partners to take on work traditionally executed by shipbuilders, develop the critical maritime manufacturing workforce, and drive shipbuilding into the era of advanced manufacturing and automation.

We are making targeted investments to address chokepoints in the supply chain, with more than $1 billion invested to date to improve on-time delivery of components that are build-sequence-critical for nuclear shipbuilding programs. Navy investments are also helping improve capacity and modernize infrastructure of new-construction private shipyards, as well as address supply chain capacity constraints by leveraging advanced manufacturing technology.

17. Senator SULLIVAN. Mr. Sermon, Rear Admiral (lower half) Rucker, Rear Admiral Moton, and Rear Admiral Weeks, would building new shipyards help the Navy use automation to better leverage advanced manufacturing techniques, thereby reducing the number of hours needed for fabrication and inspection?

Mr. SERMON, Rear Admiral (lower half) RUCKER, Rear Admiral MOTON, and Rear Admiral WEEKS. The Navy is focused on improving maritime industrial base health by leveraging commercially mature advanced manufacturing technologies, such as metallic additive manufacturing, robotics and automation, artificial intelligence, and non-destructive test to improve shipbuilding schedules and reduce maintenance delays, alleviate chokepoints in key supplier marketspaces, and help mitigate the demand for maritime manufacturing workforce.

It is vital we infuse advanced manufacturing technology into new shipbuilding infrastructure, whether new shipyards or new facilities with existing industry partners, while we modernize existing shipbuilding infrastructure at the same time. For example, Austal is building a dedicated modular submarine manufacturing facility designed to incorporate advanced technology, such as autonomous welding and inspection, digital shipyard architecture, and advanced training. Similarly, the Navy is funding pilot programs to incorporate robotics and automation technologies at our public shipyards, to improve efficiency and alleviate workforce constraints.

QUESTIONS SUBMITTED BY SENATOR TIM KAINE

AUSTRALIAN INVESTMENTS

18. Senator KAINE. Rear Admiral (lower half) Rucker, who is responsible for ensuring the funds received from the Australian Government are invested to support *Virginia*-class submarine production?

Rear Admiral (lower half) RUCKER. The Navy is focused on improving maritime industrial base health by leveraging commercially mature advanced manufacturing technologies, such as metallic additive manufacturing, robotics and automation, artificial intelligence, and non-destructive test to improve shipbuilding schedules and reduce maintenance delays, alleviate chokepoints in key supplier marketspaces, and help mitigate the demand for maritime manufacturing workforce.

It is vital we infuse advanced manufacturing technology into new shipbuilding infrastructure, whether new shipyards or new facilities with existing industry partners, while we modernize existing shipbuilding infrastructure at the same time. For example, Austal is building a dedicated modular submarine manufacturing facility designed to incorporate advanced technology, such as autonomous welding and inspection, digital shipyard architecture, and advanced training. Similarly, the Navy is funding pilot programs to incorporate robotics and automation technologies at our public shipyards, to improve efficiency and alleviate workforce constraints.

19. Senator KAINE. Rear Admiral (lower half) Rucker, how will the funds received from the Australian Government be executed and who defines the priorities for investment?

Rear Admiral (lower half) RUCKER. Per the Fiscal Year 2024 National Defense Authorization Act, the President must specify to Congress how the Australian contribution will be used, including specific amounts and purposes. That requirement has been delegated to the Secretary of Defense, Secretary of Energy, and Director of the Office of Management and Budget for execution. The draft plan is under review

within the Department of Defense to ensure it aligns with Department of Defense priorities.

20. Senator KAINE. Rear Admiral (lower half) Rucker, who is responsible for ensuring these investments produce the desired improvements in submarine production?

Rear Admiral (lower half) RUCKER. The Maritime Industrial Base, along with PEO SSN and the AUKUS Integration and Acquisition Office, are responsible for ensuring the investments meet the desired outcomes.

21. Senator KAINE. Rear Admiral (lower half) Rucker, who is responsible for messaging the results of these investments to the Australian Government?

Rear Admiral (lower half) RUCKER. In coordination with U.S. Navy Policy, the Office of Secretary of Defense Policy, Indo-Pacific Security Affairs, is responsible for sharing information related to the use of Australia's submarine industrial base contributions to the Government of Australia.

QUESTIONS SUBMITTED BY SENATOR JEANNE SHAHEEN

MARITIME INDUSTRIAL WORKFORCE TRAINING PROGRAMS

22. Senator SHAHEEN. Mr. Sermon, New Hampshire manufacturers and suppliers along with Portsmouth Naval Shipyard are proud to be key members of the Maritime Industrial Base. Workforce development remains critical to their continued success and the health and readiness of the MIB supplier network. Navy-funded machinist and welder training programs at Nashua Community College and Manchester Community College in my State are delivering well-trained workers and are an example of partnerships that create employment opportunities and provide low-cost, high-return solutions. Does the Navy intend to continue support for these training programs? The Navy's long-term commitment to these programs is critical to industrial base capacity and meeting production objectives.

Mr. SERMON. The Navy has made significant investments to attract, recruit, train and retain the maritime industrial base workforce, which is the foundation of our shipbuilding and repair industrial base. These efforts are making a real impact; the submarine industrial base hired 12,600 new workers in 2024, a nearly 200-percent increase since 2021 and close to our goal of hiring 14,500 workers annually, to meet the demand for submarine construction.

This progress is only possible by working with a wide range of partners, including shipbuilders, industry, academic and training organizations, community groups, and State and local governments. Initiatives like the Machinist Training Pipeline Program with Nashua Community College and the Manchester Community College Workforce Development Welding Program, both launched in partnership with Granite State Manufacturing and the Southeastern New England Defense Industry Alliance), are great examples of focused trades training programs that will help to meet the demand for skilled workers across our maritime industrial base.

We are focused on the full continuum of workforce development, including attracting and recruiting today's workforce, providing world-class training opportunities across the country, connecting trained workers with career opportunities in the maritime industrial base, upskilling the existing workforce, improving retention, and inspiring the next generation of skilled maritime workers.

QUESTIONS SUBMITTED BY SENATOR MAZIE K. HIRONO

ADOPTING ADVANCED TECHNOLOGIES

23. Senator HIRONO. Mr. Sermon, I have concerns that the Navy lacks an enterprise-wide, holistic process to identify, test, transition, and incorporate commercially available advanced manufacturing techniques that are capable of reducing construction and sustainment costs. I'm introducing a provision in this year's NDAA that would establish a program specifically focused on advanced technology transition and adoption across the naval ship enterprise. What are your thoughts?

Mr. SERMON. To remain competitive and ensure our Nation has the capacity to build ships at scale, our industrial base must quickly adopt advanced manufacturing technologies such as automation, robotics, additive manufacturing, artificial intelligence, and generative scheduling to maximize productivity and efficiency.

The Department of the Navy (DON) is executing an enterprise-wide approach to identify, test, and implement Advanced Manufacturing (AdvM) technologies to ad-

dress its most critical operational challenges. This effort was initiated with the release of the DON Advanced Manufacturing Strategy in December 2024 by the Assistant Secretary of the Navy for Research, Development & Acquisition. The strategy outlines three key lines of effort: leveraging cutting-edge commercial technologies for strategic advancement; expanding organic manufacturing capabilities, including depot modernization; and enhancing warfighter self-sufficiency. AdvM encompasses a range of technologies such as additive manufacturing (e.g., 3D printing, cold spray), subtractive manufacturing (e.g., CNC machining), robotics, automation, and AI-enabled inspection and process control.

To implement this strategy, the DON has launched a coordinated transition process across the enterprise. This involves identifying components and processes that can most benefit from AdvM, assessing their suitability, and progressing qualifying candidates through engineering certification, standards development, and design generation to enable commercial and organic production. This effort is supported by the Chief of Naval Operations, Commandant of the Marine Corps, systems commands, the Office of Naval Research, and program executive offices.

The Direct Reporting Program Manager for the Maritime Industrial Base (DRPM MIB) also plays a key role, integrating AdvM into shipbuilding and ship repair to improve efficiency, reduce costs, and modernize maintenance operations. For needs not immediately met through existing technology, the DON continues to pursue research and innovation with industry and academia.

The Navy appreciates Congress's support on this very important issue. We are committed to continuing to work with this Committee as well as our industrial base partners to increase adoption of new technologies across the maritime industrial base.

SUPPLY CHAIN DISRUPTIONS AND MATERIAL SHORTAGES

24. Senator HIRONO. Mr. Sermon, the prior SECNAV's review and congressional Research Service (CRS) report on shipbuilding highlight supply chain vulnerabilities, particularly in securing key components like propulsion and combat systems. These disruptions are further exacerbating shipbuilding delays and increasing costs. What actions are the Navy taking to stabilize the shipbuilding supply chain and ensure timely access to critical materials?

Mr. SERMON. The Navy is focused on improving the capability, capacity, and resiliency of our supply chain. Since fiscal year 2018, the Navy has funded over 725 supplier development projects to add capability, capacity, and resiliency to the supply chain, including development of alternate suppliers for critical submarine components. This includes investments with more than 50 single/sole-source suppliers to address supply chain fragility, including establishing and qualifying alternate sources of supply in key areas like castings, raw materials, valves and fittings, and mechanical components. In addition, the Navy has invested $1 billion to date to improve on-time delivery of components that are build-sequence-critical for nuclear shipbuilding programs.

The Navy is also addressing supply chain vulnerability by leveraging advanced manufacturing technology such as automation, robotics, additive manufacturing, artificial intelligence, and generative scheduling. Driving advanced manufacturing at scale into the supply base and operationalizing technologies like additive manufacturing as an interchangeable manufacturing process is a critical focus area for the Navy. This will help us reduce maintenance delays and new construction schedules, alleviate chokepoints in key market spaces such as castings and forgings, and mitigate the demand for growing the manufacturing workforce.

25. Senator HIRONO. Mr. Sermon, what can be done to help mitigate supply chain risks and improve resiliency in ship component production?

Mr. SERMON. The Navy is focused on improving the capability, capacity, and resiliency of our supply chain. Since fiscal year 2018, the Navy has funded over 725 supplier development projects to add capability, capacity, and resiliency to the supply chain, including development of alternate suppliers for critical submarine components. This includes investments with more than 50 single/sole-source suppliers to address supply chain fragility, as well as $1 billion invested to date to improve on-time delivery of components that are build-sequence-critical for nuclear shipbuilding programs.

The Navy is also addressing supply chain vulnerability by leveraging advanced manufacturing technology such as automation, robotics, additive manufacturing, artificial intelligence, and generative scheduling. Driving advanced manufacturing at scale into the supply base and operationalizing technologies like additive manufacturing as an interchangeable manufacturing process is a critical focus area for the

Navy. This will help us reduce maintenance delays and new construction schedules, alleviate chokepoints in key market spaces such as castings and forgings, and help mitigate the demand for growing the manufacturing workforce.

STRENGTHENING THE SHIPBUILDING INDUSTRIAL BASE

26. Senator HIRONO. Mr. Sermon, the shipbuilding industrial base is struggling with capacity constraints, particularly in submarine construction, where delays in *Virginia*-class and *Columbia*-class production threaten both the attack submarine force and our strategic deterrent. Strengthening the industrial base is essential to meeting national security objectives. What targeted investments does the Navy plan to make to expand the capacity of private shipyards?

Mr. SERMON. Since 2018, more than $10 billion has been appropriated to address submarine industrial base capability, capacity, and workforce with an additional $1.3 billion appropriated to support surface ship industrial base efforts. The Navy DRPM MIB is leading enterprise-wide efforts to help restore America's shipbuilding capacity in a strategy focused on six key lines of effort: growing capability and capacity in the supply chain; modernizing shipbuilder infrastructure; expanding capacity of key suppliers to take on work traditionally executed by shipbuilders; developing the critical maritime manufacturing workforce; operationalizing advanced manufacturing technology; and improving government oversight.

We are making targeted investments to address chokepoints in the supply chain, with more than $1 billion invested to date to improve on-time delivery of components that are build-sequence-critical for nuclear shipbuilding programs. Navy investments are also helping improve capacity and modernize infrastructure of new-construction private shipyards, as well as address supply chain capacity constraints by leveraging advanced manufacturing technology.

27. Senator HIRONO. Mr. Sermon, how is the Navy leveraging partnerships with allied shipbuilders and best practices from foreign shipbuilding industries to improve efficiency and productivity in U.S. shipyards?

Mr. SERMON. The Navy is closely engaged with our allies to understand their approaches to shipbuilding and how we can leverage best practices to improve efficiency and productivity. For example, the Navy is working to identify opportunities to leverage some of the approaches that Japan and South Korea use in their shipbuilding sector, such as standardized ship design, modular production techniques, advanced manufacturing technology, and strong public-private partnerships.

ADDRESSING NAVY COST ESTIMATION GAPS

28. Senator HIRONO. Mr. Sermon, persistent underestimation of shipbuilding costs often leads to major budget overruns once construction begins. These miscalculations have impacted multiple programs over the past decade. How is the Navy working to improve its cost estimation process to provide more accurate projections for Congress?

Mr. SERMON. We recognize good cost estimates across the shipbuilding enterprise are key to informing the budget. The Navy develops or obtains independent cost estimates for major defense acquisition programs, consistent with statute and DOD policy. The independent cost estimates ensure we leverage Government Accountability Office (GAO) cost-estimating best practices.

29. Senator HIRONO. Mr. Sermon, is the Navy considering independent cost assessments for major programs to ensure greater transparency and accountability?

Mr. SERMON. The Navy develops or obtains independent cost estimates for major defense acquisition programs, consistent with statute and DOD policy. The independent cost estimates ensure we leverage GAO cost-estimating best practices.

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