

# THE CURRENT READINESS OF THE JOINT FORCE

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## HEARING

BEFORE THE

SUBCOMMITTEE ON READINESS  
AND MANAGEMENT SUPPORT

OF THE

COMMITTEE ON ARMED SERVICES  
UNITED STATES SENATE

ONE HUNDRED EIGHTEENTH CONGRESS

SECOND SESSION

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MAY 1, 2024

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Printed for the use of the Committee on Armed Services



Available via <http://www.govinfo.gov>

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U.S. GOVERNMENT PUBLISHING OFFICE

61-559 PDF

WASHINGTON : 2025

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# **THE CURRENT READINESS OF THE JOINT FORCE**

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**WEDNESDAY, MAY 1, 2024**

UNITED STATES SENATE,  
SUBCOMMITTEE ON READINESS AND  
MANAGEMENT SUPPORT,  
COMMITTEE ON ARMED SERVICES,  
*Washington, DC.*

The Subcommittee met, pursuant to notice, at 2 p.m. in room SR-232A, Russell Senate Office Building, Senator Mazie Hirono (Chairwoman of the Subcommittee) presiding.

Committee Members present: Hirono, Blumenthal, Kaine, and Sullivan.

## **OPENING STATEMENT OF SENATOR MAZIE HIRONO**

Senator HIRONO. Good afternoon and welcome to today's hearing of the Subcommittee on Readiness. This afternoon we are joined by the Vice Chiefs of the Army, Navy, Marine Corps, Air Force, and Space Force. I thank each of you for your meaningful military service and experience. Thank you all for being here.

We are also joined by Diana Maurer of the GAO [Government Accountability Office]. Ms. Maurer, the work of the GAO has been invaluable to this Committee over the years, and I thank you for taking time away from your many ongoing GAO reviews to be here with us.

This hearing is an important opportunity for us to engage in a wide-ranging dialog regarding the readiness of our Armed Forces, a topic of paramount importance for the security and well-being of our Nation. Over the past few years, the global security landscape has evolved rapidly, presenting new and complex challenges to military readiness. From ongoing conflicts in various regions to emerging threats and resource challenges, our Armed Forces must remain agile, adaptive, and prepared to address the full spectrum of operations. In this context, there are a number of areas I would like to highlight in particular.

Continued access to training ranges across all domains remains critical. I know the Army is focused on the upcoming land lease renewals in Hawaii. During questions today, I would like to hear more specifics regarding how the Army intends to weigh necessary training requirements while respectfully engaging with the Native Hawaiian community.

Separately, the Navy has begun one of the most complex military construction projects in recent history to replace Dry Dock 3 at Joint Base Pearl Harbor-Hickam. I have serious concerns about the

significant cost increases this important project has already incurred and whether Navy leadership is taking the necessary steps to avoid future increases. My concerns with the Navy continue, ranging from the backlog of ship maintenance, lack of accountability for senior leaders in the wake of Red Hill, to allowing mission critical portions of the runway and facilities at Joint Base Pearl Harbor-Hickam to deteriorate. As you can see, just within the Indo-Pacific theater alone, there are no shortage of readiness issues that require timely solutions.

More broadly, in the area of quality of life issues, I would like to hear more from the witnesses on two topics. The first relates to how senior leaders are implementing the oversight and management reforms related to unaccompanied housing that were included in the Fiscal Year 2024 NDAA. Taking care of our people by giving them a safe, clean place to live not only helps retention, but also our recruiting efforts, which are challenged recently. The second topic relates to a troubling report the GAO released earlier this year that found fatigue and sleep deprivation among servicemembers continues to be a significant challenge. Chronic fatigue is directly related to the readiness of our forces, and it can lead to accidents, injuries, death, and monetary costs.

Today I encourage all witnesses to provide candid assessments, share best practices, and offer constructive recommendations. Together, we can ensure that our Armed Forces remain the world's preeminent fighting force, capable of defending our Nation's interests with unparalleled skill and resilience.

I would once again like to thank each of you for coming forward today, for your leadership and insights, and I look forward to your testimony and a productive discussion.

Now turning to Senator Sullivan for your remarks.

#### **OPENING STATEMENT OF SENATOR DAN SULLIVAN**

Senator SULLIVAN. Thank you, Madam Chair, and I really appreciate the witnesses and their decades of service to our country. It is a very impressive group here, and thank you to your and your families and all the men and women that you lead. I also want to thank Diana Maurer. I think the GAO, in a lot of these issues, does a really good job, so I appreciate GAO being here, as well.

I had a really long opening statement that I was going to read, but since this is readiness hearing with essentially our military vice chiefs of staff, I am just going to be a little bit more direct. I do not think our services are in a State of readiness that they need to be given the threats.

I think the one thing that everybody who focuses on our national security challenges would agree with is that we are in one of the most dangerous periods that we have seen facing the United States and our allies since World War II. The Secretary of Defense says this. The Chairman of the Joint Chiefs of Staff says this in their posture hearings. The President of the United States says this in his State of the Union. I agree with that assessment. We have authoritarian dictators working together—China, Russia, North Korea, Iran, a little bit more junior jockey Venezuela. They are not at all adverse to literally militarily invading their neighbor and slaughtering thousands and thousands of innocent civilians. We are

seeing that, of course, in Israel. We are seeing that in Ukraine. We could see that any day in Taiwan. They are massively building up their militaries, massively, and we are not. I think the analogy to the mid- to late-1930s is probably the closest thing that I have seen that is directly relevant to the situation we are seeing today.

The big difference is, of course, a lot of people forget to note, in the late 1930s, our country, under President Roosevelt, did start building up our military. The Navy fleet, between 1937 and right before Pearl Harbor, was almost tripled in size.

President Biden puts forward inflation-adjusted cuts to our military every year. This budget this year shrinks the Army, shrinks the Navy, shrinks the Marine Corps. That is not what will impress Xi Jinping and Putin.

The difficulty you gentlemen have is that you are motivated, honest, military members, with four stars, credible service. I have the deepest respect for all of you. These are hard hearings for you. Here is why. Because in my assessment, you do not agree with the budget that the President put forward. You do not agree with shrinking the Army, shrinking the Navy, shrinking the Marine Corps, and yet you are military members, you have civilian control of this great republic that we have oversight of, so you have to salute sharply and say, "Roger that. I can do this." You are can-do military members. You do not want to do this. You do not think we need to cut defense spending.

Next year we could be on the pathway to below 3 percent of our GDP [gross domestic product] for the Department of Defense budget. My team and I have done some research on that. There has been, I think, four or five times in the last 80 years we have been below 3 percent of GDP. Again, it is not a target. Anyone who is serious about national security thinks we should be hitting, but we might be hitting that due to the President's lack of seriousness on national security issues, lack of leadership on Pentagon issues.

Finally, I think there has been a lack, with the civilian leadership, of this Administration on lethality. You know, the Secretary of the Navy does his climate change action plan, and he cannot build ships. That is not serious. The Navy, in my view, is in a crisis. It cannot build ships. The Chinese are cranking out 10 to 12 high-end surface warships every year, and we cannot build one.

So our readiness is tanking. It is our job, as the Congress, to try to get to the reasons why—I think I know the big reason why. This Administration is not serious on it—but to help you, to ask probing questions, to ask difficult questions, some of which are really hard for you, gentlemen, because again, I do not think any of you agree with cutting the budget, and shrinking the Navy, and shrinking the Army and shrinking the Marine Corps. But that is the direction we are going, and it is dangerous, and we are sending the wrong signal to our adversaries.

So I thank the Chair for holding this hearing. It is a really important hearing. I have a ton of questions, so I hope we can go at least until about 4, whether any other Senators are going to be here or not, because this is really important. Our job, as a Congress, in terms of Article I, raise an army, provide and maintain a navy, that is our number one job, in my view, and we need to get on it because it is a dangerous world right now. My view is our

forces are not ready, that is what this Subcommittee is supposed to be all about.

Thank you, Madam Chair.

Senator HIRONO. I thank my Ranking Member for raising the serious concerns he has. The fact is, of course, is SASC [Senate Armed Services Committee] is one of the few committees where we are able to come up with pretty much a bipartisan approach to what the military needs. In addition, the Department, DOD, is the only department that has what is known as unfunded priority lists, that runs into the billions. So we have any opportunity to weigh in on those spending issues that may not have made the cut, so to speak.

So, you know, this is already the biggest Department, and we spend the most money on defense than on anything else, so we obviously have a lot of areas to disagree on as well as to agree. So I think the Ranking Member for his observations.

With that why don't we start with General Mingus, the Vice Chief of Staff for the Army. Would you give your testimony, please?

**STATEMENT OF GENERAL JAMES J. MINGUS, USA, VICE CHIEF OF STAFF OF THE ARMY, DEPARTMENT OF THE ARMY**

General MINGUS. Thank you. Chair Hirono, Ranking Member Sullivan, other folks that are here today, thank you for the opportunity to discuss the readiness of the United States Army.

The Army is ready now to protect our Nation and prevail in the toughest moments of combat. We are expanding the competitive space by increasing our lethality through our modernization efforts, strengthening American alliances through combined operations and training, and maximizing opportunities to improve the readiness of our soldiers and their families.

The Army's readiness needs mirror the rapidly emerging changes in the character of war, driven by network centricity, advances in sensors, hypersonics, robotics, quantum computing, and artificial intelligence. Armies can now increasingly see further, sense further, shoot further, engage remotely, and with increasing accuracy. Time is not on our side. If we can quickly integrate and fuse these emerging technologies into advanced methods of warfare we will maintain our decisive advantage in the current and future joint operating environment.

Central to this effort is the health and effectiveness of our organic industrial base. During my visit to Scranton Army Ammunition Plant I witnessed firsthand the success of our OIB modernization investments through the production of our new yield 155 round. Since Russia invaded Ukraine in 2022, we have doubled the monthly production of 155 from 14,000 to 30,000, and by summer of 2025, thank you to the supplemental, we will get to 100,000 rounds per month.

As the Army invests in our warfighting capacity we are simultaneously contributing to the integrated deterrence by supporting global campaigns and strategic partnerships, especially in the Indo-Pacific. While visiting the 25th Infantry Division in Hawaii, I was impressed by the scale of preparation and meticulous efforts our soldiers are taking to build and maintain relationships, ensure interoperability, and foster integration with our allies and partners

at the Joint Pacific Multinational Readiness Center (JPMRC). A recent example going on right now is that capability is in the Philippines right now, training our partners.

In Europe, the ongoing conflict in Ukraine highlights the pressing need to modernize our defensive capabilities, especially in the fields of unmanned systems and electronic warfare. The use of UAS [unmanned aircraft systems] in Ukraine for reconnaissance and offensive roles have been a game-changer. We are committed to enhancing our capabilities in these areas to ensure that we remain at the forefront of military innovation.

We recently delivered both the Integrated Defeat System, commonly known as the Coyote, and the Directed Energy M-SHORAD, the 50-kilowatt laser to bolster our counter-UAS defenses in USCENTCOM.

That said, the Army's fiscal year 2025 budget request continues to prioritize our most ambitious transformation efforts and prioritizing critical areas like long-range precision fires, integrated air and missile defense, command and control, and contested logistics.

Finally, our greatest strength is the readiness of our people. We take care of our people by ensuring our soldiers are ready for combat, with viable doctrine, equipment, realistic training, and simultaneously providing for their families with the resources they need to thrive at home.

A key part of that responsibility is providing safe, high-quality housing and barracks. During my recent visit to the 11th Airborne Division in Alaska, I witnessed instances of positive impact of our barracks arrangements. The initiatives that we are exploring are not just about physical changes, but it is about fostering stronger bonds amongst soldiers, their leaders, and promoting a culture of care.

I want to emphasize that the Army is fully committed to funding our barracks, sustaining that at 100 percent, and we are also exploring the optimization of privatized barracks, starting at Fort Irwin, California, and other installations where that makes sense.

We have also achieved historic progress in our retention, and we are optimistic about recruitment. We are transforming our recruiting enterprise to better compete with the job market that is out there, and our Innovative Future Soldier Prep Course ensures that those that may not otherwise will meet the Army standard.

In the end, I am confident that if called upon tonight, our Army can fight and win, and we are making the right choices to ensure we can also win in the future. That said, there is still a great deal of work to be done, and it is absolutely critical that we succeed in our transformation efforts to remain the most agile, lethal, and feared ground combat force in the world.

Thank you, and I look forward to your questions.

[The prepared statement of General Mingus follows:]

PREPARED STATEMENT BY GENERAL JAMES J. MINGUS

#### INTRODUCTION

Chairwoman Hirono, Ranking Member Sullivan, and distinguished members of the Subcommittee, thank you for the opportunity to testify on the readiness of our Nation's Army. On behalf of the Secretary of the Army, Hon. Christine Wormuth,

and the Chief of Staff of the Army, General Randy George, we appreciate the tireless work that our elected representatives do to ensure that our Army has the resources needed to deter our adversaries and, when called upon, fight, and win our Nation's wars. As the world enters a new era of geopolitical competition and technological advancement, the United States Army stands at the forefront of ensuring our Nation's security and preparedness.

#### THE IMPERATIVE FOR INCREASED READINESS

The increasing complexity of global conflicts and the emergence of new security threats underscore the urgency of enhancing the Army's readiness. As geopolitical tensions escalate and technological advancements evolve, the Army must be prepared to respond swiftly and effectively to a variety of challenges. The ongoing war in Ukraine against Russia's unlawful 2022 invasion, China's aggressive actions in the Indo-Pacific, Iranian proxy groups' attacks on United States bases and commercial shipping vessels, and the war between Israel and Hamas, all highlight the complex and multifaceted nature of modern conflicts. Investments in exercises and campaigning, modernizing our industrial base, transforming our capabilities, and taking care of our greatest asset—our people, are crucial to ensuring that the Army can safeguard national security and uphold international stability. Time is not on our side and the defense of our Nation depends on our ability to maintain lethal, ready forces that are prepared for any challenge.

In recognition of this, the Army is focused on delivering ready combat formations today as well as continuously transforming for the future. The fiscal year 2025 budget request for Army readiness reflects the imperative for maintaining the highest State of operational readiness and our acute awareness of rapidly evolving global threats. Our current operational readiness is demonstrated through the Army's proven record of robust partnerships and alliances, challenging training in realistic environments, the millions of munitions provided to Ukraine, and strategic positioning of our forces to secure national interests. We are investing in our future readiness by continuously transforming our capabilities, force structure, the industrial base, and our recruiting enterprise.

#### CURRENT READINESS: DELIVERING READY COMBAT FORMATIONS TODAY

From Europe to the Middle East and Africa, Latin America to the Indo-Pacific, our Army is meeting the many challenges of today while simultaneously investing and transforming rapidly to confront the challenges of tomorrow. Despite a challenging recruiting environment and significant transitions to new capabilities, the United States Army continues to meet combatant command requirements. Over 140,000 highly trained soldiers from across all our components demonstrate our readiness every day in 143 countries across the globe. Aided by our organic industrial base, they stand ready to defend the Nation's interests and maintain security alongside our Allies and partners.

Continuous, realistic, and challenging training is the bedrock of our readiness and ensuring the Army remains the most lethal and capable land fighting force in the world. The Army's Combat Training Centers (CTCs) play a pivotal role in validating unit capabilities in a complex and highly realistic environment, be it the jungle, the Arctic, woodlands, or the desert. We are executing twenty-two rotations at these centers each year. Our CTCs are continuously integrating lessons learned from current conflicts to train units to recognize and counter a myriad of threats. The CTCs' opposition forces are employing all types of drones and robotics based on lessons learned from Ukraine, and units are fielded a mixture of current and new technologies, enabling seamless integration of cutting-edge capabilities. The Army's newest CTC, and first regional center in the Indo-Pacific, the Joint Pacific Multinational Readiness Center (JPMRC), is generating readiness not just in our Army units, but also in the Joint Force and our coalition partners. JPMRC is exportable—meaning units can train forward in the most realistic environments, sometimes across the International Date Line, alongside Allies and partners with an emphasis on combined, joint operations. The focus on comprehensive and integrated training ensures that forces are well-prepared, adaptable, and capable of executing coordinated operations effectively across the vast Indo-Pacific theater.

As the Army invests in rigorous training to enhance operational readiness, we are simultaneously contributing to integrated deterrence through our support to campaigning and strategic partnerships. Central to this is the Army's support to campaigning in the Pacific theater, facilitated by Operation Pathways. Through exercises like Talisman Sabre, Garuda Shield, Balikatan, and many others our soldiers build and maintained relationships, interoperability, and integration with our Allies and partners. Last year, the 38th Balikatan exercise with the Philippines included

participation from over 17,500 soldiers and focused on emerging technology on the battlefield. The exercise provided diverse training opportunities that focused on Cyber Defense, Humanitarian Civic Assistance, maritime security, amphibious operations, urban operations, aviation operations, counterterrorism, and realistic field training within the Indo-Pacific. Operation Pathways is also building our own interior lines. By increasing our interoperability with and support to Allies, Partners, and the Joint Force, we are positioning ourselves to better respond in competition, crisis, and conflict. For fiscal year 2025, we are requesting \$1.5 billion for Pacific Deterrence Initiative activities to sustain these efforts in the region, with focus on enhancing posture through military construction projects, prepositioning of equipment, campaigning forward with Allies and partners, and continuing investments in long range munitions. Congressional support for modeling the Pacific Deterrence Initiative off the European Deterrence Initiative would enhance transparency and strategic focus in the Indo-Pacific region.

The Army also remains steadfast in our support to our European Allies and partners, as demonstrated by our continuous rotational deployments and exercises in the theater. Our request for \$2.1 billion to support the European Deterrence Initiative will allow the Army to continue strengthening alliances, enhance combat effectiveness, intelligence sharing, and regional security, and exercise our ability to rapidly project combat forces. The Arctic Shock exercise in Alaska supported campaigning and interoperability in the European theater by providing United States and Allied forces with critical experience and training in extreme cold-weather conditions, including an airborne operation into Norway. Our Arctic forces routinely work with countries like Norway, Canada, Finland, and Sweden in the harshest of environments, showcasing our commitment and readiness to defend the Nation in any environment and our capability to rapidly deploy from Alaska across the globe. This spring, over 16,000 of our soldiers will train with more than a dozen other countries in Exercise Defender 24, NATO's largest military exercise since the cold war.

We continue to provide support to Ukraine in its war to maintain its sovereignty and territorial integrity against Russia's unprovoked invasion. To date, our troops have trained over 17,000 Ukrainian soldiers. We have sent major combat systems and munitions to Ukraine, including 21 High Mobility Artillery Rocket Systems (HIMARS), 1.5 Patriot air defense batteries, 131 Strykers, 33 Abrams tanks, 170 Bradley fighting vehicles, 66 M777 Howitzers, 72 M119 Howitzers, 36 M109 Paladins, and over 1.7 million artillery munitions. Providing this equipment not only helps the Ukrainians, but it earns the trust of our Allies and demonstrates our commitment to their security in an environment of continued competition for influence that is increasingly threatened by China and Russia. The Army has cash-flowed over \$1 billion from our base programs to support contingency operations in Ukraine and the Middle East. Supplemental funding enables the Army to accelerate force modernization through replenishment of our stockpiles. For example, the Army has sent older M113 Armored Personnel Carriers (APCs) to Ukraine and is replacing those stocks with state-of-the-art Armored Multipurpose Vehicles (AMPVs). Two additional examples of accelerated modernization from the supplemental include replacing High Mobility Multipurpose Wheeled Vehicles (HMMWVs) with Joint Light Tactical Vehicles (JLTVs) and Bradley M2A2s with more modern Bradley M2A4s. Supplemental funding is also investing in the American industrial base, creating numerous jobs around the Nation and a skilled workforce that is harnessing American ingenuity to replenish our equipment, support our Allies and partners, and ensure we remain the most lethal and capable force in the world.

The Army's organic industrial base (OIB) provides a core and foundational capability to enable materiel readiness, sustain surge capacity, and support future weapons system platforms. Composed of twenty-three depots, arsenals, ammunition plants, and 30,000 people, the OIB manufactures, rebuilds, maintains, and stores equipment for not just the Army, but also the Joint Force. In fiscal year 2023, the Army invested more than \$2.5 billion for modernization of the OIB between the base budget, supplemental funding, and the Capital Investment Program. These investments had significant impacts on upgrading facilities, infrastructure, and tooling, increasing production capacity, and ultimately resulted in a more modernized OIB. In the 26 months since Russia's invasion into Ukraine, the OIB has more than doubled their monthly production capacity of 155mm munitions, from 14,000 a month in 2022, to 30,000 a month today. The Army is maximizing use of multi-year procurement authorities for critical munitions, to include 155mm artillery, Guided Multiple Launched Rocket Systems (GMLRS), and Patriot missiles. These authorities provided by Congress allow us to more rapidly award contracts, drive down costs, while signaling a steady demand signal to industry to encourage further research and development. However, there is still more work to be done. Some reports indi-

cate that the Russian industrial base is capable of producing 250,000 artillery munitions per month and 100 tanks per month. Meanwhile, the average age of one of our industrial base facilities is over 80 years old, and more than half of our facilities were built prior to 1945. more than \$2.5 billion for modernization of the OIB between the base budget, supplemental funding, and the Capital Investment Program. These investments had significant impacts on upgrading facilities, infrastructure, and tooling, increasing production capacity, and ultimately resulted in a more modernized OIB. In the 26 months since Russia's invasion into Ukraine, the OIB has more than doubled their monthly production capacity of 155mm munitions, from 14,000 a month in 2022, to 30,000 a month today. The Army is maximizing use of multi-year procurement authorities for critical munitions, to include 155mm artillery, Guided Multiple Launched Rocket Systems (GMLRS), and Patriot missiles. These authorities provided by Congress allow us to more rapidly award contracts, drive down costs, while signaling a steady demand signal to industry to encourage further research and development. However, there is still more work to be done. Some reports indicate that the Russian industrial base is capable of producing 250,000 artillery munitions per month and 100 tanks per month. Meanwhile, the average age of one of our industrial base facilities is over 80 years old, and more than half of our facilities were built prior to 1945. more than \$2.5 billion for modernization of the OIB between the base budget, supplemental funding, and the Capital Investment Program. These investments had significant impacts on upgrading facilities, infrastructure, and tooling, increasing production capacity, and ultimately resulted in a more modernized OIB. In the 26 months since Russia's invasion into Ukraine, the OIB has more than doubled their monthly production capacity of 155mm munitions, from 14,000 a month in 2022, to 30,000 a month today. The Army is maximizing use of multi-year procurement authorities for critical munitions, to include 155mm artillery, Guided Multiple Launched Rocket Systems (GMLRS), and Patriot missiles. These authorities provided by Congress allow us to more rapidly award contracts, drive down costs, while signaling a steady demand signal to industry to encourage further research and development. However, there is still more work to be done. Some reports indicate that the Russian industrial base is capable of producing 250,000 artillery munitions per month and 100 tanks per month. Meanwhile, the average age of one of our industrial base facilities is over 80 years old, and more than half of our facilities were built prior to 1945.

#### BUILDING FUTURE READINESS THROUGH CONTINUOUS TRANSFORMATION

As we confront an increasingly complex and unpredictable security environment, we must continue to build strategic readiness by transforming our capabilities, force structure, industrial base, and by remaining competitive to recruit and retain the best talent America has to offer. The fiscal year 2025 budget request supports the National Defense Strategy, and balances meeting operational readiness requirements now with modernizing for the future, while taking care of our greatest asset—our soldiers and their families.

#### TRANSFORMING OUR CAPABILITIES

As part of the Army's most significant transformation undertaken in the last 40 years, we are adding more than 30 new or upgraded systems across six critical modernization portfolios into current and new types of units. These priority investments are essential for the Army to maintain overmatch on the future battlefield—from the brigade to theater level. Several of these signature modernization efforts have already been fielded, including the Maneuver Short Range Air Defense (M-SHORAD) which defends brigades from fixed and rotary wing aircraft, including uncrewed aerial systems. Additionally, the Precision Strike Missile, the Army's next generation surface-to-surface ballistic missile that provides commanders an all-weather capability to attack critical targets at all depths of the joint battlefield, will complete first tranche of deliveries by the end of the year. These modernization efforts underscore the Army's commitment to maintaining a technologically advanced and operationally effective force capable of meeting the challenges of modern warfare. By prioritizing investments in critical capabilities such as decision advantage, air and missile defense, long-range fires, and uncrewed assets, we are enhancing our ability to deter aggression, protect our interests, and prevail in future conflicts.

As the operational landscape evolves, the Army recognizes the importance of leveraging advanced unmanned aircraft systems (UAS) to maintain a decisive edge on the battlefield. Future UAS development represents a cornerstone of our modernization efforts, enabling us to enhance our reconnaissance, surveillance, target acquisition, and battle damage assessment capabilities while minimizing risk to our forces. In 2025, the Army is requesting \$129M to procure 7 FTUAS systems. This



The fiscal year 2025 budget request allows the Army to support the integration, acceptance testing, hardware evaluation, demonstration, and delivery of two additional DE-MSHORAD prototypes in fiscal year 2025. It also will enable the Army to continue development of two other directed energy counter-UAS systems: the Indirect Fire Protection Capability-High Energy Laser (IFPC-HEL) prototype and the Indirect Fire Protection Capability-High Power Microwave (IFPC-HPM) prototype. Furthermore, our current budget structure of program-based budget line items limits our ability to evolve rapidly. To maintain capability overmatch in a competitive operating environment, the Army must be empowered with the fiscal agility needed to transform at the speed of innovation while preserving the necessary oversight by Congress. Adopting a capability-based budget structure would provide the Army flexibility to procure the latest technology to meet emerging needs of the warfighter. As such, the Army seeks consolidation of UAS, counter-UAS, and Electromagnetic Warfare budget line items into larger portfolio frameworks so that the Army is better postured to keep up with the pace of technology.

The Army is also restructuring its watercraft program to improve readiness and prioritize modernization while reallocating resources and globally repositioning assets to meet requirements. In the Indo-Pacific theater, Army watercraft systems are fundamental to positioning and sustaining troops and equipment for the Joint Force. In recognition of these requirements, we are focused on recapitalization of our legacy watercraft to extend their lifespan; we are making investments in new watercraft, and we are looking at all options to address any remaining sealift shortfalls.

To capitalize on these modernization efforts and the refocus on large scale combat operations against technologically advanced military powers, the Army is moving forward with a significant force structure transformation. Central to this transformation is completing the build-out of five Multi-Domain Task Forces (MDTFs), which integrates capabilities across all domains to enhance operational flexibility and effectiveness. They are designed to increase the depth and scale at which Army forces can protect Joint and Coalition forces, conduct intelligence gathering and synchronization, deliver non-kinetic space and cyber effects to shape operations, and deliver long-range fires in support of joint force maneuver. In addition to the MDTFs, the Army has implemented a series of force structure changes to enhance our ability to project power, protect critical assets, and achieve overmatch against potential adversaries. This includes eight Indirect Fire Protection Capability (IFPC) battalions with M-SHORAD, the expansion of IFPC battalions tasked with defending against rocket, artillery, and mortar (RAM) threats, and the establishment of dedicated counter-UAS batteries to counter the growing proliferation of hostile drones. To complement the Army's watercraft system investments, the latest force structure authorizes two additional Composite Watercraft Companies, which will bring greater reach to the Indo-Pacific theater. By continuously adapting our force structure to align with emerging threats and operational requirements, we ensure that our Army remains a potent and effective instrument of national power, safeguarding our interests and defending our Nation's security in an increasingly uncertain world.

Transforming Our Organic Industrial Base The OIB Modernization Implementation Plan (MIP) is the Army's 15-year, three-phased, \$18 billion plan to modernize the Army's 23 depots, arsenals, and ammunition plants. It focuses investments on five lines of effort: facilities, tooling/processes, workforce, network/cyber, and energy/environment. The goals and outcomes of the MIP include meeting current Army readiness demands; supporting enduring and signature modernization systems; surging for large-scale combat operation reducing single points of failure and reliance on foreign sources; identifying and mitigating supply chain risks; sunseting legacy systems and right-sizing production/manufacturing capacity; and aligning the workforce to support 21st century technology. Phase one of the MIP began in October 2023 and focused on repairs, restoration, and modernization of the critical support infrastructure to address the risk of rapidly aging and outdated infrastructure. The projects also include updates to critical production facilities to enable support to ammunition production and sustaining our modernization programs. Modernizing the OIB also supports our Allies and partners by enhancing equipment interoperability, increasing capacity for foreign military sales, and improving coalition maintenance support.

The fiscal year 2025 budget request for the MIP includes \$1.5 billion for modernization projects at Holston Army Ammunition Plant, Iowa Army Ammunition Plant, Lake City Army Ammunition Plant, and Radford Army Ammunition Plant, along with continued production of 155mm artillery, the Next Generation Squad Weapon system, strategic fires, and enduring systems. Stable, consistent, and predictable funding is foundational to OIB modernization. Without focus over the 15-year MIP, we risk the relevance and readiness of the OIB to support the modernized Army of 2030 and 2040 as well as the strength of our Allied and partner forces.

#### TRANSFORMING OUR RECRUITING ENTERPRISE

The operational readiness of our Army is dependent on the quality of an All-Volunteer Force, and we are committed to recruiting quality soldiers in a competitive marketplace. We have transformed our recruiting enterprise to sustainably recruit now and into the future, to position the Army in the labor market as an employer of choice. In the fall of 2023, the Army announced major changes that have already yielded positive results on the fiscal year 2024 recruiting outlook. We expanded the prospect market and have set a goal that by fiscal year 2028, at least one-third of all new recruits will hold more than a high school degree. We are creating an enlisted and warrant officer talent acquisition job specialty to professionalize our recruiting workforce. We are seeking to elevate the U.S. Army Recruiting Command (USAREC) from a two-star to a three-star command with an extended tenure of at least 4 years, directly reporting to the Secretary of the Army and Chief of Staff of the Army. We will also continue to build upon the success of the Future Soldier Preparatory Course (FSPC), which has brought more than 18,000 new soldiers into the Army since its inception in the summer of 2022. This program is an investment in America's youth to assist them in overcoming barriers to service by providing focused academic and fitness instruction to help recruits meet and exceed the Army's desired accession standards for body fat composition and academic test performance prior to basic training, without lowering our accessions standards. While not a recruiting program, Junior Reserve Officers' Training Corps (JROTC) enables the Army to reconnect with communities across the Nation while introducing Cadets and educators to military, national, and public service opportunities. The fiscal year 2025 President's Budget request supports growth of the JROTC program to 1,744 schools by the end of fiscal year 2025. The Army is unparalleled at unlocking a person's full potential and will invest in young people so that they can meet our standards. We need continued support from community leaders, parents, influencers, and Congress to encourage young men and women to serve.

#### RETAINING THE FORCE WITH HIGH-QUALITY HOUSING

With ongoing and emerging threats worldwide, retaining and building resilience in our force and our facilities has become increasingly important. The Army finished fiscal year 2023 achieving 102 percent of our retention mission. The Active component is on track to meet its fiscal year 2024 retention mission of retaining 54,700 and has retained over 32,000 soldiers to date—a completion rate of over 58 percent. We understand that retention is critical to our readiness, and a driving factor of retention is ensuring we are taking care of our soldiers and their families.

The Army's fiscal year 2025 Military Construction (MILCON) budget request across all components is \$3.9 billion, which covers 45 projects. We are dedicated to providing safe, high-quality housing and barracks for our soldiers. In fiscal year 2025, we are requesting \$935 million for nine new unaccompanied housing construc-

tion projects across Active Duty and Army Reserve at multiple installations. We have programmed \$161 million for a 567-bed barracks at Joint Base Lewis-McChord in Washington to address the lack of available housing—which has caused many soldiers to live off base, where the cost of living is higher than current Basic Allowance for Housing (BAH) rates. Additionally, the Army has requested 100 percent of the barracks sustainment requirement in the operations and maintenance account to address deferred maintenance and sustain our barracks' quality. The Army is also exploring options with the Office of the Secretary of Defense (OSD) and the Office of Management and Budget to privatize barracks for junior enlisted soldiers where it makes sense to do so. Beginning at Fort Irwin, California, and to decrease the requirements for soldiers to serve as barracks managers and enable them to focus on warfighting, the Army is allocating \$35 million to hire civilian barracks managers at multiple installations.

#### FAMILY HOUSING AND CHILDCARE

The Army is making significant investments to also provide high-quality family housing, including both government-controlled and privatized family housing. To achieve this goal, the fiscal year 2025 budget requests \$752 million for the operation, maintenance, leasing, privatization oversight, and construction of Army Family Housing worldwide. The Army has programmed funding for three construction projects in fiscal year 2025. This includes the construction of 84 new housing units in Chievres, Belgium, the replacement of 54 units in Baumholder, Germany, and the renovation of 35 units at Camp Zama, Japan. In addition to ensuring high-quality government-controlled housing, the Army has made significant progress in improving the quality of privatized housing. Private housing providers will invest over \$2 billion in new construction, renovations, and other development work over the next 3 years.

The resilience of our force is dependent on more than just housing. Our soldiers and their families need access to safe, affordable childcare so that they can focus on their missions. The Army provides a robust Child Care Fee Assistance Program that supports nearly 10,000 children daily. The fiscal year 2025 MILCON Budget request includes \$174 million for three Child Development Centers and one Youth Center. By investing in childcare facilities and programs, the Army is helping to ensure that military families have access to safe and reliable childcare, which ultimately supports the readiness and resilience of our military force.

#### INSTALLATION RESILIENCY AND OPERATIONAL ENERGY

Resilient, efficient, and affordable installation energy and water are crucial to Army's ability to deploy, fight, and win our Nation's wars from the Homeland and our OCONUS bases. Installation energy and water resilience investments ensure power projection and deployment capabilities despite risks of grid power and water disruptions from natural disasters or man-made kinetic or cyber-attacks. To assess risks to our installations, the Army has completed initial Installation Energy and Water Plans (IEWPs) for almost every installation, and we have started developing Installation Climate Resilience Plans (ICRPs). To test our resilience, Army installations conduct Black Start Exercises assessing installations' ability to respond to an electric grid outage. These exercises have been completed at ten installations and planning is underway to execute these exercises at seven additional locations throughout fiscal year 2024. The fiscal year 2025 budget request prioritizes critical requirements such as water utility resilience investment and privatized utility infrastructure in key locations such as Hawaii. Reflecting the supply chain vulnerabilities and risks of contested environments, the Army is looking at new energy technologies to reduce the logistics burden. For instance, the Army is engineering and testing technologies like tactical vehicle hybridization, electrification of UAS, and sustainable ground-based power systems for our expeditionary contingency bases. The Army is considering all available options and exploring emerging technologies including nuclear, geothermal, and hydrogen fuel cells to strengthen its energy resilience and deliver the power necessary to accomplish the Army mission.

#### CONCLUSION

The Army's fiscal year 2025 budget request for operational and strategic readiness represents an investment in the future of our Nation's defense. We are delivering ready combat formations now while transforming to meet the needs of the rapidly changing environment. We are investing in our greatest asset—our people, to guarantee the longevity of an All-Volunteer Force. Our future military successes will be defined by our ability to rapidly integrate developing technologies including precision long-range fires, information systems, hypersonic weapons, quantum com-

puting, artificial intelligence, robotics, and pervasive all-domain sensors. The future battlefield will be stretched geographically and virtually across all domains, such as in space and cyber, and compressed in urban environments and close-quarters combat. Warfare will encompass all domains, requiring joint and combined operations with Allies and partners to effectively manage threats across the full continuum of conflict, from strategic competition to high-intensity warfare. Our formations are experimenting with new systems and tactics to confront emerging battlefield dynamics to ensure we maintain our competitive advantage over potential adversaries. To maintain capability overmatch, our Army must develop solutions faster through iterative, perpetual, and continuous improvement and modernization. By embracing continuous transformation, modernizing our force structure, and prioritizing the well-being of our servicemembers, we are better positioned to confront the challenges of tomorrow. We express our gratitude to Congress for their unwavering support of our Nation's Army and its mission to safeguard our freedoms and interests around the globe.

Senator HIRONO. Thank you, General. Admiral Kilby?

**STATEMENT OF ADMIRAL JAMES W. KILBY, USN, VICE CHIEF  
OF NAVAL OPERATIONS, DEPARTMENT OF THE NAVY**

Admiral KILBY. Chair Hirono, Ranking Member Sullivan, good afternoon. Thank you for the opportunity to discuss Navy readiness. I appreciate the recent passing of the Security Supplemental, which will help us address unbudgeted operational costs affecting the United States Navy.

Your Navy, as part of the Joint Force, and alongside our allies and partners, remains postured and ready to fight and win. Today, with over 100 ships and 43,000 sailors deployed, your Navy operates around the world and around the clock, from seabed to space and in cyberspace. Our Active and Reserve shipmates and our Navy civilians are ready to preserve the peace, respond in crisis, and win decisively in war.

The work requires a commitment to readiness, and I appreciate your efforts to ensure America's Navy remains the most powerful navy in the world.

We are strengthening our Navy by focusing on three priorities: warfighting, warfighters, and the foundation that supports them. We place a primacy on warfighting. When Iranian-backed Houthis sought to disrupt the flow of global maritime trade, the *Gerald R. Ford*, *Dwight D. Eisenhower* strike groups and the Bataan Amphibious Ready Group forward deployed destroyers from Rota, Spain, were there. Our sailors and marines are effectively countering these threats. We are adapting in the Red Sea and applying lessons learned to prepare for a future high-end fight.

Our ability to succeed in warfighting is inextricably tied to warfighter readiness. We are committed to improving the quality of service, and that begins with taking care of our sailors, our civilians, and their families. In fiscal year 2025, we are investing \$1.4 billion in quality of service. This augments the \$165 million reprioritized in fiscal year 2024, to improve unaccompanied housing.

We are at a historically high levels of retention, but we face recruiting challenges this year, as we did in 2023. The talent exists in every ZIP code, and our efforts will help recruit and retain those who wish to answer our Nation's call to service.

Finally, the foundation. It underpins our warfighting and warfighter readiness. This includes our installations, which we must view as warfighting platforms, a point made clear in Guam.

The devastation brought on by Typhoon Mawar is significant. I would appreciate your support for national disaster relief funding to address a number of challenges affecting our Navy.

Readiness challenges exist in our shipyards, as well. Since last November, I visited three of our four public shipyards. In fiscal year 2025, we will invest \$2.8 billion in our Shipyard Infrastructure Optimization Program to recapitalize those key components of Navy industry.

Additionally, we are investing in the submarine industrial base as we ramp up production of the *Columbia*-class and *Virginia*-class submarines. These investments are vital to sustaining our under-sea fleet and supporting our commitment to the AUKUS partnership.

Our Navy has a culture that strives to think, act, and operate differently. We are committed to transparency, continuous learning, and working together to deliver the Navy our Nation needs.

Thank you, and I look forward to your questions.

[The prepared statement of Admiral Kilby follows:]

#### PREPARED STATEMENT BY ADMIRAL JAMES W. KILBY

Chair Hirono, Ranking Member Sullivan, and distinguished Members of the Senate Armed Services Committee Subcommittee on Readiness and Management Support, thank you for the opportunity to testify on the readiness posture of the United States Navy. I look forward to discussing the actions the Navy is taking to deliver operationally ready forces. Our full Navy team appreciates the committee's continued partnership and support as we work together to deliver these outcomes.

Every day, the United States Navy is meeting our expanded mission to organize, train, and equip forces for the peacetime promotion of the national security interests of the United States, while simultaneously delivering warfighting advantage to the Joint Force, through our survivable strategic deterrence capacity and combat-credible forces deployed forward across all domains. Whether in day-to-day competition, crisis, or conflict, our globally distributed forces, bases, and operations provide a clear message of U.S. resolve to our adversaries. As our adversaries seek to undermine the international rules-based order through the buildup of military forces and coercive behavior, our sailors work hard to defend American interests and maintain the competitive edge that keeps our Nation safe and the global economy working.

Our Navy continues to prioritize readiness first. Since 2013, we have made significant investments in combat readiness. We are witnessing the results of this investment as our forces protect U.S. strategic interests, support our Allies and partners, and send a clear message to our adversaries. For the last 7 months, deployed Navy ships and aircraft have demonstrated their warfighting readiness, facing near-continuous threats in the Red Sea. We have been rapidly analyzing data from these engagements, taking lessons learned, and innovating our Tactics, Techniques, and Procedures to make our Navy more capable. To meet the ongoing changes, the Navy will remain postured to best capitalize on new and existing technologies and scale them to the Fleet for operational use.

#### NAVY READINESS PRIORITIES

To ensure we remain postured and ready to fight and win, we are focusing the Navy on three priorities: Warfighting, Warfighters, and the Foundation that supports them. For the Navy, Warfighting is about delivering decisive combat power at sea. We are concentrated on getting more operationally ready, capable players on the field—people and platforms. To this end, we are coordinating efforts to receive our investments on time and on cost; getting our platforms in and out of maintenance on time; and advancing stewardship by taking care of what we have so that we can keep our players on the field. We are also getting the right people, right munitions, and the right parts in the right place at the right time. Warfighters is about strengthening our Navy team. As we look to the pacing threat, we must recruit and retain talented people from across the Nation. Our recruiting and manning crises are themselves existential threats. The Foundation is about building trust, aligning resources, and ensuring that we are ready. We view our bases, our places, and our installations as aircraft carriers that do not get underway. This

Foundation also includes our relationships with the Joint Force, Congress, Industry, and with the American people.

To support the Chief of Naval Operations in delivering America's Warfighting Navy, I am focused on the Fleet's material readiness and warfighting readiness, including the readiness of our shipyard infrastructure and industrial base, munitions, shore readiness, and manpower. Innovation drives our Navy's readiness. We require innovative thinking, resourcing, and solutions to provide a Navy that is operationally ready to preserve the peace, respond in crisis, and win decisively in war. Underlying everything we do is building a learning culture that strives to think, act, & operate differently to realize new possibilities. This learning culture contributes to our strategic readiness for any contingency and, while we are ready today, we must be better tomorrow. Driving a mentality that values transparency, problem-solving, accountability, and continuous learning, our Navy is on trajectory of improvement.

#### NAVY READINESS INVESTMENTS

President's Budget Fiscal Year 2025 invests funds to prioritize our people and operational readiness to deploy and fight, while investing in our industrial base to build and maintain our fleet. These facilities and this workforce are pivotal for surge production. President's Budget Fiscal Year 2025 also allocates resources to our operations, training, maintenance, and other readiness accounts to position forward naval forces in defense of global U.S. interests.

#### SUBMARINE & AIRCRAFT CARRIER READINESS

The Submarine Industrial Base (SIB) faces increased demand across the enterprise as the Navy ramps up production of the *Columbia*-class, invests in the industrial base to deliver two *Virginia*-class submarines per year by FY26, sustains in-service submarines, and supports international commitments under the AUKUS partnership. The SIB, which consists of the public shipyards and two prime shipbuilders—General Dynamics Electric Boat and Huntington Ingalls Industries Newport News Shipbuilding—along with the 16,000 suppliers across the country, supports both new-construction submarines and sustainment of the in-service submarine fleet. Health of the SIB is vital to our National Defense Strategy. The Navy is committed to these projects while also increasing SSN operational availability to meet a goal of 80 percent mission capable submarines. President's Budget 2025 builds on investments made in SIB-23 to reinvigorate submarine production capability and capacity, while also committing funds across six lines of effort: technology opportunities, strategic sourcing, supplier development, workforce development, infrastructure investments, and oversight.

To this end, we are investing in public infrastructure and the industrial base. Aligned with the DOD National Defense Industrial Strategy, the Navy is in the midst of a generational change of our Shipyard Infrastructure Optimization Program (SIOP). The SIOP is not only delivering dry docks to support current and planned classes of nuclear-powered warships but is also optimizing the workflow through significant changes to the shipyards' physical layout, and the replacement of obsolete capital equipment with modern technology that increases productivity and safety. Recapitalizing our dry docks and shipyard infrastructure will enable us to maintain current and future nuclear powered platforms, while improving the effectiveness and efficiency of our shipyards.

The Nation's four public shipyards—Norfolk Naval Shipyard, Portsmouth Naval Shipyard, Puget Sound Naval Shipyard and Intermediate Maintenance Facility, and Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility—are critical to submarine and aircraft carrier readiness and are essential to our national defense. Investments in our shipyards aligns with the National Defense Strategy priority of "building a resilient Joint Force and defense ecosystem." I am committed to improving maintenance processes and reducing maintenance delays through a data driven approach. Since last November, I visited Norfolk Naval Shipyard, Portsmouth Naval Shipyard, and Puget Sound Naval Shipyard, and Admiral Franchetti visited Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility. I observed the challenges unique to each location, as well as some that are common to all. I saw the USS *John C. Stennis* (CVN 74) first-hand, as it continues its Refueling Complex Overhaul in Newport News. I toured the drydocks at Puget Sound, where we also discussed the required infrastructure upgrades, to include recent seismic activity mitigation measures. I recognize these maintenance and industrial challenges; the Navy is committed to improving them.

Over the last 5 years, we have been using data analytics to improve availability planning, award contracts, procure material, and integrate schedules, so industry and government can better maximize every day in an availability. The metric that

most clearly demonstrates the severity of not attaining an on-time delivery of an availability is Days of Maintenance Delay (DOMD). While DOMD for submarines is projected to increase in fiscal year 2024 due to the re-baselining of several projects, there is a continuing reduction in submarine idle time, with a 45 percent reduction since fiscal year 2022, and a 37 percent reduction since fiscal year 2023.

#### SURFACE SHIP READINESS

The Navy continues to prioritize surface ship operational readiness. Navy surface ships are unique as a timely, flexible, and forward-deployed force across the full spectrum of conflict—from naval diplomacy and strategic competition, to crisis and conflict. Our Navy and Marine Corps integrate resources across domains and elements of national power to deter adversaries and campaign forward. Amphibious Ready Groups, together with embarked Marine Expeditionary Units, are critical components of our crisis response capability. Per congressional direction in the Fiscal Year 2023 NDAA, the Fiscal Year 2025 Shipbuilding Plan maintains thirty-one amphibious warships across the Future Years Defense Program (FYDP). Over the FYDP, the Navy is committed to procuring three LPDs, one LHA, and eight LSMs.

We are committed to improving maintenance processes and reducing maintenance delays for surface ship operational readiness through a data driven approach. To this end, we continue to work closely with our private sector partners to break down barriers and to fix issues. As a part of this effort and informed by Performance To Plan (P2P) assessments, the Navy is working to ensure that availability planning milestones are consistently achieved, resulting in work package maturity for our industrial base partners to bid on as well as providing sufficient time for them to execute their in-house planning activities after contract award. This enables our industrial base partners to effectively allocate their resources (e.g., align sub-contractors, order material, receive government furnished material, etc.) and integrate across contracted modernization efforts to develop an integrated production schedule. DOMD in private shipyards peaked in fiscal year 2019 and has trended downward since then. From fiscal year 2022 to fiscal year 2023 the Navy reduced surface ship DOMD by 18 percent—from 3,456 days to 2,839 days—and saw a slight improvement in on-time availability completion (from 36 percent in fiscal year 2022 to 41 percent in fiscal year 2023). President's Budget 2025 will continue to improve shipyard performance and reduce DOMD, particularly for our amphibious fleet.

#### AVIATION READINESS

Naval aviation requires sufficient and stable funding to achieve operational readiness goals and maintain or improve our Mission Capable (MC) aircraft rates. Our Flying Hour Program (FHP) supports global operations including those in the Red Sea and land operations over Iraq and Syria. In fiscal year 2023, Naval Aviation executed 100 percent of its FHP funding. Aircraft Depot Maintenance (ADM) executed 99 percent of its allocated funds. President's Budget 2025 requests \$6.8 billion in funding for nearly 600,000 flight hours in FHP and \$1.3 billion for ADM.

Similar to SIOP, the Fleet Readiness Centers (FRC) Infrastructure Optimization and Modernization Plan (FIOP) is a strategic investment plan for NAVAIR's depot facilities, equipment, and infrastructure related to the aviation Organic Industrial Base. It transforms WWII-era organic aviation depots into modernized Maintenance, Repair, and Overhaul (MRO) repair centers by streamlining production workflows, upgrading aged equipment and facilities, building new optimized facilities, and implementing digital technologies to increase readiness at a reduced cost. The Navy's FRCs perform a vital role in national defense by executing maintenance, repair, and overhaul on aircraft, engines and components, providing combat-ready weapons systems to the Fleet. Without major upgrades, the Navy's FRCs will further degrade, negatively affecting aviation readiness.

FIOP enables the aviation depots to synchronize business process improvements with facility, equipment, and digital technology upgrades to improve repair cycle times and reduce operating costs for current platforms while also posturing for next generation weapons systems requirements. It also provides a holistic investment strategy that integrates all infrastructure and industrial plant equipment investments to improve Navy maintenance capabilities by expanding depot capacity and optimizing depot configuration. President's Budget 2025 continues to expand President's Budget 2024 investments and includes \$850 million across the FYDP for FIOP MILCON. Total FIOP accounts across the FYDP is \$1.9 billion. These investments incorporate the latest criteria and code requirements while addressing resiliency, durability, and climate change impacts for the expected service life of new infrastructure.

## MUNITIONS READINESS

Hand-in-hand with our need for a capable force is our need for enough munitions. Given the Department's strategic priority to prepare for a high-end, sustained warfight against a strategic competitor such as China or Russia, investments in munitions are necessary and are a budget priority. Industry has a limited ability to rapidly surge production during a time of crisis, and therefore this capability must exist before conflict starts. The Ukraine and Israel conflicts, as well as the expenditure of munitions in the Red Sea, demonstrates the need for additional investments to support Allies and partners, further revealing our need for increased industrial capacity. As the Navy analyzes industrial base capacity, we also place emphasis on recertification of munitions as a cost effective way to build inventories. President's Budget 2025 continues our investments in critical munitions, such as Tomahawk, Standard Missile, Long Range Anti-Ship Missile, Advanced Anti-Radiation Guided Missile-Extended Range, AIM-9X, AIM-120, MK 48 Heavyweight Torpedo, and Naval Strike Missile to accelerate production, increase resilience, and improve interoperability.

## SHORE READINESS

We must also treat shore facilities like operational platforms, and President's Budget 2025 commits to investing in the same manner. Navy infrastructure carries aggregated risk from decades of underinvestment in facilities and utilities sustainment and recapitalization. We are utilizing the Navy Investment Evaluation Process, led by the Shore Cross Functional Team, to develop a Navy Infrastructure Investment Plan to prioritize deficiencies and to address current risk profile. A balanced infrastructure investment strategy requires focused, stable investment to address mission requirements supporting the warfighter and warfighting, along with the core infrastructure that is the force enabler and multiplier for all supporting missions. President's Budget 2025 continues to invest \$51.4 billion across the FYDP.

## MANPOWER READINESS

President's Budget 2025 also commits investments in manpower—our sailors, civilians, and their families. Four key investment areas include Recruiting & Retention, Gaps at Sea, Quality of Service, and Mental Health.

The recruiting environment remains challenging. Since becoming Vice Chief, I have had opportunity to visit the Navy Recruiting Command Headquarters and the Recruiting Operations Center in Millington, Naval Education and Training Command in Pensacola, and a Navy Recruiting Station in Everett, Washington. I observed firsthand the challenges we are having, as well as the incredible effort our sailors are making to meet the requirement. Reaching recruiting numbers is a top priority, and I am committed to providing the support needed to achieve our goals. We are constantly exploring and evaluating new methods for bringing in qualified, motivated and capable applicants.

We continue to build pathways of opportunities for all qualified individuals who want to serve. President's Budget 2025 commits \$125 million to Marketing and Advertising (M&A), leveraging a historical data and media-mix model to ensure appropriate funding for each M&A channel and to support recruiting goals. We will also increase the Navy Recruiting Command (NRC) Recruiting Incentive Enlistment Bonus, and, we increase investments to the accession pipeline, the Future Sailor Preparatory Course, seeking to increase a propensity to serve among the Junior Reserve Officer Training Course (JROTC), Sea Cadets, STEM programs, etc. We also elevated the paygrade of the commander of Navy Recruiting Command to a two-star admiral, and we are seeking the best and brightest sailors to serve as our recruiters.

Overall, Navy enlisted retention remains healthy. We ended fiscal year 2023 exceeding our Retention Benchmark forecasts in Zone A (0–6 years) and Zone C (10–14 years), but ended slightly below forecast in Zone B (6–10 years). We continue to apply a combination of monetary and non-monetary force management levers to help maximize our retention efforts, particularly for our Aviation, Explosive Ordnance Disposal, Surface Warfare, Submarine Warfare, and Naval Special Warfare communities. To this end, President's Budget 2025 will increase funding for the two most influential retention pays, Selective Reenlistment Bonus and Enlisted Supervisor Retention Pay.

Adequate ship manning is also important to operational readiness, the ability to surge deployments, and for personnel retention. The Navy has worked for several years to increase personnel billets afloat to ensure ships are manned to complete the work assigned, deter aggression, and be ready to win decisively when called upon. Growing personnel strength at sea is tied to our ability to recruit and train



the increased number of sailors while retaining the best performers of today to serve as tomorrow's leaders. While retention is historically high, recruiting is a must-win mission for Navy. While every sailor is a recruiter, Navy Personnel Command has also increased the number of sailors supporting the recruiting mission. The goal is to have all 3,577 recruiter billets filled by summer 2024 to help meet recruiting targets.

#### QUALITY OF SERVICE

On 15 May 2023, The Secretary of the Navy and the Chief of Naval Operations issued a coordinated message, "Setting a New Course for Navy Quality of Service," providing the roadmap to move forward with urgency on initiatives to improve Sailor or Quality of Service. Quality of Service is the combination of ensuring our sailors are supported in and out of the workplace by effective leadership, establishing enforceable standards and transparency, and ensuring their mental and physical health. I have made Quality of Service a particular focus area during my visits to Fleet Concentration Areas and while interacting with sailors onboard USS *John C. Stennis* in Newport News, the Armed Forces Service Center in Huntington Hall, and command leadership in Portsmouth Naval Shipyard, and Everett, Washington.

As mentioned previously, though sailors experience challenges unique to each area, I observed some common issues at each concentration area. For instance, we currently have four submarines in Portsmouth, and increasing to eight by fiscal year 2028, which will have implications for parking, medical support, and other resources. Similarly, in the Pacific Northwest at Bremerton, Bangor, and Everett, many installations and facilities are spread over dozens of miles, often separated by water. The addition of a second and third aircraft carrier in Bremerton, as well as *Constellation*-class frigates in Everett, necessitates increased housing, parking, and support services. While we are making progress, we still have much to accomplish. We have already committed substantial funds to correct these deficiencies. For instance, in fiscal year 2024, we reprioritized \$165 million in Facilities Restoration Modernization and Repair for Unaccompanied Housing. President's Budget 2025 commits additional funds to continue addressing these issues.

To manage Quality of Service, we established a Cross Functional Team to set standards and measures and bring them to life at Newport News Shipbuilding, before scaling them throughout the Fleet. In 2023, we created 113 new mental health medical care billets for the Fleet, with an additional 24 mental health providers specifically assigned to CVNs. We established standards for sailor mental health with an updated Mental Health Playbook and updated Culture of Excellence 2.0, which provides sailors additional tools to support better mental and physical health. We implemented policies to provide shore-based housing for all sailors during maintenance availabilities. We are providing free high-speed internet connectivity at 12 barracks in the Norfolk/Hampton Roads area. President's Budget 2025 includes \$1.56 billion Quality of Service investments in 2025.

Along these lines, the Navy is committed to ensuring access to the full continuum of mental health resources for our sailors and their families, while aiming to utilize the right care, at the right level, at the right time. Mental and behavioral health services are available worldwide from Navy installation counseling centers, on the waterfront, in operational units through embedded mental health providers, at military medical treatment facilities, and via virtual health platforms. Non-medical mental health services are available through Fleet and Family Support Centers, Military and Family Life Counseling, Military OneSource, and Navy Chaplains.

In 2023, we published a Mental Health Playbook, implemented the Brandon Act, and coordinated with the Office of the Secretary of Defense on recommendations from the Suicide Prevention and Response Independent Review Committee Report. Navy Medicine continues to prioritize recruiting, training, and retention efforts to address the competition for talent in the face of a national shortage of mental health providers and behavioral health technicians. We also prioritize Embedded Mental Health (EMH), placing mental health as far forward as possible. Currently, 43 percent of Active Duty mental health providers and 38 percent of behavioral health technicians are assigned to EMH billets. President's Budget 2025 will continue each effort, investing \$21.7 million in 2025 and \$134.9 million across the FYDP.

#### NAVY TRAINING INNOVATION

Training innovation drives Navy readiness efforts. We are eager to capitalize on any opportunity that creates a warfighting advantage. The Navy's long-range planning process is identifying emerging capabilities that we need to invest in now to maintain our advantage in the maritime environment. We are also energizing our wargaming enterprise at the Naval War College and at our warfighting development

centers. We are methodically experimenting with new tactics in a series of fleet exercises and battle problems. We are using Live-Virtual-Constructive training environments not only to certify crews for combat, but also to test operational concepts. President's Budget 2025 provides continued development of the Surface Combat Systems Training Environment (SCSTE), aligning combat systems test and training software / hardware and networks at ship and shore facilities ensuring ships and strike groups can train with high fidelity (high-end fight) tactical capabilities as they deliver.

Starting in fiscal year 2025, Carrier Air Wings will have the ability to train in a multi-level security environment for a high-end fight, participate in Continental U.S.-based exercises (Fleet Synthetic Training-Aviation and Naval Air Station Fallon Integrated Training Facility), and more consistently maintain the high readiness level required by the particular geographic Area of Responsibility. In both near and long-term, we recognize the need to leverage the creative talents of our robust science and technology communities, and to incentivize our industry partners so that they invest in the infrastructure and capacity we need to support our growing future fleet.

#### CONCLUSION

As evidenced by the Houthis ongoing attacks to disrupt commercial shipping in and around the Red Sea, the United States requires a lethal, capable, and innovative Navy to defend the Homeland, support our Allies, and provide enduring advantage. Continually learning we must adopt cutting-edge processes and thinking to adapt our force and to plan for future needs. Improving our platform maintenance and industrial base, and investing in our shore installations and manpower—with special consideration for improving Quality of Service—gets more players on the field and enables us to deliver a maximally capable force at the point of maximal impact. The Navy is ready for any contingency; continued investment today is a down-payment for the security and prosperity of America's tomorrow. I look forward to continued transparent and productive work with the Committee to ensure the Navy is learning, improving, and delivering the operational readiness required to deliver the Navy the Nation Needs.

Senator HIRONO. Thank you. General Mahoney.

#### **STATEMENT OF GENERAL CHRISTOPHER J. MAHONEY, USMC, ASSISTANT COMMANDANT OF THE MARINE CORPS, DEPARTMENT OF THE NAVY**

General MAHONEY. Good afternoon Chair Hirono Ranking Member Sullivan, and distinguished Members of the Committee. I am honored to present your marines this afternoon and discuss our current readiness and plans to remain ready in the future.

The Commandant has outlined his priorities, the first of which is to balance readiness with modernization. He does so as we confront a very difficult context, as has been brought up earlier. On the one hand, in the Pacific we are witnessing the greatest arms buildup that our Nation has seen since World War II. The scope, scale, and pace of the PRC's [People's Republic of China] military expansion presents a formidable challenge that we must contend with deliberately. Our pace of modernization must reflect this reality.

On the other hand, we operate in a time of increased global tensions, emerging conflicts, and increasingly brazen challenges to the order which has underwritten the prosperity of our country, and the world, in fact, for the better part of the last century. It is essential that we meet the demand for the Marine Corps to maintain a high State of readiness today so that we continue to generate the forces necessary to campaign, deter, respond to crisis, and when required, fight.

But we must do so while budgeting for the future readiness generated through modernization, our training enterprises, our instal-

lations, and the quality of life for our personnel. Fortunately for the marines, we identified this challenge early, and are already fielding many of the modernized capabilities developed through our Force Design Initiative.

Our fiscal year 2025 budget request highlights our commitment to maintaining a balance between current and future readiness. We are requesting \$17.4 billion for operations and maintenance in fiscal year 2025. That is 32 percent of our total fiscal year request. That is to sustain our current and projected operational requirements in support of the Joint Force and national tasking. This operations and maintenance account funds our FSRM account, that ensures our marines have quality spaces in which to work and adequate barracks in which to live.

But we are also seeking to gain momentum toward modernization. Sixty-five percent of our budget request, \$35.2 billion, supports our four pillars of force design.

I would also be remiss if failed to mention the service's receipt of a clean audit opinion. While there is much to celebrate in being the first service in the DOD to accomplish this feat, the greater part of that victory is to be able to precisely tell you what we have done with every dollar and to show the American people that we are true stewards of every dollar that is accorded to us.

The Marine Corps is appreciative of Congress' assistance and sustained support to take care of our marines, to build our capacity, and guarantee lethality. Your marines are ready.

Thank you for the opportunity to speak, and I look forward to the questions.

[The prepared statement of General Mahoney follows:]

#### PREPARED STATEMENT BY GENERAL CHRISTOPHER J. MAHONEY

Chair, Ranking Member, and distinguished Members of the Subcommittee, I am thankful for the opportunity to report on Marine Corps Readiness. While much has been accomplished over the last 5 years to modernize the Marine Corps and improve its warfighting readiness, there is still much work to be done—especially with our infrastructure readiness. We must accelerate our modernization efforts in accordance with the demands of the Combatant Commanders, who have told us, “Go faster; deliver faster.”

#### CMC PRIORITIES

As noted by the Commandant in his August 2023 White Letter and reinforced in his Fragmentary Order 01-2024 “Maintain the Momentum,” the Marine Corps priorities are: 1) Balance Crisis Response with Modernization Efforts, 2) Naval Integration and Organic Mobility, 3) Quality of Life, 4) Recruit, Make, and Retain Marines, and 5) Maximize the Potential of our Reserves. These priorities inform our budget and focus our collective efforts to ensure maximum warfighting readiness across the spectrum of conflict and competition continuum.

#### WARFIGHTING READINESS

We possess the fully trained and ready forces necessary for any crisis or contingency as identified by approved Operational Plans (OPLANs). Perhaps more importantly, we are ready for the unknown and the uncertain future ahead. Using the current battlefields in Ukraine and Gaza and maritime competitions in the Red Sea and South China Sea as benchmarks—we are ready. We are ready to fulfill our title 10 requirements; ready to support our Allies and partners globally; ready to support sea denial efforts; ready to seize and defend key maritime terrain; and ready to respond to crises in every theater. By any measure, our units have better material readiness, more modern equipment, and more robust individualized and collective training, including significantly increased force-on-force training opportunities. Specifically, our combat arms units are equipped with modern capabilities—both for

sensing and lethality—far superior to past formations. Yet while many things have changed, our foundational elements have not. We remain the world's most elite infantry with the most proficient non-commissioned

#### READY FOR WHAT: CAMPAIGNING & WARFIGHTING

As our Commandant has repeatedly and rightfully asserted, the Marine Corps is, first and foremost, a warfighting organization. We exist to fight and win our country's battles. The character of war may change, but its essence never will—it is the violent struggle between two irreconcilable wills. That struggle is where marines thrive. We ask for nothing more than the chance to be First to Fight. Should our adversaries choose to fight, marines will be ready with the best training and modern tools necessary to defeat and destroy them in combat. To effectively execute our mission, the importance of consistent and predictable Operations and Maintenance funding of ground and aviation training, maintenance, safety, and readiness cannot be overstated.

#### MAGTF READINESS

As a result of the continued acceleration of key Force Design and organic mobility programs, our units' readiness continues to improve—and will only continue to do so as more modern capabilities are fielded over the FYDP and more units consistently engage in force-on-force training. In fiscal year 2025, we are requesting resources to procure another 674 JLTVs, 80 ACVs, 17 F-35B/C, 19 CH-53K, and 13 MADIS, which will both maintain our modernization momentum, while simultaneously enhancing our crisis response capabilities. We also seek to add dozens of tactical tomahawks, naval strike missiles, and long-range anti-ship missiles as we create the operationally suitable magazine depth for our forward deployed forces. In addition, we are making major investments in tactical communication modernization and wideband satellite communications, both of which will further enhance warfighting readiness. Based on lessons learned from Ukraine and other battlefields, we continue to focus on developing capabilities to support electro-magnetic spectrum operations (EMSO), which will assist marines to sense, attack, and defend against electromagnetic threats.

*Unmodified Audit Opinion.* As we invest in new platforms, barracks, and training, it is our responsibility as good stewards of taxpayer funds to continue to prove that when the Corps is provided a taxpayer dollar, we can show exactly where and how it has been invested—a responsibility we take very seriously. Following a rigorous 2-year audit, the Marine Corps achieved an unmodified audit opinion, the best possible outcome—and the first time in the Department of Defense's history that any service has received an unmodified audit opinion. These results demonstrate how seriously the Marine Corps takes its stewardship of taxpayer funds and our ability to account for and put to best use every dollar trusted to the service. The Marine Corps worked with Independent Public Accountants to validate budgetary balances and records and to audit physical assets at installations and bases across the globe. These actions included counting military equipment, buildings, structures, supplies, and ammunition held by the Marine Corps and our DOD Partners. The audit's favorable opinion was only possible through the support and hard work of numerous dedicated marines, civilian marines, and many other partners across DOD. Nonetheless, we will not rest on our laurels. The audit report pointed out some areas for improvement, and we will use these recommendations to make our fiscal practices even better and continue to achieve favorable audit results going forward.

*Pacific Deterrence Initiative.* Several years ago, Congress had the foresight to develop the Pacific Deterrence Initiative (PDI) in support of accelerating changes across the Pacific necessary to sustain deterrence and enhance strategic competition. While the benefits to INDOPACOM are well-understood, the program also significantly enhances Marine Corps warfighting readiness. Specifically, the initiative contributes to the modernization and readiness of both I and III Marine Expeditionary Forces (MEFs)—to include the MEU and Unit Deployment Program (UDP), as well as expand our Marine Rotational Force efforts in Darwin and in Southeast Asia. PDI funds also support MILCON aboard Guam. These efforts will generate readiness and ensure that III MEF, our main effort, remains our forward-deployed, "Fight Now" force for INDOPACOM.

*Marine Aviation.* While there have been substantial readiness improvements across the force, nowhere have these improvements been more visible than in marine aviation. Across all type/model/series of aircraft in our inventory (with one exception, the F-35B whose MC readiness rate only decreased 2.3 percent between fiscal year 2019 and fiscal year 2023) our readiness levels increased—an achievement that would not have been possible without the resources and support provided by

this Subcommittee, and the herculean efforts of our marine aviation mechanics and maintenance crews. We anticipate further improvements to aviation readiness as we retire older airframes and accelerate acquisition of fifth generation F-35B/C and CH-53K.

*F-35B/C.* We have taken delivery of 142 F-35B and 22 F-35C aircraft, and maintain five operational sites—MCAS Beaufort, MCAS Cherry Point, MCAS Yuma, MCAS Miramar, and MCAS Iwakuni. Our F-35B/C aircraft create a competitive warfighting advantage in every theater globally.

*MV-22B.* The MV-22B is the workhorse of the MAGTF—we have been flying it in combat since 2007. In the last decade alone, marine MV-22 pilots have accrued over 446,000 flight hours. We trust the aircraft and the marines who fly them and maintain them. The MV-22 provides the force with both the operational reach and flexibility necessary to compete across the vast distances in the Indo-Pacific. Its capabilities are so unique and sought-after that Combatant Commander demands for the aircraft far exceed the Marine Corps’ ability to source them. We are focused on improving readiness, decreasing costs, and enhancing capabilities to ensure the aircraft continues through the 2050s.

*CH-53K.* As HMM-461, the first heavy lift (HMH) Kilo squadron, has shown, the CH-53K provides an unmatched operational heavy lift assault support capability, interoperability, survivability, reliability, and maintainability in a distributed maritime and expeditionary environment. To date, the Marine Corps has received 14 aircraft, and will have 17 total aircraft by the end of this calendar year. In fiscal year 2025 the Marine Corps will begin to transition its next HMH squadron, and we anticipate deploying the CH-53K for the first time in 2026.

*Operations and Maintenance Accounts.* Our Active and Reserve operation and maintenance (O&M) funding request supports training, multinational exercises, recruiting and advertising, and maintenance, and for fiscal year 2025, our request is approximately \$17 billion—or roughly the same as last year. With inflation and increasing demands on the Marine Corps, the Marine Corps has balanced difficult choices on what accounts to fund. With our available funds, the Marine Corps will posture itself via enhanced multilateral exercises that will strengthen alliances and partnerships. O&M further funds ground depot maintenance at 98 percent to generate maximum ground readiness.

*Flight Hours & Readiness.* While the material readiness of our aircraft routinely receives the most attention, sustaining individual pilot readiness is equally important. In fiscal year 2019, we executed 218,299 in total flight hours in support of the FMF as part of our overall Flying Hours Program (FHP). Those hours cost a total of \$2.44 billion and supported the readiness of 3,161 total pilots. In fiscal year 2023, we executed 213,534 in total flight hours in support of the FMF as part of our overall FHP. Those hours cost a total of \$3.4 billion and supported 3,047 pilots. At present, our FHP is funded to 91.1 percent of the MARFORs’ executable requirement at \$4.2 billion. FHP funds aviation fuel, contract maintenance, and flying hours maintenance for F-35, F/A-18, MV-22, CH-53, KC-130J, AH/UH-1, and UAS. Aviation Depot Maintenance is funded to 91 percent, which supports depot level aircraft and engine overhauls at fleet readiness centers across the United States. Aviation Logistics, primarily for F-35B/C maintenance actions and flying hour requirements, is funded to 95 percent to achieve sustainment goals produced by the Joint Program Office. This funding also covers critical maintenance performance for KC-130J and MV-22 platforms essential for Force Design priorities.

#### LITTORAL MOBILITY

Mobility is a critical requirement to enable the dispersion and persistence of stand-in forces. We recognized this capability gap early as we developed concepts for the Indo-Pacific and designed a purpose-built Medium Landing Ship (LSM) as a critical enabler for this theater. Separate and complementary to AWS, the LSM is a maneuver asset and, as a shore-to-shore vessel, is unique and critical to expeditionary littoral mobility. LSMs facilitate campaigning and can support diverse missions including operational intra-theater mobility, tactical maneuver in archipelagic environments, logistics support, and maritime domain awareness. The fiscal year 2025 President’s Budget request includes funding for the first LSM and additional resources for seven additional LSMs across the FYDP. In fiscal year 2027, the fiscal year 2025 Shipbuilding Plan reflects the steady procurement rate of two LSMs per year.

#### READINESS DEGRADERS

*Amphibious Warship Availability.* Reduced AWS availability diminishes Navy and Marine Corps interoperability and integrated proficiency, which can result in a less

capable force and increased probability for mishaps. Reduced AWS availability also creates gaps in our training cycles as well as limits a consistent ARG/MEU forward posture for sustained naval campaigning with allies and partners in support of integrated deterrence. High operational demand, age, deteriorating materiel condition, and lack of skilled labor continue to exacerbate AWS readiness challenges. Unexpected issues discovered during maintenance periods further expand the periods of non-availability. These factors limit the persistent ARG/MEU presence that enables the Combatant Commanders to have a ready crisis response force capable of moving hundreds of miles, during the day and throughout the night, without concerns of access, basing, and overflight. Addressing this issue will require a mix of timely and predictable funding to replace aging AWS platforms with new construction. Amphibious warship procurement, like other Navy shipbuilding programs, can benefit from multi-ship procurement contracts that stabilize the industrial base and provide significant cost savings for the Department. New ship acquisition using authorities already granted by Congress yield potentially significant cost and schedule benefits, accelerates delivery of amphibious warfighting capability to the Fleet, and provides critical stability and predictability to the shipbuilding industrial base as long as industry produces those ships on schedule and on budget. Sustaining these procurement strategies will not only signal to industry to invest in their workforce, but it will also create stability in public and private shipyards for maintenance periods.

Marine Corps Tactical Fixed-Wing Aircraft (TACAIR) Pilot Shortfalls. At the end of 2023, we were only able to fulfill 47 percent of our TACAIR pilot requirement (267 of a target inventory of 567). We are making some progress, but not enough—and certainly not quickly enough. Aviation retention requires a holistic approach, and we cannot rely solely on monetary bonuses. Pilot retention is also influenced by flight hour availability, training opportunities, and other non-monetary factors. We are exploring both monetary and non-monetary incentives, including improving aircraft readiness rates and flying hours, and increasing production pipeline throughput.

#### TRAINING READINESS

In support of generating greater warfighting readiness in the FMF with our MAGTFs, the Marine Corps has executed an annual series of force-on-force training exercises for the past several years. The training objectives of those warfighting exercises are: 1) employ the principles of maneuver warfare, 2) apply adaptive decision making, 3) conduct assured command and control, 4) execute rapid targeting cycles, 5) conduct logistics in a contested and austere environment, and 6) win in a multi-domain operational environment. These objectives are accomplished via an operational environment that seeks to approximate the friction, disorder, and uncertainty of combat operations; test decision making processes against a live, thinking, adaptive enemy; and enable command and control of distributed elements in a communications-degraded environment.

Our goal is simple: we seek to develop organizations, units, and marines not just ready to survive in a peer-to-peer competition, but to thrive and dominate in all domains. One of the ways we do this is by forcing units to fight at a disadvantage, and to grow comfortable with it. We have been conducting these types of large-scale, force-on-force exercises well before the Russian invasion of Ukraine in 2022. Additional funding has been essential to improving our warfighting readiness via enhanced training. The same trend holds for our Live Virtual Constructive Training Environment (LVC-TE) trend holds for our Live Virtual Constructive Training Environment (LVC-TE) trend holds for our Live Virtual Constructive Training Environment (LVC-TE).

*Large Scale Exercise 2023 (LSE 2023).* In the summer of 2023, the Navy and Marine Corps team conducted our most expansive and stressing live and virtual training to-date in LSE 23 using Carrier Strike Group 2, anchored on the USS *Dwight D. Eisenhower* (CVN-69), to help us better understand how we would fight the next war at sea. We were able to connect six carrier strike groups (two live, four virtual), six amphibious ready groups (two live, four virtual), and an additional 25 live and 50 virtual ships. To add to the realism of the event, exercise planners added 25,000 sailors and marines to the exercise with very little additional preparation outside of normal training. All these factors made both the learning and findings more authentic. LSE 23 required the use of nine Maritime Operations Centers. Testing warfighting concepts and challenging ourselves at this scale are exactly what is required to generate the warfighting readiness we need in the future against a peer threat.

*Amphibious Combat Vehicle Training.* As we incorporate the ACV into our training and operations, we deliberately planned for surf-zone water-operations training to begin only after our vehicle operators successfully completed the highest-level of training to safely operate in those conditions. This methodical approach ensures that as we transition from the tracked-vehicle procedures to wheeled vehicle operations, we achieve the highest level of training for our marines and sailors. As a result of this additional training, we are pleased to report that our ACV Transition Training Unit (TTU) has conducted over 350 surf-zone transits to-date with zero incidents or mishaps. 162 ACV operators have been certified by the TTU with another 185 marines pending certification.

#### SAFETY

Safety is a critical component to Marine Corps Readiness and a key element of our warrior culture. It is a key indicator of our units' discipline. We do not view safe practices as a restriction or obstacle to realistic or challenging training; rather, they are a requirement. Many mishaps are preventable when we comply with established procedures and take action to stop unsafe acts before they occur. Our safety culture is strong, but it must be doggedly maintained and actively inculcated into our youngest marines. The Commandant announced last year that he will appoint a General Officer as the full-time Director of Safety for the entire Marine Corps. We are grateful to Congress for authorizing the additional billet, enabling this necessary appointment, which will provide an additional, higher level of daily safety oversight.

#### PERSONNEL READINESS

Nothing is more important to Marine Corps Readiness than the individual marine—how we recruit them, invest in them, and retain them. Over the past 12 months, we have implemented nine major personnel reform initiatives nested within four lines of effort: 1) Rebalance Recruiting and Retention, 2) Optimize the Employment of the Talent, 3) Multiple Pathways to Career Success, and 4) Modern Talent Management Digital Tools. To date, there have been notable successes with the Expanded First Term Alignment Plan (FTAP) Retention Model, the Small Unit Leader Initiative, and Special Duty Assignment (SDA) Volunteer Incentives, which have resulted in an increase in volunteers by 62 percent.

In support of these efforts, we have focused on talent management information technology (IT) modernization. Over the previous 24 months, we have migrated our existing nine manpower technology applications/platforms to the cloud into an integrated capability that we label "one system with many applications." Reorienting and reconfiguring our human resources enterprise into a talent management system is a work in progress, but one that is well underway and accelerating.

*Recruiting.* Our success in maintaining an elite force begins with recruiting young men and women who possess the character, mental aptitude, physical and psychological fitness, and desire required to earn the title, "Marine." Labor market challenges, historic lows in qualification rates, and lower propensities to join have made it increasingly difficult to maintain our recruiting momentum. We are a proud organization that welcomes and judges all based on one standard—the Marine Corps standard. There is no better visible example of our disciplined warriors than our recruiters. We send our very best to recruiting—our recruiters are often the first marine a young person ever meets. One in four of our general officers has been a recruiter during their career, and we pride ourselves in assigning a sergeant major to every recruiting station.

Last fiscal year, over 98 percent of our recruiting accessions were high school graduates, exceeding the Department of Defense's standard of 90 percent. While we are authorized up to 4 percent of accessions from the CAT IV mental group, we have deliberately chosen not to do so and did not access any CAT IV applicants in 2023. In addition, the average Armed Forces Qualification Test (AFQT) score for marine recruits was over 60—which remains well above the AFQT average score of 50; sixty-six percent scored in the top three tiers of the AFQT, exceeding the DOD standard of 60 percent. Marine Corps Recruiting Command has also successfully made our shipping and contracting missions every month this fiscal year. For our officer mission, we have accessed 639 officers so far this fiscal year, which is on pace to meet or exceed the mission by category and component.

*Retention.* In fiscal year 2022, we successfully re-enlisted 5,918 (22 percent) of the eligible first-term population of 26,221 marines. In fiscal year 2023, we expanded those efforts and successfully re-enlisted 7,070 (27 percent) of the eligible first-term population of 26,121 marines. Most importantly, 5,670 of those re-enlisted remained in the FMF to provide greater unit cohesion. With even greater goals in fiscal year

2024, we anticipate continued high re-enlistment rates, particularly among first-term marines. The Commandant's Retention Program, which has resulted in a 72 percent increase of first-term enlistment submissions by top-performing marines. As just one example of the positive impact these initiatives are having on warfighting readiness, we entered fiscal year 2023 with a persistent shortfall of approximately 2,000 Sergeants across the force. Through the implementation of the Small Unit Leader Initiative, we not only nearly eliminated that shortfall, but we also secured the retention of top talent within our E4 ranks for years via early re-enlistment.

*Marine Corps Total Fitness.* Marine Corps Total Fitness is the summation of physical, mental, spiritual, and social fitness programs that equip our marines with the tools of resiliency and fortitude required to fight at their highest potential and prevent unnecessary loss due to factors ranging from non-EAS attrition to the tragedy of suicide. The Marine Corps takes a holistic approach to total fitness, understanding that fitness is more than simply possessing high physical fitness or mental aptitude scores. As a Corps, we apply a public health approach to prevention, focusing on ensuring the health, safety, and well-being of the entire Marine Corps community. Our efforts aim to strengthen protective factors that reduce the risk of individuals experiencing harmful behaviors. For example, social connections, social support, and positive social relationships are protective factors against a spectrum of issues including child abuse, domestic abuse, hazing, sexual violence, substance abuse, youth violence, and suicide-related behavior. Skill-building is an essential component of prevention and equips marines and their families with the tools needed to cope with stressors before they become overwhelming.

#### INFRASTRUCTURE READINESS

It has become increasingly clear that our infrastructure is below the State of readiness required to support our marines and Marine Corps warfighting requirements and is negatively impacting the generation of ready forces across the enterprise. Infrastructure readiness is also below the standards that our marines and their families deserve—and have earned.

*Barracks 2030.* As confirmed by our recent wall-to-wall inspection of more than 57,700 barracks rooms, our infrastructure challenges are substantial, but our Commandant and his Barracks 2030 plan provide a clear path ahead. This strategy codifies many initiatives the Corps began in early 2023. The Marine Corps' Barracks 2030 strategy takes an aggressive approach in improving housing for our marines along three lines of effort: Management, Modernization, and Materiel. Our strategy is data-driven—to the “room level.” Over the last 6 years, the Marine Corps has averaged over \$200 million annually in restoration and modernization projects for barracks exclusively. In Fiscal Years 2022 and 2023, we renovated 30 barracks, improving the quality of life of 8,116 marines. In Fiscal Year 2024, we approached Congress with a funding request to renovate 13 more barracks to improve the living conditions of 3,517 marines. We are leveraging a tiered readiness approach to lifecycle management to prioritize investments for the most critical facilities. Future modernization efforts include installing new air conditioning systems for barracks in the warmest climates and targeted demolition to remove buildings not suitable for our marines.

FACILITIES SUSTAINMENT (FS), RESTORATION & MODERNIZATION (RM), DEMOLITION (D),  
AND MILCON.

Providing the marines with a better quality of life through higher quality barracks, chow halls, and Warrior Athlete Readiness and Resilience (WARR) Centers will positively impact their individual readiness. Ensuring better sleep, dietary, and fitness outcomes should further contribute to fewer lost days due to fatigue, injury, or illness, and will contribute to our overall efforts to improve our culture of safety. The Commandant is committed to providing the marines with barracks they both deserve and can be proud of, yet the obstacles to overcome are enormous—and decades in the making. As the Commandant often says—we became marines to do hard things, and remediating nearly two decades of under-investments and deferred maintenance in our barracks in a fraction of the time is one of those hard things. Our best estimate of our deferred maintenance backlog is \$27.8 billion for all our facilities. The goal of our Facility Investment Strategy is to invest in recapitalization, which increases the overall condition of our facility portfolio. As we improve our facilities' conditions, we will continue our disciplined approach to maintain them. In fiscal year 2025, to execute this strategy and make improvements, we increased Restoration and Modernization funding request by 9 percent for a total of \$544 million. In total, our FSRM accounts represent approximately 12 percent of our total Operation & Maintenance funding.



*Installations Communication Grid.* Each of the Marine Corps 25 Installation Communications Grid's (ICG) capital assets (e.g., communication facilities, their horizontal and vertical linear class II structures and real property built in equipment, telecommunications) is comprised of segments of varying technologies from the 1940s through today. Installation communication planning funds were made available in fiscal year 2023 to establish an Installation Communication Facility Plan (ICFP) for each Marine Corps installation. In fiscal year 2024, the Marine Corps will establish two ICFPs for MCB Butler and MCB Hawaii. We expect to be able to create additional ICFPs for several other installations during the FYDP. Outputs of these ICFPs include ICG Basic Facilities Requirements (BFR) and ICG DD-1391s that are required for the Marine Corps' military construction program. In addition, ICFPs will identify which communication facilities the Marine Corps can modernize, repair, or recapitalize effectively and efficiently to comply with broadband / ultra-high broadband requirements. The ICFPs will also identify which communications facilities are to be replaced due to cost benefit assessment, and what new class II real property investments are needed per installation. Once the initial ICFPs are completed for MCB Butler and MCB Hawaii, we will provide the results to the subcommittee.

*Water Infrastructure.* Since fiscal year 2016, the Marine Corps has invested over \$400 million to upgrade or replace drinking water and wastewater infrastructure, thereby enabling environmental compliance and reducing risk to personnel and the environment. Our current focus is the modernization of the MCB Quantico water treatment plant, which will cost approximately \$127 million.

*Overseas and Pacific Marines.* The Marine Corps has established a Pacific cell to focus solely on improving the quality of life and morale for our marines, civilian workforce, and families throughout the Indo-Pacific. This cell is engaged with units stationed in the Pacific and has solicited direct feedback. One idea we are studying is the adequacy of policies regarding shipment and storage of privately owned vehicles for marines stationed overseas. Those changes would improve spouse employment, access to childcare, and other quality-of-life priorities. We are considering other monetary and non-monetary incentives to reduce the cost and stress of executing orders to overseas locations.

*Childcare.* Our Child and Youth Programs (CYP) provide high-quality, accessible, affordable care aboard 16 Marine Corps installations and through contractual partnerships. Some of the benefits CYP offers include Child Development Programs, the Community-Based Child Care Fee Assistance Program, and Youth Programming. We continue to make progress in recovering from the effects of COVID-19 on our childcare network. The Marine Corps Child Development Centers' (CDC) unmet needs list continues to shrink, with the current total at 962 spaces. We are addressing childcare waitlist issues by emphasizing hiring efforts and a non-competitive childcare employee transfer program.

- Beginning in fiscal year 2023, we added over \$100 million to the Child and Youth Program portfolio to hire more employees at increased wages to help retain a professional workforce. Our average CDC employee salary is now higher than those outside the gate at most installations.
- In fiscal year 2023, direct care employees' salaries were increased beyond the federally mandated \$15 per hour. The minimum wage of an entry-level employee is \$18.20 per hour. Childcare employees with children enrolled in the program now receive a 50 percent reduction in fees for the first child and a 20 percent reduction for subsequent children. Currently, 640 CDC employees are benefiting from this discount.
- Our current staffing turnover rate is 20 percent, a marked improvement over the fiscal year 2021 and fiscal year 2022 turnover rates of 34 percent and 45 percent, respectively. Departing employees listed "relocation" as the primary reason they resigned in about a third of cases, which is explained by the fact that many CDC employees are spouses who move alongside their servicemember. Military spouses comprise 40 percent of the Marine Corps' Child and Youth Programs employees. Spouse employment is important for many Marine Corps families and can be a significant factor in their financial security, readiness, and retention. The Family Member Employment Assistance Program is available at each Marine Corps installation and provides employment related referral services, career and skill assessments, career coaching, job search guidance, portal career opportunities, and education centers referrals/guidance. We also reimburse eligible marine spouses up to \$1,000 for State licensure and certification cost arising from relocation to another State. We appreciate Congress's recent expansion of this program and continued support. To address the challenge of PCS cycles, we have implemented a CDC employee non-competitive

transfer program that allows employees to transfer from their current position more seamlessly to a similar one at a different installation. This single initiative has enabled us to retain more than 180 spouse employees, whom we may have otherwise lost.

- To mitigate wait lists, we also offer childcare fee assistance for eligible marines assigned to an installation with a significant waitlist. Over the last three Fiscal Years, the rate of fee assistance utilization has increased steadily for both community-based childcare providers as well as children served. In fiscal year 2023, over 1,600 children were enrolled in the fee assistance program at over 620 community-based providers at a total cost of \$6.1 million. We recently increased the maximum amount of fee assistance, which will undoubtedly help our marine families—especially those in high-cost areas.

We appreciate Congress's support to improve childcare delivery in all its forms. Access to high quality, affordable and reliable childcare enables marines to focus on their duties, which directly impacts our readiness and lethality.

#### CONCLUSION

The investments we make today to support our marines, sailors, and their collective warfighting readiness will reverberate through the rest of this decisive decade. There is only one thing that our Nation cannot give to our military—more time. We must make critical resourcing decisions now, so that we have the warfighting readiness needed for tomorrow. The Corps is perpetually grateful of the support that this subcommittee has provided for our Force Design initiatives. Every dollar invested allows us to realize our modernization strategy and build a more ready force, and importantly, one capable of satisfying the demands of our Combatant Commanders.

The Marine Corps will be ready to respond to any crisis or contingency in the future, just as we have in the past. The Marine Corps will continue to do its part by continuing to maximize every dollar invested so the American people can be confident that we are deliberate with the finite resources that are provided to us. We will also remain the best stewards of the taxpayers' funds via transparency, accountability, and discipline.

Our Commandant remains committed to ensuring that the Marine Corps remains our Nation's force-in-readiness. We will continue to rely on our unique culture as marines to attract the finest young Americans to join our ranks and drive our personnel readiness. With your help, we will ensure they are provided world-class training, improved quality of life, and enabled with the capabilities required to win our Nation's battles against any adversary. I thank the subcommittee for your continued advocacy and commitment to our Nation, the Naval Services, and the Marine Corps. Semper Fidelis.

Senator HIRONO. Thank you very much. General Slife. Am I pronouncing your name correctly?

General SLIFE. You absolutely are.

Senator HIRONO. Okay. Please proceed.

#### **STATEMENT OF GENERAL JAMES C. SLIFE, USAF, VICE CHIEF OF STAFF OF THE AIR FORCE, DEPARTMENT OF THE AIR FORCE**

General SLIFE. Thank you, ma'am. Good afternoon, Chair Hirono, Ranking Member Sullivan, distinguished Members of the Committee.

The beginning and end of my testimony today is that your Air Force remains ready. Nevertheless, as Senator Sullivan pointed out in his opening comments, the strategic landscape is as complex and dynamic as it has ever been, demanding the Air Force be ready for a spectrum of threats across differing time epics. The rapidly evolving capabilities of the People's Republic of China demand our full attention. Meanwhile, Russia, North Korea, Iran, violent extremist organizations cannot be ignored.

At its most basic, the budget being considered by the Committee today represents our best judgment on how to allocate risk over time, given the realities of the fiscal constraints and inflationary

pressure inherent in today's environment. Could we retain greater force structure or additional platforms intended to be divested? You bet, but it would come at the expense of today's readiness levels or tomorrow's modernization, which is a proxy for tomorrow's readiness. Could we improve upon today's readiness? Absolutely, at the expense of force structure or modernization, and finally, could we modernize faster? We could, but it would come at the expense of either force structure or readiness.

Such is the inescapable logic of allocating risk over time. While the budget before you may not be ideal in an absolute sense, we judge it to be ideal given the relative set of options and the strategic environment in which we exist.

The Air Force's fiscal year 2025 budget request makes several strategic adjustments that will help us maintain satisfactory readiness rates while investing in emerging technologies and modern systems to preserve future capability and capacity.

Our personnel retention and accession rates are stable. Updated programs and policies aligned to DOD-wide standards are already resulting in a steady flow of new airmen. We are modifying incentive programs and investing in better infrastructure and support systems to make the decision to stay, for airmen and families, easier.

We are also updating the way we train. We are rolling out immersive simulation technology and flight training improvements, maximizing the effectiveness of our pilots while airborne and providing realistic training for airmen on the ground. These new training methods are already increasing pilot production and helping our airmen prepare for operations in a contested environment.

Our force presentation around the world is sufficient for the operational environment which has prevailed since the end of the cold war, but the agile response needed tomorrow is going to require a more flexible approach. So our investment in agile combat employment will help us meet those challenges and train our airmen to execute hub-and-spoke models that enables the speed and lethality the future conflict will require.

The Air Force's nuclear enterprise is undergoing much-needed recapitalization, and we look forward to bringing our system upgrades and new platforms to the front lines as soon as possible. Our fiscal year 2025 requests will enhance our present nuclear capabilities and offer increased flexibility.

The demand for finite resources is fierce, and we strive to be good stewards of the taxpayers' dollars while delivering on our highest responsibility—air power in defense of our Nation. The Air Force's fiscal year 2025 budget request is not without risk, but it is acceptable risk to ensure our readiness today and tomorrow.

On behalf of the 677,000 total force airmen and civilians as well as their families, thank you for your support and steadfast devotion to ensuring that the Air Force maintains its place as the pre-eminent provider of air power, anytime, anywhere. Thank you.

[The prepared statement of General Slife follows:]

## PREPARED STATEMENT BY GENERAL JAMES C. SLIFE

## INTRODUCTION

The Air Force, as an indispensable contributor to our Nation's security, stands ready to defend the Homeland, rapidly deploy and employ combat power globally, and contribute to the success of our Joint and Coalition teammates. With Airpower's speed, range, and flexibility—as well as two-thirds of the Nation's nuclear triad—we offer powerful options for our Nation's leaders. Our mission—to “Fly, Fight, & Win . . . Airpower Anytime, Anywhere”—is underpinned by our readiness today and in the future.

The President's Fiscal Year 2025 Budget Request continues the Air Force's implementation of the National Defense Strategy (NDS) and aligns with the 2023 Fiscal Responsibility Act (FRA). The Service's global commitments have not changed and the urgent need for modernization has not abated. The costs associated with maintaining our readiness have increased while the FRA limits on the budget request do not keep pace with inflation. Our need to provide a safe, strong, secure, and credible deterrent to opportunistic challengers remains as vital as ever. These factors place enormous pressure on our budget.

Funding is such that today's readiness is at the highest level of risk deemed acceptable, balancing today's requirements with the need to modernize to maintain readiness in the future. The Air Force is being deliberate and thoughtful in managing short-term risk to readiness to prepare our forces for both enduring competition as well as acute and persistent threats.

## CURRENT READINESS

*End Strength and Retention*

The Air Force's success hinges on our airmen. By balancing budgetary constraints with the risk inherent in carrying shortages in some fields, our objective is to sustain a 320,000 person Active Duty Force as was authorized in the fiscal year 2024 National Defense Authorization Act. The fiscal year 2025 budget request proposes reducing the Air Force End Strength (E/S) from the 324,700 requested in fiscal year 2024 to 320,000 Active Duty members. These reductions accompany the proposed divestment of legacy platforms in order to fund necessary operational capabilities required to deter—and fight and win if necessary—in the strategic environment of today and tomorrow.

Retention rates of both officers and enlisted personnel are declining to projected stabilization points. For fiscal year 2025, we project a personnel inventory increase as we apply the full impact of our recruitment improvements, including Initial Enlisted Bonuses and an additional 191 Recruiters. Furthermore, we are increasing the number of enlisted retention programs under our fiscal year 2024 Selective Retention Bonuses (SRB) program, adding a retention bonus to 19 new enlisted career fields, for a total of 83 career fields under the program.

*Aircrew Manning*

The national pilot shortage continues to challenge our Air Force. In fiscal year 2024, the Total Force was approximately 1,900 pilots short of the 19,136 required to meet global requirements. Robust airline hiring practices continue to draw away experienced pilots at the Field Grade Officer level, who are critical to training the next generation. We have prioritized rated manning in operations, test, and training units by reducing rated staff manning, alleviating risks in front-line combat capability and pilot production in order to maintain combat readiness.

To improve retention and production, we continue to invest in several monetary and non-monetary incentive programs. Monetarily, we sustain the Aviator Bonus, Aviator Incentive Pay, Special Duty Pay, and Critical Skills Pay. The Aviator Bonus includes long and short-term contracts, with some offering more money up front for a longer commitment (up to \$50,000 annually). We have also implemented non-monetary incentives, such as base of preference in-lieu-of a bonus, for retention and are pursuing various quality-of-life initiatives, improving Child Development Centers, and spousal licensure, that address the needs of our airmen and families.

The Air Force is also continuing pilot production investments. In fiscal year 2023, the Undergraduate Pilot Training (UPT) program produced 1,315 pilots, 39 more than the previous year but 185 short of the annual pilot production goal of 1,500. Maintenance and supply challenges for aging training aircraft and low civil service simulator instructor manning compound to undermine production totals. The Air Force is addressing the Civilian Simulator Instructor (CSI) manning issue by pursuing all available authorities, including contract options, alternate civilian pay scales, and the recently approved up to 50 percent Group Retention waiver. The fis-

cal year 2024 budget tackled the sustainment and availability issues for training aircraft and we are already beginning to see an uptick in throughput based on work using the “Theory of Constraints” methodology. Additionally, we have implemented several non-traditional means of pilot production, including integration of immersive technology, to increase effectiveness during the airborne portion of flight training and better prepare graduates for 5th-generation aviation.

#### *Flying Hour Program (FHP)*

The fiscal year 2025 budget is consistent with fiscal year 2024 flying hour programming, with an increase in 5th-generation flying hours. Although this programming falls below our desired training requirement, this budget reflects the hours the Air Force can reasonably fly due to increasing sustainment requirements of legacy systems outpacing the Air Force’s ability to resource them. We continue to search for innovative ways, such as virtual reality technology and synthetic training environments, to ensure quality aircrew training in the face of shortfalls in our ability to put aircraft in the air.

#### *Weapon System Sustainment (WSS)*

The real cost of force sustainment and flying operations is outpacing inflation planning factors, which challenges our ability to produce the ready, lethal force required by the National Defense Strategy. For fiscal year 2025, the Air Force WSS funding request is \$18.8 billion—an increase of \$886 million over fiscal year 2024—which funds of 87 percent of all WSS requirements, keeping pace with rising depot maintenance costs and inflation. The WSS portfolio continues to grow due to aircraft sustainment beyond design life, fielding new weapons systems with increased technical complexity, increasing requirements for Contract Logistics Support, and inflation above planned levels in labor and material costs. Competition for finite resources necessitates prioritizing weapons systems most relevant to deterring and defeating a peer adversary in a future conflict. The fiscal year 2025 request continues to ensure near-term capabilities are sustained at an acceptable level of risk while allowing investment in future capabilities to mitigate future risk.

### ENHANCED OPERATIONAL READINESS AND AGILITY

#### *Air Force’s Force Generation (AFFORGEN) Model*

The operational demands on our force over the past two decades detrimentally impacted readiness. Thus, AFFORGEN, a model to enable the Air Force to meet warfighter requirements, is evolving to meet the challenges of the present and future strategic environments. Through AFFORGEN, the Air Force can provide a sustainable force offering to meet rotational requirements, generate readiness to underwrite a credible deterrence, and establish a predictable deployment flow for our airmen. We have already received positive feedback from our airmen regarding their ability to work and train together prior to deploying under this model.

#### *Air Task Force (ATF)*

In concert with AFFORGEN, the Air Force is also evolving our force presentation model. Over the past 20 years, the Air Force provided forces by aggregating airmen from many different bases at a deployed location and forming them into units while deployed. Airmen typically were unacquainted with each other or did not train together before arriving at their deployed location. This approach was efficient and generally acceptable because we fought from large, fixed bases with relative sanctuary and engaged the adversary at the time and place of our choosing. Future conflicts will not allow for such luxuries—our airmen must have the opportunity to train together as a team and be ready to fight as a cohesive unit on their first day in theater. The ATF provides that opportunity.

The Air Force’s force presentation model is ultimately moving toward a single complete, cohesive fighting force from a single wing at a single base. The Expeditionary Air Base (XAB), now being fielded, is the first step in this process. The XAB sources the command-and-control team as well as support personnel from one base; the rest are sourced from up to 50 other locations, a 45 to 50 percent decrease from the 90–100 locations of the previous model.

The next evolution of our force presentation model, the ATF, is planned to start in the fall of 2025. ATFs will source personnel from just three or four bases, allowing teams of 80–160 airmen to train together in the 12 months preceding deployment. ATFs provide the Joint Force with a more ready force on day one in theater and allow the Air Force to better articulate capacity, readiness, and risk.

### *Agile Combat Employment (ACE)*

We currently rely on a limited number of isolated, forward air bases in the Western Pacific and several fixed bases in Europe and the Middle East. Advances in potential adversary long-range precision strike capability increasingly threaten these bases. Competitors will continue to invest in weapon magazine depth, range, and accuracy, putting U.S., Allied, and partner locations at risk, as well as challenging U.S. efforts to gain important regional access, basing, and overflight permissions.

In response, the Air Force has developed multiple initiatives to bolster resilient forward basing in a contested environment. Specifically, the ACE scheme of maneuver increases readiness by dispersing operations from large bases to networks of smaller, resilient, adaptive locations. ACE complicates the adversary's wartime calculus and denies them the lucrative targeting opportunities which known, fixed, and thinly protected locations provide. Our ACE concepts continue to be deployed at all echelons of the force, and we are also updating Air Force Doctrine, testing in ongoing exercises and worldwide training, and innovating at the unit level.

The fiscal year 2025 ACE investment, \$538 million, will continue to build on previous efforts. These investments include the packaging, storage, and sustainment of prepositioned essential war reserve materiel, airfield restoration around the Indo-Pacific, improved agile expeditionary communications, and "Mission Ready Airmen" training. Our airfield restoration efforts aim to expand the number of bases from which we can operate and provide a mix of defenses, concealment, and hardening, as well as the ability to maintain logistics support from multiple locations.

The ability to defend forward air bases from increasing air and missile threats in theater remains a critical component of the ACE concept. Consequently, the Air Force increased its fiscal year 2025 budget request for limited base defense by \$10.4 million to \$83.6 million, funding cost-effective capabilities to enhance the resilience and protection of dispersed bases. This investment consists primarily of passive defense, infrastructure resiliency, operational recovery measures, and sustainment of fielded Counter-small Unmanned Aircraft Systems (C-sUAS) capabilities. It also includes a limited organic Air Force Air Base Air Defense (ABAD) active defense capability to provide low-cost expeditionary protection for air bases supporting ACE that might otherwise be undefended due to Joint air and missile defense capacity shortfalls. The deployed ABAD system is not by itself intended or sufficient to provide robust protection against all threats and does not reduce the need for additional investment in Joint defenses.

## STRATEGIC READINESS INVESTMENTS

### *Nuclear Modernization*

Nuclear deterrence is foundational for our national security. Rapid Chinese and Russian fielding of modernized nuclear weapons reinforce the importance of maintaining a strong and modernized strategic posture. Accordingly, the Air Force remains fully committed to recapitalizing the nuclear enterprise. As we await the outcome of the Nunn-McCurdy review of the LGM-35A Sentinel and delivery of the B-21 Raider, our current nuclear force and systems remain ready to respond to the Nation's needs. The fiscal year 2025 budget request contains funding for significant B-52 aircraft upgrades, including urgently needed engine replacement which will allow for longer unrefueled flight ranges, freeing tanker aircraft for other high-priority operations. Additionally, several F-35A squadrons are now certified for nuclear missions. These near-term endeavors provide flexible, credible deterrence options for our Nation and reassurance to our Allies and Partners.

### *Operational Test and Training Infrastructure (OTTI)*

The Air Force uses several physical training ranges to sharpen the combat effectiveness of aircrews. Yet, the current operational training infrastructure is insufficient for the high-end training capability the Air Force and the Joint Force need. The fiscal year 2025 budget request will allow us to continue to modernize select ranges, including the Nevada Test and Training Range and the Joint Pacific Alaska Range Complex, to emulate a pacing adversary by fiscal year 2030. In addition, we plan to improve six primary test ranges with high-fidelity threat emitters, jammers, and improved targets as part of an integrated system that allows ranges to function as realistic and reactive adversaries, greatly enhancing 5th-generation training.

The Air Force's fiscal year 2025 budget request includes \$346.2 million for the Joint Simulation Environment (JSE), further enabling aircrew and other operators to train and maintain readiness against potential near-peer adversaries. JSE overcomes current live-fly training limitations, such as range size, which restrict our ability to replicate threats and allows potential adversaries to observe our training.

Still, some airmanship can only be gained in the air, and we will continue to strike an appropriate balance between simulated and aircraft-based training.

#### CONCLUSION

The Air Force is in a race to maintain its position as the world's best Air Force. The United States faces a competitor whose national purchasing power exceeds our own and is actively developing a force to defeat air power. Conflict is not inevitable—we must seek to prevent it through readiness. Modernization is also readiness—tomorrow's readiness. The budget addresses mission requirements while taking care of our most important asset—our people—and fulfilling the role of the Service as part of the Joint, Interagency, and Combined team that our Nation depends on.

Senator HIRONO. Thank you. General Guetlein.

#### **STATEMENT OF GENERAL MICHAEL A. GUETLEIN, USSF, VICE CHIEF OF SPACE OPERATIONS, DEPARTMENT OF THE AIR FORCE**

General GUETLEIN. Chair Hirono, Ranking Member Sullivan, distinguished Members of the Subcommittee, thank you for the opportunity to testify before this body and the American public on the military readiness of the United States Space Force and our continued efforts to sustain such readiness into the future. On behalf of the Secretary of the Air Force, Hon. Frank Kendall, and the Chief of Space Operations, General Chance Saltzman, I am honored to share with you our readiness vision for fiscal year 2025.

Let me begin by saying that the context for any discussion on the readiness of the Joint Force lies on the Nation's ability to achieve and maintain freedom of action in space through space superiority. The repeated actions by both the Russian Federation and People's Republic of China underscore the urgency for action. Although we still maintain control of the space of our adversaries, we are working hard to close the gap and assert their dominance in space. We cannot afford to let this happen.

Space is the foundation for the Joint Force, and it is fundamental to our peaceful way of life. GPS [Global Positioning System] alone is an essential part of every aspect of our daily lives, from our cellphones to our banking systems and even our ability to get the crops out the field and the groceries on the shelves. We cannot let our near peer competitors overtake us or we will lose what we hold dear, and the world will become a far more dangerous place.

The investments provided in the President's Budget maintain our marginal advantage. However, we must seriously consider future budgets in order to counter adversary investments and ensure our Joint Force remains the dominant Joint Force defending this great Nation.

As we look ahead it is clear that the resources necessary to maintain the space capabilities the Nation depends on are significantly outpaced by the demand. Our near peer competitors have not only made space a contested domain, but their activities in space reveal that their intentions differ profoundly from our own. Rather than ensuring peaceful access to space for all, they strive to seize control of space for their own aggressive purposes.

The pace of their progress will only continue to accelerate because they are determined to close the capability gap, and they are not subject to the same resource constraints we have, they are not subject to the same processes that we follow, and they do not share

our values of protecting our environment both on Earth and in space for generations to come.

Our guardians clearly demonstrated the capability, the resolve, and the experience necessary to face the challenges posed by our competitors, but there is more to do. As Secretary Kendall and General Saltzman recently unveiled, the Department is launching an effort to reoptimize how we organize, train, and equip our forces in light of great power competition and the looming threat.

As part of this reoptimization, the Space Force is implementing a series of key initiatives that will directly impact readiness. First, we are standardizing the way we present space capabilities to the combatant commanders, and we are completing the standup and the resourcing of our service components at each of the combatant commands. This will ensure seamless integration of space capabilities into the Joint Force when called upon by the Nation during times of crisis or conflict.

Second, we are building joint warfighting leaders and preparing them for modern warfare. We are redesigning career paths, changing our readiness standards, and increasing the scope, tempo, and realism of our operational assessments and exercises in order to build the culture and proficiency necessary to prevail against the threat. This is the task that you created the United States Space Force for.

Last, we are establishing a new field command, focused on preparing the Space Force for future warfare. Space Futures Command will focus on developing future warfighting concepts and testing these concepts in modern, live, virtual, and constructive environments against realistic threats, and focusing our investments on science and technology to counter the emerging threats. Space Futures Command will channel these lessons learned and technologies developed into a robust objective architecture and force design that will drive future resourcing decisions and readiness.

I truly appreciate Congress' and this Committee's continued support for our guardians and the mission. Your steadfast fiscal provisions have made us the force we are today, and every guardian appreciates it.

I look forward to working with you as we defeat tomorrow's challenges together, and I look forward to your questions.

[The prepared statement of General Guetlein follows:]

#### PREPARED STATEMENT BY GENERAL MICHAEL A. GUETLEIN

##### INTRODUCTION

Chair Hirono; Ranking Member Sullivan; distinguished Members of the Subcommittee; thank you for the opportunity to testify before this body, and the American public, on the military readiness of the Space Force and our continued efforts to sustain such readiness into the future. On behalf of the Secretary of the Air Force, Hon. Frank Kendall, and the Chief of Space Operations (CSO), General B. Chance Saltzman, I am honored to share the Space Force's readiness vision for fiscal year 2025.

Space superiority is the foundation of the Joint Force, and we cannot achieve joint success without it. The demand for space forces outpaces resources by a significant margin. If we want to remain on top, the Nation must continue to invest in the United States Space Force and develop the capabilities to deter and if necessary, defeat aggression in space and around the globe. The Space Force must be resourced to protect our critical space-based services from adversary attacks, and to deny an adversary the hostile use of its space capabilities against our personnel.



Since its creation, the Space Force has pushed the boundaries of what it means to be a Military Service. Our guardians demonstrate the unique capability, resolve, and experience necessary to effectively secure and control the space domain in support of our Nation's defense. Even so, our competitors continue to mature their counterspace capabilities, both publicly and covertly, which is why the Space Force must remain vigilant to retain its readiness and capability advantages.

Recent actions by both the Russian Federation and the People's Republic of China, including space-related cyber-attacks, direct ascent anti-satellite demonstrations, and counterspace weapons development, demonstrate they do not seek peaceful access to space; but rather intend to conduct aggressive actions that could deny the United States the free use and benefits of space. Reports concerning specific counterspace capabilities exhibit the extent these threats pose to our servicemembers, the American public, and our very way of life. The United States Space Force will continue to significantly contribute to our Nation's integrated deterrence and resolve to maintain the most effective space forces in the world.

As Secretary Kendall and General Saltzman recently unveiled in February 2024, the Department of the Air Force (DAF) is undergoing a Department-wide effort to optimize the way both the Air Force and Space Force organize, train, and equip to meet the PRC pacing challenge. In the face of rising threats and dangerous shifts in the strategic environment, the DAF designed this effort to enhance our ability to effectively deter our competitors, and ultimately, prevail in conflict should such deterrence fail. We have seen these threats emerge rapidly, particularly in space as it has transformed from a benign environment to a contested domain. To address these challenges, the Space Force will reoptimize its readiness to meet the pacing challenge. At the direction of Secretary Kendall and General Saltzman, the Space Force is:

- Establishing Space Futures Command as a fourth Field Command to develop and validate concepts, conduct experimentation and wargames, and perform mission area design;
- Formalizing Space Force Combat Squadrons as our Units of Action and accelerating implementation of the Space Force Generation model (SPAFORGEN);
- Delivering an Operational Test and Training Infrastructure (OTTI) to provide our guardians with the most realistic, dynamic, and effective training solutions available anywhere.
- Implementing readiness standards that reflect operations under contested conditions rather than those of a permissive environment;
- Conducting a series of nested and synchronized exercises in the Space Force that increase in scope and complexity, fit within a broader DAF-level framework, and progress through a Service-level, data-driven process to measure readiness;
- Activating service components within Combatant Commands, providing commanders with space integration and synchronization assets they need to conduct all domain operations; and
- Redesigning career paths to produce guardians that meet our high-tech operational demands.

Meeting the pacing challenge, while also managing acute and persistent threats, requires the Space Force to retain both agility and expertise; one without the other risks unacceptable tradeoffs to our strategic interests, the safety of our people and assets, and continued peaceful access to space. Underpinning our success in, from, and to the space domain is the Space Force's ability to field combat-ready forces and ensure our guardians have the tools, training, and equipment required to prevail in a modern, all-domain fight. Continuing to fund Space Force readiness will remain essential to our Nation's defense now and in the future. The President's fiscal year 2025 budget request appropriately balances our readiness requirements to deter aggression and be prepared to prevail in conflict when necessary.

#### EVOLVING SPACE FORCE READINESS IN FISCAL YEAR 2025

##### *Future Force Design*

Since its inception, the Space Force has taken steps to improve its force design structure and "right-size" its acquisition, talent management, and organizational strategies to best serve its organize, train, and equip mission set. Through the Space Warfighting Analysis Center (SWAC), we initiated a methodical process to produce the most ideal set of future capabilities required for existing and emerging operational needs, threats, and costs.

Recognizing the need to effectively implement future force designs, we are prioritizing efforts to be forward-looking and maintain long-term readiness advan-

tages in both capability and posture. As such, the CSO ordered the establishment of a Space Futures Command aimed at providing better-defined structure, processes, and integration of our force design efforts. This new Field Command will develop and validate concepts, conduct experimentation and wargames, and perform mission area design.

Joint operations require extensive inclusion of space capabilities. A Space Futures Command will ensure the Space Force force design is comprehensive with technically sound capabilities, innovative doctrinal approaches to force employment, force structures organized for resilience and effectiveness, and training practices designed to retain competitive advantages in the face of the pacing challenge. We must have greater awareness of the materiel and assets our force requires, and the corresponding facilities and personnel needed to accomplish our missions. We must incorporate more proactive and applicable leadership and educational opportunities for our servicemembers, and we must strengthen our people and facilities for the challenges ahead. This is a Department of Defense (DOD)-wide effort, but as the newest service, the Space Force has both the most ground to cover and the most agility to deliver operationally effective warfighting capabilities.

Effective force design analysis and recommendations are essential to delivering well-equipped, combat ready space forces, and the Space Force will leverage Space Futures Command to ensure high-fidelity modeling and analysis that balances fulfilling current operational requirements while transitioning to the force we need today.

#### *Commercial Space Strategy*

The pacing challenge requires that the United States, and the Space Force in particular, leverage the full breadth and depth of our commercial sector. The United States retains a significant advantage in commercial activities, which offer us key opportunities to bolster our space capabilities and sustain our readiness posture, while simultaneously stimulating the space economy and enabling competition, rapid innovation, and cost-effectiveness. Our commercial partners afford us the ability to exploit what we have, buy what we can, and build only what we must; particularly as space has become an increasingly competitive and contested domain.

The commercial sector of the United States space enterprise provides us with an immense body of knowledge and innovative capability from which to draw upon. We have the most robust space enterprise in the world, and the partnerships the Space Force has fostered with private industry, academia, and allied nations empower us to act faster and with greater effect than we could alone. This is a critical line of effort for the Space Force, not only because of our fiscal responsibility to the American people, but also for the vast knowledge base we can draw upon to succeed in our mission. Commercial products that can be utilized to meet military needs will provide for a more cost-effective and timely acquisition, which supports the DOD and industry. Further, these partnerships free the DOD to prioritize dedicated products when capability gaps are identified, saving time, resources, and testing for those needs that are not commercially available or are inherently governmental missions.

Consequently, the Space Force developed a Commercial Space Strategy aligned with a broader DOD Commercial Space Integration Strategy, intended to further harness our strategic advantages in the United States commercial sector. This strategy guides our approach in building out a hybrid architecture designed to enhance resiliency and capacity in times of need. The Space Force's Commercial Space Strategy informs methods of integrating critical goods, services, and other activities already validated and tested by the private sector; improving access to existing and emerging technologies; and meeting our near-, mid-, and long-term architecture goals.

The Space Force Commercial Space Strategy is a new way of approaching industry partnerships, designed to propel our acquisition and operational practices and thinking into the future. As the technology available to and from private industry has advanced, the armed services must adjust our approach. This adjustment must allow the flexibility to onboard innovative and game-changing technologies; this is especially true of space systems. Integrating the products and capabilities found throughout American companies and the research and development community will streamline space operations, fortify our hybrid architecture, and ensure we take a proactive posture against threats.

By utilizing commercial capabilities and systems along with informed requirements, the Space Force will undoubtedly realize an even greater competitive advantage.

### *International Partnerships*

With the increasing inclusion of allied nations in our space activities, we develop stronger coalitions, able to conduct coordinated operations in the space domain. This inclusion will allow us to deliver more resilient capabilities supporting space operations across the conflict continuum. We continue to reduce information sharing and classification barriers with allies to enable combined understanding of the threats, and the needed capabilities to prevail in a conflict, should the need arise.

As our service refines mechanisms to share understanding of the domain, and continues to develop interoperable capabilities through traditional acquisition, we also look to work with allies and partners to collectively harness the power of the international commercial space sector. Our allies have great interest in working with the Space Force to more effectively utilize commercial innovation and capabilities in a coordinated manner. They see the same benefit in the commercial space sector, and we hope to grow opportunities to leverage their innovation to support combined operations with increasingly diverse nations.

### *Space Force Generation*

As an independent military service, the Space Force maintains its own readiness standards, reporting, and development through the SPAFORGEN model. This model affords us the ability to ensure a combat-ready force for all guardians, whether Employed-in-Place or otherwise. SPAFORGEN ensures that the Space Force can effectively present combat ready space forces to Combatant Commanders and provides guardians with the time and resources necessary to develop and train to remain agile and effective.

The Space Force measures its readiness based upon the necessary tools, training, and manpower needed to achieve our strategic and tactical requirements. Ultimately, the Space Force must ensure that all our guardians can effectively rise to the challenge through rigorous development and capability deployment. The Space Force is redefining our readiness reporting to portray our current posture and the presentation of space operators to the Joint Force. To that end, in February 2024, the Space Force transitioned from the Air Force Input Tool to the new Space Force Input Tool to support our service-specific, employed-in-place readiness inputs for the Defense Readiness Reporting System.

In accordance with law, the Space Force presents forces and capabilities that underpin all instruments of our military power, and as mandated by Congress, the Space Force is responsible for organizing, training, and equipping those forces. The Space Force provides ready and capable operators to commanders worldwide, enabling these commanders to deter threats and, if necessary, prevail in conflict. Once presented, our Space Force Combat Squadrons will serve as unique Units of Action that undertake day-to-day missions for combatant commanders, while retaining our capacity to prepare and ready for high-end fights.

SPAFORGEN ensures that forces presented to Combatant Commanders can execute missions and tasks and are equipped to make appropriate recommendations on the effective employment, task organization, operational synchronization, and command relationships of space forces.

### *Operational Test and Training Infrastructure*

OTTI is an overarching concept describing a collection of programs and capabilities, both live and synthetic, that enable high-end testing and training of Space Force systems and operators against a thinking adversary. The Space Force relies on OTTI investments as a critical component of SPAFORGEN's success, and our overall ability to deliver combat-ready forces throughout readiness cycles. Generally, Space Force's ability to effectively develop, test, and train tactics will create greater and hugely positive impact on operational outcomes. OTTI provides the means to execute those core activities and is a critical component to generating Space Force readiness.

More specifically, OTTI provides guardians unique and realistic training against simulated adversaries, providing dynamic scenario issues which will prepare guardians for the most diverse and challenging environments available. Our goal is for guardians to receive training which prepares them for the threats they may face, therefore, these scenarios will be challenging and hyper-realistic. Producing this capability requires that we create an intelligence-informed accounting of adversary capabilities and invest in high-fidelity, mission-specific simulators. Such testing and training are invaluable to our guardians and serves to establish a greater, combat-ready force posture.

It is imperative that we adequately invest in our test and training infrastructure so we can better prepare for the "fight tonight", and the President's fiscal year 2025

budget request appropriately prioritizes Space Force OTTI as a critical function of Space Force readiness.

#### *Service Component Activation*

The mechanism by which the Space Force ensures full integration and synchronization of space activities throughout the combatant commands is via Space Force Service Components. The Space Force established its first three service components in 2022 at U.S. Indo-Pacific Command via U.S. Space Forces for USINDOPACOM (USSPACEFOR-INDOPAC), U.S. Forces Korea via USSPACEFOR-KOR as a subordinate unit to USSPACEFOR-INDOPAC, and U.S. Central Command via USSPACEFOR-CENT.

In 2023, we established USSPACEFOR-SPACE as the Space Force Service Component to U.S. Space Command and USSPACEFOR-EUCOM/AFRICOM (USSPACEFOR-EUR/AF) as the component to U.S. European Command / U.S. Africa Command and will continue standing up component and sub-component commands as needs may require. The Secretary of the Air Force directed the activation of the remaining Service Components no later than 1 October 2025 and we are on track to achieve that goal.

#### *Facilities and Infrastructure*

Space Force Facility, Sustainment, Restoration, and Modernization (FSRM) and Military Construction (MILCON) funding enables the Service to prioritize requirements which reduce risk to mission and the force. Structural, electrical, and power improvements to operational facilities reduce risk to mission and enable our joint and coalition partners in the fight, while quality of life infrastructure and facility improvements reduce risk to the force by improving resiliency amongst our guardians and their families.

Facilities and infrastructure are crucial to Space Force missions which are predominantly employed-in-place from facilities that are often inseparable from the weapon systems employed. While the Space Force does partner with the Air Force for significant logistics, security, medical services, and human resources support, the Space Force's ability to prioritize its unique FSRM and MILCON at our specific installations ensures we appropriately optimize our funding requests and maintain a sufficient, stable, and predictable funding strategy to execute its assigned missions as an independent service. Moving forward, the Space Force will continue to prioritize projects that increase facility and infrastructure resiliency and Service readiness, while balancing the requirements of the National Defense Strategy (NDS) and future projects.

#### *Weapon System Sustainment*

Space Force Weapon System Sustainment directly supports the Space Force's ability to sustain the day-to-day readiness of weapon systems performing space missions, including combat power; missile warning/missile tracking; positioning; navigation and timing; satellite communications; space domain awareness; and environment monitoring. Maintaining operations for these systems is critical to ensure Homeland and allied defense, and funding for these priorities must be continued for each to not risk opening capability gaps which will increase our vulnerability to adversary systems.

From fiscal year 2024 to fiscal year 2025, the President's Budget Request prioritizes programmatic and operational readiness in support of the NDS, to include obsolescence mitigation and software maintenance for Upgraded Early Warning Radar and North American Aerospace Defense Command Cheyenne Mountain Complex systems. Moving forward, the Space Force is developing a necessary methodology to identify quantifiable solutions to balance sustainment support and future readiness needs.

#### *Assured Access to Space*

The United States requires the capabilities, infrastructure, expertise, and tools necessary to access space on-demand throughout our military, civil, and private enterprises. To support the growing demand to leverage our launch capabilities, the Space Force established Assured Access to Space as the largest organization within Space Systems Command, comprised of Space Launch Delta 45, Space Launch Delta 30, and the Program Executive Office for National Security Space Launch; Rocket System Launch Program; Launch and Test Range System; and Servicing, Mobility, and Logistics.

Assured Access to Space is ultimately responsible for procuring launch services and delivering on-orbit capabilities for the entire National Security Space enterprise. This critical organization manages range sustainment programs in support of the DOD and commercial launch customers and supports three primary objectives:

space access; rapid delivery; and orbital resiliency. Assured Access to Space will also transform today's launch sites into modern spaceports, with the capacity and resiliency necessary to ensure our Nation's ability to deliver capabilities into space when they are needed.

Assured Access to Space is leading the Nation's planning for a new space mobility mission area to deliver space access, maneuver, and logistics capabilities needed to tackle growth in commercial satellite launch cadence and prepare for new operational concepts for mobility in orbit. It includes investment in on-orbit servicing and maneuver prototyping with the Air Force Research Laboratory, the Defense Innovation Unit, and other mission partners.

#### *Spaceport of the Future*

For decades, the United States has continuously maintained its space launch infrastructure to meet limited demand from a small customer base. However, as demand for national security, civil, and commercial space capabilities continue to grow, our launch range infrastructure has not modernized sufficiently to meet the significant increase in launch demand. Accordingly, the Space Force undertook a broad effort to analyze our launch infrastructure enterprise and assess range modernization efforts to maximize our ability to support U.S. launch requirements.

The Space Force's Spaceport of the Future is taking a comprehensive approach to look at all factors contributing to range costs and launch throughput. Launch rates rose approximately 30 percent each of the last 2 years, and we expect rates to continue to rise through the Future Years Defense Plan. Therefore, the Space Force is prioritizing enhancements so that we have the infrastructure needed to meet these launch demands.

To support the demand, the President's fiscal year 2025 budget request asks Congress to fund our Spaceport of the Future activities to allow for increased launch throughput, enhanced capability, and assured access to space capabilities for the warfighter. Without this critical funding, we will see significant degradation in our infrastructure and our ability to provide launch services for our national security, civil, and commercial partners.

We are thankful that Congress is providing the requisite reimbursement authorities necessary to collect direct and indirect costs incurred by the Space Force associated with launch activities. These authorities will facilitate commercial participation and investment into the United States' launch infrastructure and further our ability to meet growing range demand.

#### *Agile Talent Management*

The Space Force sustains its readiness through its most important asset: our people. We need to enable our guardians to succeed in an agile, adaptable manner to field the greatest space Force in the world. As a result, the Space Force is creating an innovative talent management system, establishing flexible service options and advanced training programs to establish opportunities for all guardians, including specialized credentialing, academics, experiences with industry partners, and tailored duty experiences to name a few.

The Space Force is also participating in piloting DOD's Defense Civilian Training Corps program, designed to identify university talent, provide scholarships for accepted students, and prepare students for a career in DOD acquisition-related fields. This pilot program's goal is to create a sustainable pipeline of civilian talent into the service and motivate university students to serve their country as civilian members of the DOD. Additionally, Space Force's existing University Partnership Program further deepens our talent pool and improves enterprise-wide skill set development. Moreover, the Space Force is expanding its space-centered curriculum offerings within DAF educational programs, including Basic Military Training, Non-Commissioned Officer Academy, United States Air Force Academy, Officer Training School, and Reserve Officer Training Corps.

Even though we are the smallest military service, the Space Force places significant emphasis on our recruiting and retention efforts. Given the Space Force's highly technical mission set, we must remain diligent in meeting our recruiting goals and maximize guardians' flexibility to retain the talent we need to maintain our readiness advantages. While we have not experienced the recruiting challenges other military services have experienced to date, the Space Force needs to sustain its efforts, particularly as we expect to grow in Fiscal Year 2025.

I especially appreciate Congress' support and enactment of the Space Force Personnel Management Act (SFPMA), which creates significant flexibility in how we manage our servicemembers to augment their skills and increase efficiency in workforce management. In accordance with the SFPMA, the Space Force is quickly moving to integrate its existing Active component guardians with Reserve Airmen in

space-focused career fields into one service. This critical authorization allows the Space Force to not only invest in and grow our talent pool, but also to retain such talent by offering guardians greater flexibility in their professional experiences.

The Space Force will always look to identify more innovative, adaptable, and cutting-edge opportunities in talent management to ensure our guardians are able to rise to the challenge. Moving forward, the Space Force will refine and expand the ways we provide guardians with the tools, training, and resources they need to succeed operationally, professionally, and personally.

#### THE WAY AHEAD

The United States has approached our space activities with a desire to benefit not only Americans, but all people. It remains our goal that space remains open and accessible to all nations and space faring actors for peaceful use.

We must continue to ensure this domain is not controlled or threatened by an adversary who does not seek the peaceful use of space. The United States is uniquely capable of maintaining an open environment for all nations in space. Just as we have ensured open access to maritime trade and sea routes, so too will we in space.

Yet, our near-peer competitors are watching our efforts and attempting to preempt, deny, circumvent, and counter our space capabilities. While we are the most recent military service, we are not—and never have been—a new military service. We are built on decades of advances and contributions by dedicated servicemembers, civil servants, and industry partners who devoted themselves to their country and continue to do so.

These guardians are stationed around the world in our deltas, combatant commands, and the intelligence community, ready to provide the combat capabilities we need. Our Units of Action will contribute to every combat mission the DOD undertakes. The training exercises and assessments will evolve to simulate warfare of the 21st century. At the center of it all is our readiness posture and our force-wide endeavor to provide combat decision makers with the most capable guardians we can, along with the training and equipment needed to succeed.

Our ability to guarantee access to space is reliant upon our guardians, our technologies, and our commitment to push ourselves further, faster, and higher. Readiness does not mean purely standing alert; it is a mind set and a quality which requires investment in the mission, in oneself, and in each other. It is ultimately our people who empower us to do what we do; the technology and the tactics only enable our greatest assets to accomplish our Nation's needs. The DAF re-optimization effort is as much an investment in our people as it is a restructuring of combat capabilities.

There has never been a more important time for the Space Force to secure our Nation's interests, and we must ensure that we are properly resourcing the Space Force to guarantee the ability to achieve space superiority into the future. I truly appreciate this committee's continued support for our guardians and their mission; and look forward to working with you.

Senator HIRONO. Thank you. Ms. Maurer?

#### **STATEMENT OF DIANA C. MAURER, DIRECTOR OF DEFENSE CAPABILITIES AND MANAGEMENT, GOVERNMENT ACCOUNTABILITY OFFICE**

Ms. MAURER. Good afternoon, Chair Hirono, Ranking Member Sullivan, other members and staff. I am pleased to be here today to discuss key findings and recommendations from GAO's recent work on military readiness, and as you just heard, the services face difficult decisions about how to address continuing operational demands while preparing for future challenges.

Today we see that readiness is increasingly strained. Across the services we have seen common challenges in three areas: sustaining weapons systems, generating ready forces, and balancing mission and resources.

First, all too often the sustainment enterprise is not delivering mission capability. Less than 40 percent of ships completed maintenance on time. The F-35 and most aviation systems failed to meet annual mission-capable or availability goals, and missile defense

sustainment is optimized for specific systems rather than across the enterprise.

Second, the services have, at times, struggled to align new equipment, units, and training to generate ready forces. For example, the Army and Space Force, to their credit, leaned forward in developing and fielding new technology, but they sometimes did not ensure units were trained, organized, and staffed to utilize these new capabilities. The Army and Marine Corps also face several personnel, sustainment, and organizational challenges establishing new multidomain units, and shortfalls in training capability and other challenges hinder the Space Force's ability to generate space readiness.

Third, we are increasingly concerned about a growing imbalance between mission and resources. The Navy does not have enough sailors for the current fleet, much less the fleet of the future. As we reported earlier this week, the Navy has 16 percent fewer sailors than required in the battle force. The Space Force is short 2,000 uniformed guardians, plus an undetermined number of civilians. Aviation and ship sustainment suffers from the lack of spare parts and shortages of trained maintenance personnel. The Marine Corps faces a significant gap between the number and current condition of the amphibious fleet and near-term operational needs.

To fill gaps like these, services have been doing more with less. They have prioritized mission and modernization, but to the detriment of facilities, housing, and barracks. Servicemembers also face daunting tradeoffs, sacrificing training, maintenance, and rest to meet operational needs. We recently reported that most servicemembers consistently sleep 6 hours or less per day, for months at a time, and that level of sleep deprivation can be like working while intoxicated. This overtaxing of military personnel creates safety problems, hinders readiness, and undercuts retention.

The recommendations from our reports can help DOD enhance readiness. The 30 reports in my statement have 114 recommendations, and nearly all of those are open. Now to be fair, most of those are directed to OSD [Office of the Secretary of Defense], not the services, many are relatively new, and few involved simple fixes. Prior to today's hearing, I had the opportunity to meet with everyone on the panel, and I can tell you they are committed to using the results of GAO's work to enhance readiness and improve conditions for servicemembers.

In fact, one of the best things about working at GAO is going to bases and units and talking to people at all levels of the military. We see servicemembers and civilians consistently demonstrating professionalism and dedication to the mission.

Your continued oversight, supported by our independent work, bolstered by DOD's actions to implement our recommendations, will help those servicemembers address readiness challenges across the Joint Force.

Madam Chair, thank you for the opportunity to testify. I look forward to your questions.

[The prepared statement of Ms. Maurer follows:]



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United States Government Accountability Office

Testimony

Before the Subcommittee on Readiness  
and Management Support, Committee  
on Armed Services, U.S. Senate

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For Release on Delivery  
Expected at 2:00 p.m. ET  
Wednesday, May 1, 2024

## MILITARY READINESS

### Actions Needed for DOD to Address Challenges across the Air, Sea, Ground, and Space Domains

Statement of Diana Maurer, Director, Defense  
Capabilities and Management



## GAO Highlights

Highlights of [GAO-24-107463](#), a testimony before the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

### Why GAO Did This Study

DOD is continuing its work to maintain the U.S. military's advantage across all domains in a new security environment characterized by great-power competition. To meet that goal, DOD's focus is rebuilding and restoring readiness while also modernizing its forces. DOD's readiness rebuilding efforts are occurring in a challenging context that requires the department to make difficult decisions regarding how best to address continuing operational demands while preparing for future challenges.

This statement provides information on readiness challenges across the air, sea, ground, and space domains.

This statement is primarily based on published GAO reports since 2021 that have examined aspects of military readiness, operations, and sustainment in the air, sea, ground, and space domains. This statement also is based on a draft report on space readiness that was provided to DOD in February 2024 for review and comment. To perform all this work, GAO analyzed Army, Navy, Air Force, Marine Corps, and Space Force readiness, maintenance, personnel, and training data and interviewed cognizant officials.

### What GAO Recommends

In the reports summarized in this statement, GAO has made over 100 recommendations to help improve readiness across and in each of the domains. Most of these recommendations have not yet been implemented, as discussed in the testimony.

View [GAO-24-107463](#). For more information, contact [Diana Maurer](#) at (202) 512-9627 or [maurerd@gao.gov](mailto:maurerd@gao.gov).

May 1, 2024

## MILITARY READINESS

### Actions Needed for DOD to Address Challenges across the Air, Sea, Ground, and Space Domains

#### What GAO Found

The top priority of the 2022 National Defense Strategy is to defend the U.S. homeland by addressing the growing multi-domain threat posed by China. As the Department of Defense (DOD) addresses this priority, GAO's body of work has shown that U.S. military readiness has been degraded over the last 2 decades due to a variety of challenges, including high operational demands. Implementing GAO's open recommendations will help DOD address these challenges and enhance readiness. The figure below shows selected GAO recommendations that DOD has not yet implemented.

#### Selected Open GAO Recommendations to Address Persistent Military Readiness Challenges

Cross-cutting domains	 <b>Service Member Fatigue</b> Assign DOD leadership and assess oversight structure.	 <b>Missile Defense Oversight</b> Set priorities and make department-wide sustainment decisions.
	 <b>Training Ranges in the Pacific</b> Develop a plan to meet training range requirements in the Indo-Pacific region.	 <b>Readiness in Europe</b> Establish performance goals and measures for the European Deterrence Initiative.
Air domain	 <b>F-35 Sustainment</b> Determine the desired mix of government and contractor roles.	 <b>F-35 Costs</b> Make changes to F-35 sustainment to address performance and affordability.
Sea domain	 <b>Shipyard Condition</b> Develop a full cost and schedule estimate for improving public shipyards.	 <b>Crewing Shortfalls</b> Improve reliability and management of crewing data.
Ground domain	 <b>Equipment Standards</b> Complete planning elements before fielding new equipment.	 <b>Army Rail System</b> Determine the number of rail operating crews needed to support operations.
Space domain	 <b>Force Generation</b> Address personnel shortfalls and training limitations.	 <b>Space Control</b> Set measurable objectives and milestones to meet goals.

Source: GAO. | GAO-24-107463

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Chair Hirono, Ranking Member Sullivan, and Members of the Subcommittee:

Thank you for the opportunity to be here today to discuss Department of Defense (DOD) readiness.

For decades, the United States enjoyed unchallenged or dominant military advantage. DOD could generally deploy forces when it wanted, assemble them where it wanted, and operate how it wanted. In the 2018 *National Defense Strategy*, however, DOD noted that every warfighting domain—ground, sea, air, space, and cyberspace—is contested. Potential adversaries, most notably China and Russia, have developed and enhanced their own capabilities. The top priority of the subsequent 2022 *National Defense Strategy* is to defend the U.S. homeland by addressing the growing multi-domain threat posed by China.

At the same time, our work has shown that conflicts during nearly 2 decades have degraded U.S. military readiness. We have reported on DOD's historic readiness levels for many years, observing a decline in readiness as overall demand for the joint force remains high and is likely to remain high to support global needs.<sup>1</sup> To maintain the U.S. military's advantage across all domains in a new security environment characterized by great-power competition, DOD is working to rebuild and restore readiness while also modernizing its forces. We have made numerous recommendations in our reports intended to aid DOD in its efforts.

We recognize that DOD's readiness rebuilding efforts are occurring in a challenging context that requires the department to make difficult decisions regarding how best to address continuing operational demands while preparing for future challenges. An important aspect of this—across all of the military services—is determining an appropriate balance between maintaining and upgrading weapon systems currently in operational use and acquiring new platforms able to adapt to and overcome rapidly advancing future threats.

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<sup>1</sup>In 2022, we reported that readiness increased in the ground domain and declined in the sea domain from fiscal year 2017 through fiscal year 2021, and rating changes were mixed in the air and space domains. GAO, *Military Readiness: DOD Domain Readiness from Fiscal Year 2017 through Fiscal Year 2021*, GAO-22-105279C (Washington, D.C.: May 18, 2022).

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This testimony provides information on readiness challenges that exist across the air, sea, ground, and space domains.

This statement is based primarily on prior GAO reports, which we cite throughout this statement. Most of our cited work was issued from February 2021 through April 2024 and examined aspects of military readiness, operations, and sustainment in the air, sea, ground, and space domains. We also include our work examining readiness issues across these domains. To perform our prior work, we analyzed Army, Air Force, Navy, Marine Corps, and Space Force readiness; maintenance, personnel, and training information; and interviewed cognizant officials. The reports cited throughout this statement contain more details on the scope of our work and our methodologies.<sup>2</sup>

This statement also includes information on readiness in the space domain that is based on ongoing work. We expect to report on the results of this work in May 2024. To perform this work, GAO analyzed relevant documentation and interviewed cognizant officials.

We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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## Various Actions Can Help DOD Address Persistent Readiness Challenges across the Air, Sea, Ground, and Space Domains

### Cross-domain

Each service operates across multiple domains. For example, each of the services uses cyberspace. All conduct or depend on space operations.

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<sup>2</sup>We have also issued several classified reports concerning readiness issues since February 2021. We cite these reports where appropriate and discuss information that DOD has deemed publicly releasable.

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	<p>Army and Marine Corps forces operate from the air, Navy forces can influence land battles, and Air Force operations routinely affect multiple domains. DOD recognizes, and we have previously reported on, the importance of military operations working across multiple domains. In our prior work, we have found a variety of readiness challenges such as service member fatigue and missile defense sustainment that cut across multiple domains and military services.</p>
Service Member Fatigue	<p>Fatigue caused by inadequate sleep can negatively affect a service member's performance and has contributed to accidents resulting in deaths and hundreds of millions of dollars in damage to ships, vehicles, and aircraft.<sup>3</sup> DOD is aware that impairment from fatigue can be equivalent to the effects of alcohol intoxication and significantly increases the risk of physical injury. However, we found in March 2024 that many service members were not getting the DOD-recommended 7 or more hours of sleep each day.<sup>4</sup> The department's overarching guidance about fatigue emphasizes the importance of service members obtaining at least 7 hours of sleep for optimal performance and readiness.<sup>5</sup> For over a decade, DOD surveys have found that the majority of service members reported sleeping 6 or fewer hours per night.</p> <p>In a nongeneralizable survey that we conducted for our March 2024 report, respondents cited similar issues with inadequate sleep. Our survey focused on six general military occupations with the potential to be affected by fatigue: fixed-wing pilots, rotary-wing pilots, remote pilots, aviation maintainers, on-alert operations, and motor vehicle operators. We found that many respondents are sleeping too little, and roughly half of respondents have poor sleep quality regardless of quantity. Survey respondents provided examples of how sleep deprivation had affected</p>

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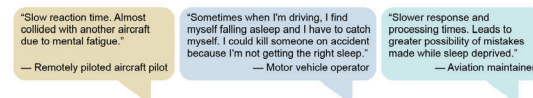
<sup>3</sup>We reported on the extent of sailor fatigue and made four recommendations for the Navy to more effectively manage fatigue. See GAO, *Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training*, GAO-21-366 (Washington, D.C.: May 27, 2021). In October 2023, we found that the Navy had not taken actions to fully implement three of the four recommendations. See GAO, *Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue*, GAO-24-106819 (Washington, D.C.: Oct. 11, 2023). Also, see National Commission on Military Aviation Safety, *Report to the President and Congress of the United States* (Dec. 1, 2020).

<sup>4</sup>GAO, *Military Readiness: Comprehensive Approach Needed to Address Service Member Fatigue and Manage Related Efforts*, GAO-24-105917 (Washington, D.C.: Mar. 26, 2024).

<sup>5</sup>See, e.g., DOD Instruction 1010.10, *Health Promotion and Disease Prevention* (Apr. 28, 2014) (incorporating change 3, effective May 16, 2022).

their work—from nearly colliding with another aircraft to falling asleep on the job (see fig. 1).

**Figure 1: Examples of Service Members' Statements Regarding How Sleep Deprivation Has Affected Their Work**



Source: GAO survey responses. | GAO-24-107463

DOD and the services have taken steps to address fatigue-related issues, such as developing guidance on fatigue management. However, DOD faces challenges with oversight and enterprise-wide collaboration in managing fatigue, such as:

- DOD has not identified and delegated sufficient oversight authority at the department level relating to fatigue, and the military services have not assigned leadership to oversee service-level efforts. Without an assessment of DOD's oversight structure and assigning DOD and service-level leadership, DOD will be hindered in its efforts to limit and manage fatigue across the department.
- We identified nearly 130 fatigue-related research projects that the Army, Navy, Marine Corps, and Air Force conducted from 2017 to 2023. Forty-eight of these projects studied the use of wearable devices to track sleep data among other uses, with many of them using the same type of technology or even the same model. Establishing a list of all fatigue-related research will help DOD gain visibility and reduce any fragmentation that may exist, which could lead to cost savings.

We made nine recommendations in this area in 2024, including that DOD assess its fatigue-related oversight structure, assign DOD and service-level leadership to oversee fatigue-related efforts, and create and maintain a list of all relevant research projects. DOD generally concurred with our recommendations.

#### Challenges in Specific Regions **European Deterrence Initiative**

In July 2023, we reported that DOD should establish performance goals and measures to improve oversight of the European Deterrence Initiative

(EDI).<sup>6</sup> The EDI was established in 2015 to help boost military readiness of European allies and deter Russian aggression. Its activities have enhanced U.S. military posture in Europe by supporting the deployment of additional U.S. rotational forces and expanding the number of locations where U.S. forces operate. From fiscal year 2015 through fiscal year 2023, \$35.1 billion has been spent on EDI activities. This funding has supported a variety of military activities in Europe, including troop rotations, intelligence activities, and construction of projects such as airfields, ranges, and other military facilities. Currently, DOD organizes EDI activities under five lines of effort, as shown in table 1.

**Table 1: The Department of Defense's European Deterrence Initiative Lines of Effort**

Line of effort	Description
Increased Presence	Increasing U.S. military forces in Europe through rotations of ground, air, and maritime units
Exercises and Training	Participating in exercises and training with allies and partner countries to improve the readiness of U.S. forces and U.S. forces' ability to work with allies and partners
Enhanced Prepositioning	Prepositioning stocks of equipment, munitions, and fuel in Europe
Improved Infrastructure	Subject to final agreement with host nations, selective infrastructure improvements that expand the ability to operate from key locations and support military activities, operations, and readiness
Building Partner Capacity	Providing partner countries with the capability and capacity to defend themselves and enabling their participation as full operational partners against threatening actors

Source: GAO analysis of Department of Defense budget materials. | GAO-24-107463

The military services have collected information from monitoring and assessing some initiative activities, including construction projects and military exercises. However, DOD has not established performance goals and measures for the initiative, so we recommended that it do so. By implementing our recommendation, DOD would be in a better position to assess EDI activities, support budget requests, and justify resource expenditures. In addition, both DOD and Congress would better understand the return on investments, which would improve oversight.

We continue to conduct work reviewing cross-domain challenges in the European region. We have ongoing work on DOD efforts to train Ukrainian forces and expect to report on the results of that work in summer 2024. We have another ongoing review of the effect of Ukraine

<sup>6</sup>GAO, *European Deterrence Initiative: DOD Should Establish Performance Goals and Measures to Improve Oversight*, GAO-23-105619 (Washington, D.C.: July 10, 2023).

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assistance on U.S. military readiness and expect to report on the results of that work in early 2025.

**Marine Corps Posture in the Indo-Pacific**

In March 2020, the Marine Corps issued Force Design 2030, which describes the Marine Corps' intent to modernize to address threats in the U.S. Indo-Pacific Command (INDOPACOM) area of responsibility including long-range strike capabilities, gray zones, and maritime-centric warfare. Specifically, the Marine Corps plans to increase the number of rocket artillery batteries and unmanned aerial vehicles and to integrate training more fully with the Navy. Additionally, the Marine Corps has called for divestments in equipment such as tanks and heavy helicopter squadrons and reductions in the total number of active Marines to enable littoral maneuver and support smaller, more expeditionary operations.

However, we found in May 2023 that the Marine Corps did not meet all military training needs, such as different types of live-fire training, at training ranges within INDOPACOM.<sup>7</sup> The Marine Corps instead uses alternatives to meet these requirements, such as returning forces to the continental U.S. to train and using rotational forces, exercises, and virtual training. The Marine Corps has been unable to meet its training requirements at training ranges in INDOPACOM for almost a decade. We recommended that the Marine Corps complete an analysis of unmet training requirements and develop a plan to identify and remediate these unmet requirements at ranges within INDOPACOM. DOD partially concurred with our recommendation.

We continue to conduct work reviewing cross-domain challenges in the Indo-Pacific region. We have ongoing work on prepositioned assets in the Indo-Pacific region and expect to report on the results of that work in late 2024. We also have ongoing work on fuel logistics in a contested Indo-Pacific environment and expect to report on the result of that work in spring 2025.

**New Multi-Domain Units**

The Army and Marine Corps conduct multi-domain operations so that ground forces are able to operate freely in other warfighting domains and, if necessary, are able to overwhelm an adversary's forces by simultaneously combining capabilities across different domains, such as air, land, sea, space, and cyberspace. By employing multi-domain

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<sup>7</sup>GAO, *Marine Corps Indo-Pacific Posture: Actions Needed to Address Training Challenges*, GAO-23-105783C (Washington, D.C.: May 5, 2023).

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operations, ground forces will create windows of opportunity for the joint force to penetrate the adversary systems.

In March 2024, we reported on how the Army and Marine Corps have developed and fielded multi-domain units, addressed challenges associated with their development, and how these units have been incorporated into regional plans, exercises, and operational activities.<sup>8</sup> Both services face various challenges in developing units such as the Multi-Domain Task Force and Marine Littoral Regiment to meet the urgent need to sustain and strengthen U.S. deterrence across domains and theaters in the midst of growing threats to a stable and open international system. The challenges include establishing personnel, organizational structure, facilities, sustainment, and having unclear authorities for key capabilities. Until DOD addresses the challenges, the multi-domain units may be limited in their ability to accomplish their missions at a time when it is crucial for them to succeed.

#### Missile Defense Oversight

DOD's Missile Defense Agency has spent over \$194 billion since 2002 to develop a layered Missile Defense System to defend against missile attacks. In June 2023, we reviewed readiness and sustainment information for nine fielded Missile Defense System elements, including interceptors, sensors, and those used for communications.<sup>9</sup> The Missile Defense Agency and the military services have roles in operating these elements.

We found that DOD reports on missile defense readiness using different metrics across different systems. The services also have element-specific sustainment plans, but DOD has not identified a specific entity responsible for overseeing the sustainment of the Missile Defense System (see fig. 2).

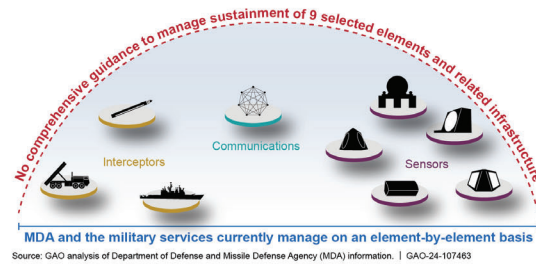
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<sup>8</sup>GAO, *Force Structure: Army and Marine Corps Face Challenges Developing New Multi-Domain Units*, GAO-24-106266C (Washington, D.C.: Mar. 14, 2024).

<sup>9</sup>GAO, *Missile Defense: DOD Needs to Improve Oversight of System Sustainment and Readiness*, GAO-23-105578 (Washington, D.C.: June 7, 2023).



**Figure 2: Lack of Comprehensive Guidance to Manage Sustainment of Selected Missile Defense Elements**



Source: GAO analysis of Department of Defense and Missile Defense Agency (MDA) information. | GAO-24-107463

DOD also does not have an approach for prioritizing and making department-wide sustainment decisions for the Missile Defense System. For example, while the Missile Defense Agency and the Army recognized corrosion as a challenge, the Army had not constructed new facilities on Guam to protect missile defense batteries from corrosion due to the prioritization of other projects and resource constraints. To address these issues, we recommended that DOD update guidance on how to report Missile Defense System readiness and develop comprehensive guidance for sustaining the Missile Defense System. DOD concurred with both recommendations and is in the process of taking steps to address them.

We have ongoing work reviewing Guam missile defense sustainment and plan to report on the results of that work in winter 2024.

#### Special Operations Forces

Special operations forces are active and reserve military forces that are specifically organized, trained, and equipped to conduct and support special operations. Special operations missions and activities range from direct action to strategic reconnaissance, security force assistance, countering weapons of mass destruction, and hostage recovery. Special operations forces need to be agile, precise, and adaptable. They also face particular challenges that affect their readiness.

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For instance:

- **Command Oversight:** In March 2024, we highlighted the increased oversight responsibilities of the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict over U.S. Special Operations Command.<sup>10</sup> Even with increased staff resources for the Secretariat for Special Operations, its staffing levels remained below those identified as needed to effectively oversee the command. Furthermore, policies were not fully documented and there was confusion about the Secretariat's administrative role within the department that limit consistent civilian oversight of the command. We made three recommendations to address these issues, and the department concurred with them.
- **Aircraft Purchases:** DOD currently plans to acquire 62 new airplanes in stages through fiscal year 2027 to support special operations missions. U.S. Special Operations Command is required to analyze operational requirements to ensure that purchases like these planes meet mission needs but did not complete the analysis before acting to buy the planes. Also, DOD's special operations mission requirements have changed in recent years, but DOD is only now beginning to evaluate the number of planes it needs. In December 2023, we made two recommendations to address these issues.<sup>11</sup> DOD concurred with one recommendation and partially concurred with the other. As of April 2024, DOD was in the process of assessing the number of planes it would need but likely will not complete this analysis until fiscal year 2025.
- **Foreign Language Proficiency:** U.S. special operations forces often need to know foreign languages to do their jobs overseas. The military services identify foreign languages for missions and how many personnel should know them. However, planning officials could not explain how they align language needs with missions, and some of the identified needs may not be accurate or relevant. Also, many special operations forces are not meeting language proficiency goals—in part because there are not consistent consequences for them if they do not. Further, we found that less than half of these personnel completed any foreign language training, and the average

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<sup>10</sup>GAO, *Special Operations Forces: Documented Policies and Workforce Planning Needed to Strengthen Civilian Oversight*, GAO-24-106372 (Washington, D.C.: Mar. 4, 2024).

<sup>11</sup>GAO, *Special Operations Forces: DOD Should Slow Acquisition of Armed Overwatch Aircraft until It Conducts Needed Analysis*, GAO-24-106283 (Washington, D.C., Dec. 14, 2023).

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number of annual training hours completed was much less than required—due primarily to competing training demands and priorities. In October 2023, we made four recommendations to address these issues, and DOD concurred with them.<sup>12</sup>

- **Operational Stress and Wellness:** Multiple deployments and busy training schedules can stress U.S. special operations forces and their families. To help, DOD established the Preservation of the Force and Family program, which offers services such as physical therapy and counseling. However, it is unclear whether this program is achieving its purpose because DOD has not fully defined its performance goals and measures. For example, DOD lists “neurocognitive assessments” as a way to measure program performance, but it does not describe what these assessments are or how to conduct them. Further, we found that other key program terms are poorly defined. In April 2023, we made three recommendations to address these issues.<sup>13</sup> DOD concurred with our recommendations but has not yet taken actions to fully implement them.
- **Gender Inclusivity:** Women make up fewer than 10 percent of special operations forces—but are about 19 percent of DOD’s service members. However, U.S. Special Operations Command may not have the information it needs to fully assess the barriers affecting women’s careers. For example, it does not have full access to timely, complete data on its assigned personnel, including incidents of discrimination, harassment, and sexual assault. In December 2022, we made eight recommendations to address gender inclusivity issues and DOD concurred with them.<sup>14</sup> As of January 2024, DOD has not provided status updates on its efforts to address these recommendations.
- **Management Challenges:** Over the last 20 years, DOD has increasingly deployed its special operations forces around the world to address the nation’s most complex and sensitive security challenges. The number of personnel that perform this work has increased—from 45,700 in fiscal year 2001 to 73,900 in fiscal year 2021. DOD collects

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<sup>12</sup>GAO, *Special Operations Forces: Enhanced Training, Analysis, and Monitoring Could Improve Foreign Language Proficiency*, GAO-24-105849 (Washington, D.C., Oct. 31, 2023).

<sup>13</sup>GAO, *Special Operations Forces: Actions Needed to Assess Performance of the Preservation of the Force and Family Program*, GAO-23-105644 (Washington, D.C.: Apr. 27, 2023).

<sup>14</sup>GAO, *Women in Special Operations: Improvements to Policy, Data, and Assessments Needed to Better Understand and Address Career Barriers*, GAO-23-105168 (Washington, D.C.: Dec. 16, 2022).

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and uses data to oversee these forces while they are deployed. However, we found issues with the data, such as not using standard terminology and not offering complete, readily available information on these deployed personnel. In October 2022, we made two recommendations to address these issues.<sup>15</sup> DOD concurred with both recommendations but has not yet taken actions to fully implement them.

We have several ongoing reviews of special operations forces, including work on training accidents and intelligence, surveillance, and reconnaissance. We plan to report on the results of that work later in 2024.

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## Air Domain

### Aircraft Condition

We have issued a series of reports on aircraft sustainment and have found that 47 of the 49 aircraft we reviewed did not meet DOD's mission capable goals.<sup>16</sup> The mission capable rate, which is the percentage of total time when the aircraft can fly and perform at least one mission, is used to assess the health and readiness of an aircraft fleet. Additionally, many of the aircraft we reviewed were facing one or more sustainment challenges related to maintenance constraints, supply support, and the age of the aircraft. According to program officials, these challenges affect mission capable rates and the costs required to sustain those aircraft.

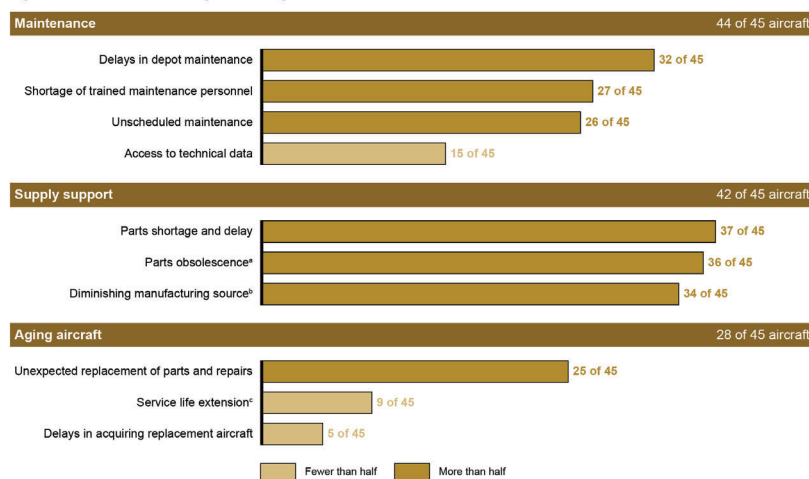
Figure 3 shows the sustainment challenges that we determined were affecting each of the aircraft that we reviewed.

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<sup>15</sup>GAO, *Special Operations Forces: Better Data Necessary to Improve Oversight and Address Command and Control Challenges*, GAO-23-105163 (Washington, D.C.: Oct. 5, 2022).

<sup>16</sup>GAO, *Weapon System Sustainment: Aircraft Mission Capable Goals Were Generally Not Met and Sustainment Costs Varied by Aircraft*, GAO-23-106217 (Washington, D.C.: Nov. 10, 2022). We reported separately on the Army's combat helicopters—the AH-64 Apache, CH-47 Chinook, and UH/HH-60 Black Hawk—examining materiel readiness goals, maintenance challenges, and sustainment plans. See GAO, *Combat Helicopters: Actions Needed to Fully Review Readiness Goals and Address Long-Standing Maintenance Challenges*, GAO-22-104607SU (Washington, D.C.: Feb. 15, 2022).

Figure 3: Sustainment Challenges Affecting Selected Aircraft



Source: GAO analysis of Army, Navy, and Air Force information. | GAO-24-107463

<sup>a</sup>Obsolescence refers to a lack of availability of a part due to its lack of usefulness or it no longer being current or available for production.<sup>b</sup>Diminishing manufacturing sources refers to a loss or impending loss of manufacturers or suppliers of items.<sup>c</sup>A service life extension refers to a modification to extend the service life of an aircraft beyond what was planned.

We have two ongoing reviews related to aircraft readiness, and plan to report on the results of both reviews later this year. The first review examines fighter aircraft sustainment budgeting. The second review examines the Air Force's model for generating ready forces.

## F-35 Sustainment and Costs

The F-35 Lightning II aircraft—a growing portion of DOD's tactical aviation fleet—faces significant sustainment challenges. With over 600 F-35s now in service with the Air Force, Navy, and Marine Corps, the F-35 is DOD's most ambitious and costly weapon system. Current DOD plans call for

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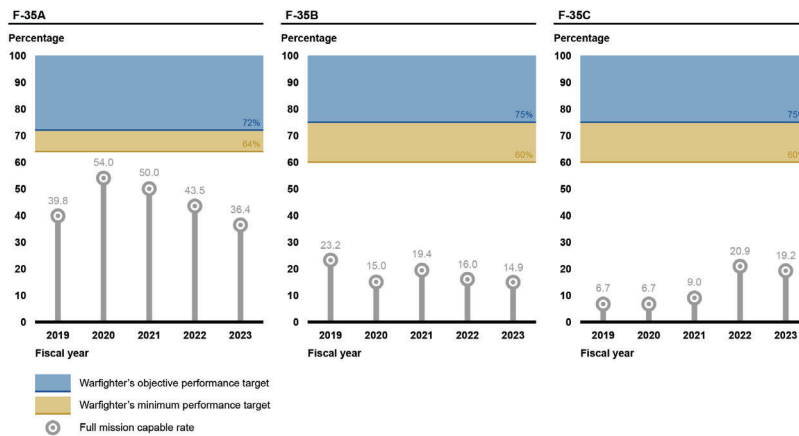
procuring 2,470 F-35s at an estimated total acquisition cost of about \$442 billion, and an additional \$1.58 trillion in sustainment costs for the aircraft. We found in April 2024 that the F-35 has not met its targets for mission capable rates for the past several years.<sup>17</sup>

In fiscal year 2023, the F-35A and F-35B variants were below the full mission-capable minimum-performance target by more than 27 and 45 percentage points, respectively (see fig. 4). Furthermore, each F-35 variant in fiscal year 2023 did not meet its target for mission-capable minimum performance by at least 13 percentage points (see fig. 5). DOD officials have told us that recurring issues with parts reliability and maintainability continue to negatively affect the program. When programs overpromise a weapon's prospective performance and deliver systems that cannot achieve their requirements, such as mission capable and reliability and maintainability goals, the warfighter receives less capability than originally promised.

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<sup>17</sup>GAO, *F-35 Sustainment: Costs Continue to Rise While Planned Use and Availability Has Decreased*, GAO-24-106703 (Washington, D.C.: Apr. 15, 2024).

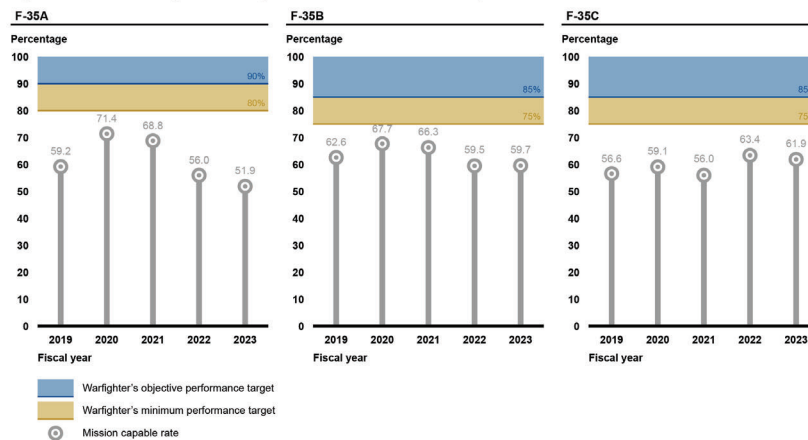
Figure 4: F-35 Full Mission Capable Rates by Variant, Fiscal Years 2019 through 2023



Source: GAO analysis of Department of Defense and Lockheed Martin information. | GAO-24-107463

Note: The full mission capable rate assesses only aircraft that are in the possession of F-35 units. It measures the percentage of time during which these aircraft are fully capable of accomplishing all tasked missions. The warfighter's minimum and objective performance targets are those requirements established for non-deployed F-35 aircraft by the U.S. Air Force for the F-35A, by the U.S. Marine Corps for the F-35B, and by the U.S. Navy for the F-35C, in their respective performance-based arrangements.

Figure 5: F-35 Mission Capable Rates by Variant, Fiscal Years 2019 through 2023



Source: GAO analysis of Department of Defense and Lockheed Martin information. | GAO-24-107463

Note: The mission capable rate assesses only aircraft that are in the possession of F-35 units. It measures the percentage of time during which these aircraft are safe to fly and able to perform at least one tasked mission. The warfighter's minimum and objective performance targets are those requirements established for non-deployed F-35 aircraft by the U.S. Air Force for the F-35A, by the U.S. Marine Corps for the F-35B, and by the U.S. Navy for the F-35C, in their respective performance-based arrangements.

In September 2023, we found that several maintenance challenges negatively affected F-35 readiness and the ability of the aircraft to achieve mission capable goals.<sup>18</sup> The F-35s' poor mission capable rates were due in part to challenges with depot and organizational maintenance (see fig. 6).

<sup>18</sup>GAO, *F-35 Aircraft: DOD and the Military Services Need to Reassess the Future Sustainment Strategy*, GAO-23-105341 (Washington, D.C.: Sept. 21, 2023).



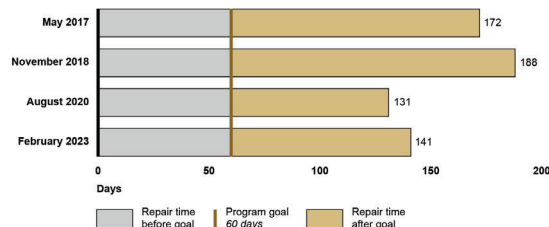
**Figure 6: Key Maintenance Challenges That Negatively Affect F-35 Readiness**



Source: GAO analysis of Department of Defense information; U.S. Air Force/R. Nial Bradshaw. | GAO-24-107463

For example, the program has been behind schedule in establishing depot maintenance activities to conduct repairs. As a result, component repair times remain slow—over double DOD's desired goal of 60 days—as shown in figure 7. These slow repair times have resulted in over 10,000 components waiting to be repaired—substantially above desired levels. At the same time, a lack of technical data, spare parts, and training hinders the ability of maintainers to maintain the aircraft.

**Figure 7: Average Time for Repair of an F-35 Component Compared to the Program's Goal**



Source: GAO analysis of DOD and Lockheed Martin information. | GAO-24-107463

Note: According to program officials, the program's repair time goal is 60 to 90 days depending on the complexity of the repair. We are using 60 days in the graphic to represent the top end of that goal.

In September 2023, we also reported that, by design, DOD relies heavily on its contractor to lead and manage F-35 sustainment (see fig. 8).<sup>19</sup> However, in recent years, DOD has expressed a desire to have more governmental control over sustainment activities.

**Figure 8: Responsibility for the 12 F-35 Sustainment Elements**

Prime contractor responsibility	Government responsibility
<ul style="list-style-type: none"> <li>• Information technology systems</li> <li>• continuous support</li> <li>• Maintenance planning and management</li> <li>• Supply support</li> <li>• Support equipment</li> <li>• Sustaining engineering</li> <li>• Technical data</li> <li>• Training and training support</li> </ul>	<ul style="list-style-type: none"> <li>• Design interface</li> <li>• Facilities and infrastructure</li> <li>• Packaging, handling, storage, and transportation</li> <li>• Personnel</li> <li>• Product support management</li> </ul>

Source: GAO analysis of Department of Defense data. | GAO-24-107643

Note: The F-35 Product Support Business Case Analysis report identifies the responsibilities for the government listed in this table as well as the roles of the prime contractor, which DOD officials described as prime contractor responsibilities.

We found that, as DOD seeks expanded government control, it has neither (1) determined the desired mix of government and contractor roles, nor (2) identified and obtained the technical data needed to support its desired mix. We recommended that DOD reassess F-35 sustainment elements to determine government and contractor responsibility, identify any required technical data, and make final decisions on changes to F-35 sustainment to address performance and affordability. DOD officials told us they were working to do this as part of their efforts to transfer all functions relating to the management, planning, and execution of sustainment activities for the F-35 from the F-35 Joint Program Office to the Secretary of the Air Force and the Secretary of the Navy. Section 142 of the National Defense Authorization Act for Fiscal Year 2022 requires this transfer to occur by October 1, 2027.<sup>20</sup>

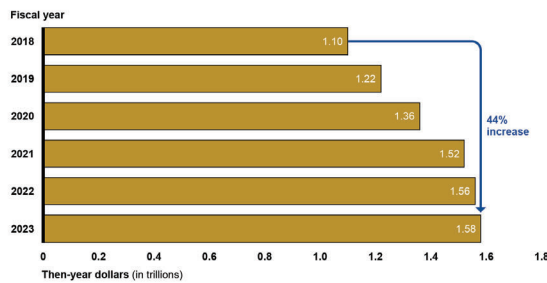
In addition to performance challenges, in April 2024 we reported that the F-35's estimated operating and support costs for its fleet through 2088 continued to grow as shown in figure 9.<sup>21</sup>

<sup>19</sup>GAO-23-105341.

<sup>20</sup>Pub. L. No. 117-81, § 142 (2021).

<sup>21</sup>GAO-24-106703 and GAO, *F-35 Sustainment: DOD Needs to Cut Billions in Estimated Costs to Achieve Affordability*, GAO-21-439 (Washington, D.C.: July 7, 2021).

**Figure 9: Growth in the F-35 Joint Program Office's F-35 Lifetime Sustainment Cost Estimates, Fiscal Years 2018 through 2023**

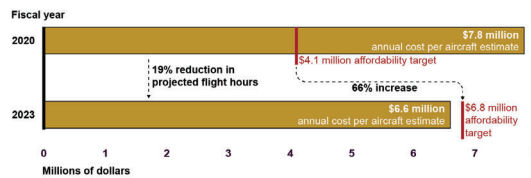


Source: GAO analysis of Department of Defense data. | GAO-24-107463

Note: Then-year dollars account for costs in the years they are spent, including the effects of inflation. Prior to 2022, the F-35 Joint Program Office produced two cost estimates per year. In this figure, we have included the second cost estimate only as that represents the most updated estimate for that year.

The Air Force, Navy, and Marine Corps project they will fly the F-35 less than originally estimated on an annual basis. F-35 Joint Program Office and military service officials told us that this reduction in planned flight hours reflects lower-than-anticipated use up to this point and evolving projections in the use of the aircraft in the future. In part due to this reduction in flight hours, the services are now projecting they will meet most of their affordability targets (i.e., the amount of money they project they can afford to spend per aircraft per year, for operating the aircraft). For example, according to the program's 2023 estimates, the Air Force will pay \$6.6 million annually to operate and sustain an individual F-35 aircraft. This continues to be well above the \$4.1 million 2018 target; however, in 2023, the Air Force increased the amount of money it says it can afford to spend per F-35 aircraft to \$6.8 million per year (see fig. 10).

Figure 10: Change in the Cost per Air Force F-35 Aircraft per Year Estimate, 2020–2023



Source: GAO analysis of Department of Defense data. | GAO-24-107463

We have published a series of reports examining sustainment of the F-35 and how problems with sustainment affect readiness. Since 2014, we have made 43 recommendations designed to improve the department's operation and sustainment of the F-35 program. While DOD concurred with many of these recommendations, and has implemented some of them, 30 (about 70 percent) remain unimplemented. For example:

- In 2022, we found that the sustainment strategy for the F-35's engine did not meet the desired outcomes of the military services and we made recommendations designed to improve that strategy.<sup>22</sup> However, DOD has not yet fully implemented these recommendations.
- In 2019, we found that F-35 aircraft were not able to perform as many missions or fly as often as required largely due to spare parts shortages and difficulty in managing and moving parts around the world.<sup>23</sup> We made several recommendations designed to improve the program's management of its spare parts. However, many of these recommendations, such as improved approaches to creating spares packages for deploying F-35 units, remain unimplemented.

We have an ongoing review examining F-35 operational deployments and plan to report on the results of that work in late 2024.

<sup>22</sup>GAO, *F-35 Aircraft: DOD Should Assess and Update Its Engine Sustainment Strategy to Support Desired Outcomes*, [GAO-22-104676](#) (Washington, D.C.: July 19, 2022).

<sup>23</sup>GAO, *F-35 Aircraft Sustainment: DOD Needs to Address Substantial Supply Chain Challenges*, [GAO-19-321](#) (Washington, D.C.: Apr. 25, 2019).

## Sea Domain

### Ship Sustainment

We have reported extensively on the sustainment challenges facing the Navy's surface ships, submarines, and aircraft carriers in the last several years. Figure 11 shows key sustainment challenges that we determined were affecting selected ship classes.

Figure 11: Sustainment Challenges Affecting Selected Navy Ship Classes

	Ticonderoga-class cruiser (CG-47)	Nimitz-class aircraft carrier (CVN-68)	Arleigh Burke-class destroyer (DDG-51)	Freedom-class littoral combat ship (LCS-1)	Independence-class littoral combat ship (LCS-2)	America-class amphibious assault ship (LHA-6)	Wasp-class amphibious assault ship (LHD-1)	San Antonio-class amphibious transport dock (LPD-17)	Whidbey Island-class dock landing ship (LSD-41)	Harpers Ferry-class dock landing ship (LSD-49)
Service life longer than anticipated	●	●							●	●
Unexpected replacement of parts and repairs		●	●	●	●		●	●		●
Delays in depot maintenance	●	●	●	●	●	●	●	●	●	●
Delays in intermediate maintenance	●		●		●		●			
Shortage of trained maintenance personnel	●		●	●	●	●	●	●	●	●
Unscheduled maintenance	●	●	●	●	●	●	●	●		
Diminishing manufacturing sources	●	●	●	●	●		●			
Parts obsolescence	●	●	●	●	●		●	●		●
Parts shortages and delays	●	●	●	●	●		●	●	●	●

● Applicable maintenance issue

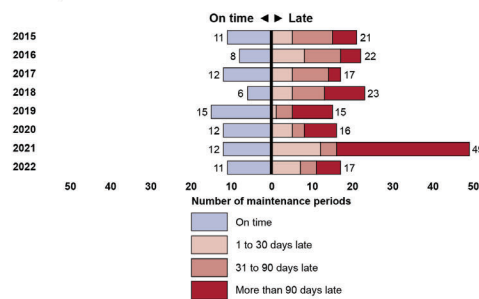
Source: GAO analysis of Navy information. | GAO-24-107463

Note: Diminishing manufacturing sources refers to the loss, or impending loss, of manufacturers or suppliers of items, raw materials, or software.

We have also reported that sustainment challenges hinder the Navy's ability to generate naval forces for deployment. For example, in January 2024, we found the Navy continued to face maintenance delays with only 20 percent (12 of 61) of carrier strike group maintenance phases on time

in fiscal year 2021 and 39 percent (11 of 28) maintenance phases on time in fiscal year 2022 (see fig. 12).<sup>24</sup>

**Figure 12: On-time Maintenance Frequencies with Carrier Strike Group Ships Overall, Fiscal Years 2015–2022**



Source: GAO analysis of Navy data. | GAO-24-107643

We have a wide range of ongoing reviews examining sustainment issues across the sea domain. Later in 2024, we plan to issue reports on Navy ship maintenance led by sailors, Army watercraft readiness, cruiser modernization, the Navy's amphibious warfare fleet, and the shipbuilding and repair industrial base.

#### Shipyard Condition

In prior reports, we found that fewer aircraft carriers and submarines are available for training and operation when their maintenance is not completed in time. The Navy will have difficulty addressing aircraft carrier and submarine maintenance delays, backlogs, and other sustainment challenges given the poor condition of infrastructure at the Navy's four

<sup>24</sup>We examined the extent to which the Navy met its maintenance goals under its force generation model—referred to as the Optimized Fleet Response Plan—and what factors, if any, have hindered its performance. We found the Navy continued to fall short of the maintenance goals it established for sustainably generating ready forces. GAO, *Navy Readiness: Challenges Persist in Sustainably Producing Ready Naval Forces*, GAO-24-106363C (Washington, D.C.: Jan. 11, 2024).

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public shipyards.<sup>25</sup> The Navy's public shipyards are critical to maintaining the readiness of its fleet of nuclear aircraft carriers and submarines, and to supporting ongoing operations around the world. The four shipyards are Norfolk Naval Shipyard in Virginia, Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility in Hawaii, Portsmouth Naval Shipyard in Maine, and Puget Sound Naval Shipyard and Intermediate Maintenance Facility in Washington. These shipyards provide the Navy with the capability to perform depot-level maintenance on ships, emergency repairs, ship modernization, and ship deactivations.

The Navy has taken several actions in recent years to improve its public shipyards.<sup>26</sup> In 2018, the Navy began a 20-year effort to modernize and optimize its shipyards, known as the Shipyard Infrastructure Optimization Plan. The plan includes efforts to address limitations with three major facets of the public shipyards' operations: dry docks, facilities, and capital equipment.

However, in June 2023, we found that the Navy had made limited progress in implementing its Shipyard Infrastructure Optimization Plan.<sup>27</sup>

- **The Navy has not developed a full cost and schedule estimate for its plan and reports that it will not be able to do so until fiscal year 2025—3 years later than originally planned.** The Navy reported that it cannot develop an estimate for the full Shipyard Infrastructure Optimization Plan until 2025, after each shipyard completes its detailed infrastructure plan identifying specific facility projects. The Navy cited several challenges that complicate creating a complete cost and schedule estimate including project uncertainty,

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<sup>25</sup>We reported in May 2022 on the condition of 21 depots operated by the military services, including the four public shipyards. We found that, since fiscal year 2016, the condition of the depots' infrastructure—their facilities and equipment—generally has remained in the fair-to-poor range and has not improved, while backlogs of facility projects grew by \$3.1 billion. We made two recommendations to improve the DOD strategy for addressing deteriorating facilities and equipment. See GAO, *Military Depots: DOD Strategy for Addressing Deteriorating Facilities and Equipment Is Incomplete*, GAO-22-105009 (Washington, D.C.: May 9, 2022). The two recommendations—(1) identifying in annual budget submissions the minimum level of annual investment needed to prevent further infrastructure deterioration and (2) completing the depot infrastructure strategy to fully address all required elements—have not been fully implemented.

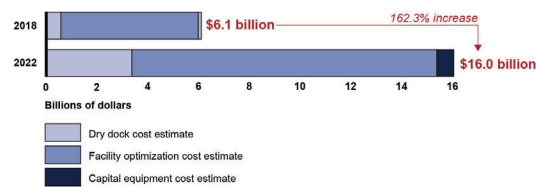
<sup>26</sup>GAO, *Naval Shipyards: Ongoing Challenges Could Jeopardize Navy's Ability to Improve Shipyards*, GAO-22-105993 (Washington, D.C.: May 10, 2022).

<sup>27</sup>GAO, *Navy Readiness: Actions Needed to Address Cost and Schedule Estimates for Shipyard Improvement*, GAO-23-106067 (Washington, D.C.: June 28, 2023).

volatile commodity prices, and obtaining expertise in challenging project areas.

- **Navy's cost estimates for implementing its plan have increased.** In 2018, the Navy estimated it needed 14 dry dock projects at an estimated cost of about \$4.5 billion to ensure it had enough capacity to conduct future carrier and submarine repairs. However, in its 5-year Shipyard Infrastructure Optimization Plan update issued in April 2022, the Navy estimated the first two of these projects at Portsmouth and Pearl Harbor would cost over \$5 billion and exceed the original estimate for all 14 dry dock projects.<sup>28</sup> In addition, the Navy's Pearl Harbor shipyard-specific plan estimated the cost to complete the projects for the preferred alternative at \$16 billion, an increase of \$9.9 billion or 162 percent above the 2018 estimate (see fig. 13).<sup>29</sup> The Navy's estimated costs to implement the plan significantly increased due to several factors, such as expanding the scope of individual projects as well as identifying additional projects that were not part of the original cost estimate.

**Figure 13: Comparison of 2018 and 2022 Shipyard Infrastructure Optimization Program Cost Estimates for Pearl Harbor Naval Shipyard, Then-Year Dollars**



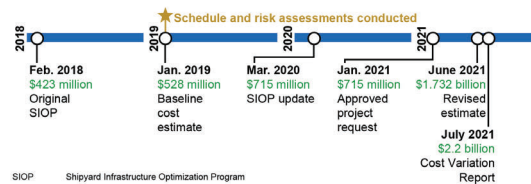
<sup>28</sup>Assistant Secretary of the Navy for Research, Development, and Acquisition, *The Shipyard Infrastructure Optimization Program (SIOP): Updated Five-Year Plan* (Apr. 21, 2022).

<sup>29</sup>Shipyard Infrastructure Optimization Program officials noted that this is the estimated cost for the preferred course of action laid out in the Pearl Harbor plan, but that leadership had not yet approved that course of action as of March 2023.



- **The Navy's cost and schedule estimates for the Portsmouth Naval Shipyard dry dock project followed most, but not all, GAO best practices.** The dry dock project at Portsmouth Naval Shipyard was the first and only key Shipyard Infrastructure Optimization Plan project underway as of January 2023. We identified two issues with the estimates. First, the Navy's cost sensitivity, risk, and uncertainty analyses were based on the preliminary design and were not updated to reflect the final design (see fig. 14). The cost estimate grew from \$528 million for the baseline cost estimate to \$2.2 billion for the final amount, in part due to a lack of competition. Second, the Navy's schedule did not accurately determine key tasks or document the flexibility available in its activities without affecting the program's finish date.

**Figure 14: Changes in Cost Estimates for Portsmouth Naval Shipyard Dry Dock Project**



We have made 13 recommendations related to the Navy's public shipyards. The Navy concurred with our recommendations and has fully implemented five of them. Addressing our remaining recommendations could assist the Navy in reaching its goals of improved shipyard capacity and performance. For example, following cost and schedule estimating best practices for key Shipyard Infrastructure Optimization Plan projects would help Navy leadership make informed decisions, prepare for unanticipated costs, and focus on critical activities, which could improve Shipyard Infrastructure Optimization Plan results. Completely implementing the Shipyard Infrastructure Optimization Plan will involve funding well above the levels allocated in recent years for shipyard infrastructure, as well as significant planning and sustained management attention over the next several decades.

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**Crewing Shortfalls**

In prior reports, we found that the Navy routinely assigned fewer crewmembers to its ships than its workload studies have determined are needed to safely operate and maintain them.<sup>30</sup> For example, we found that as of November 2023, the Navy had approximately 16 percent fewer enlisted sailors than required across 177 battle force ships.<sup>31</sup> Until the Navy takes action to fill required positions with qualified sailors, personnel shortfalls will likely continue to be a leading factor causing inadequate sleep and sailor fatigue.

Further, we also found that the data the Navy uses to monitor the personnel readiness of the fleet are not sufficiently reliable, which leads to inflated numbers of sailors who appear to be qualified for their positions. Specifically, the Navy applies some business rules to this data that result in counting some junior enlisted sailors as filling positions that require more senior-level sailors. Our analysis of the data found that when we removed one of the rules that counts junior sailors in positions of more senior-level sailors, the “fit” across the ships in our scope fell by almost 6 percent.<sup>32</sup> As a result, until the Navy removes these business rules, it will continue to rely on data that do not provide an accurate understanding of the true extent of the skill and experience gaps across the fleet.

We made 11 recommendations aimed at improving the Navy’s reliability and management of ship crewing data. Among other things, we recommended that the Navy remove the rules that count junior sailors as filling positions of senior sailors. In written comments, the Navy concurred with six recommendations, partially concurred with two, and did not concur with three. We continue to maintain that all of our recommendations are warranted.

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**Ground Domain****Equipment Standards**

From 2020 through early 2024, the Army has been taking steps to implement and to improve its revised approach to generate ready forces. The approach is called the Regionally Aligned Readiness and

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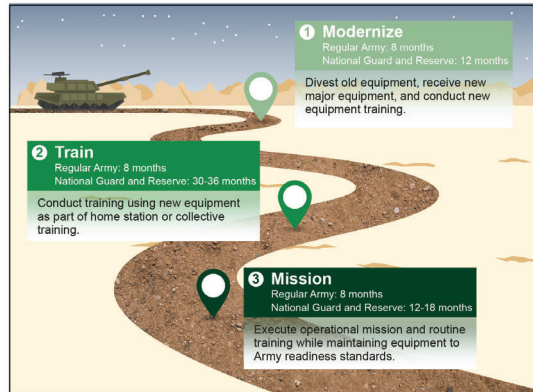
<sup>30</sup>GAO-21-366 and GAO-24-106819.

<sup>31</sup>These ships included aircraft carriers, amphibious assault ships, amphibious transport dock ships, attack submarines, cruisers, destroyers, and mine countermeasures ships. GAO, *Navy Readiness: Actions Needed to Improve the Reliability and Management of Ship Crewing Data*, GAO-24-105811 (Washington, D.C.: Apr. 29, 2024).

<sup>32</sup>The Navy measures both “fill”—the rate that positions on a ship are filled by sailors—and “fit”, which is the rate that the positions are filled with sailors who have the skills and qualifications for the positions.

Modernization Model (ReARM). The Army uses ReARM to prepare forces for combat, including fielding new equipment on a more predictable schedule, to ensure that units train and deploy with the most modern equipment (see fig. 15). In April 2024, we reported that the Army met its initial goals of aligning units with geographic regions and providing forces to combatant commands; developing and meeting unit life-cycle schedules; and fielding upgraded and new equipment to combat units, such as air defense systems.<sup>33</sup>

Figure 15: ReARM Phases, General Lengths, and Activities



Source: GAO analysis of Army information. | GAO-24-107463

Note: ReARM refers to the Regionally Aligned Readiness and Modernization Model.

Among the Army's ReARM implementing steps are identifying priority units and fielding upgraded, new, and priority modernized equipment to units. However, we found that the first two transfers of major equipment under ReARM to Army National Guard units included equipment that

<sup>33</sup>GAO, *Army Modernization: Actions Needed to Support Fielding New Equipment*, GAO-24-106274SU (Washington, D.C.: Apr. 11, 2024).

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did not meet required condition standards, according to officials. Without identifying and implementing a means to reasonably assure units transfer equipment that meets condition standards, receiving units will continue to be at risk of incurring unexpected costs and delays in their modernization and training.

According to the Army's modernization strategy, ReARMM is a key component for fielding modernized equipment more rapidly to units. However, in fielding new equipment through ReARMM, we found that the Army has been unable to fully complete key planning elements for training, facilities, and personnel, and other planning elements needed to operate and sustain the equipment. The Army has taken steps to manage the risk of units not having some of the planning elements completed, such as training strategies or necessary facilities for the new equipment. However, the Army expects to continue to face challenges completing requirements in some of the other planning elements before fielding new equipment.

We made three recommendations to the Army to improve the continued implementation of ReARMM. Among other actions, we recommended that the Army identify and implement corrective actions that would reasonably assure that equipment sets meet required condition standards before they are transferred to other units during their ReARMM life cycle. We also recommended that the Army review and determine opportunities to better complete planning elements by the time it fields new equipment. The Army concurred with these recommendations.

#### Army Rail System

The Army depends on rail transportation as the primary means of moving ammunition, tracked vehicles, and other items needed by deploying units from their bases to ports of embarkation within the United States in support of contingencies and exercises. During a contingency, Army officials stated that they would use rail to move about 67 percent of equipment from a fort or base to a shipping port. In 2003, for example, nearly 1 million tons of unit equipment moved by rail in support of Operation Iraqi Freedom.

A 2020 simulation of deployment from a single fort in support of a large-scale combat operation demonstrated the need for more than 2,200 rail

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cars over a 3-day period.<sup>34</sup> More than 600 of those cars were required to move a single Armored Brigade Combat Team.

The Army has taken actions to improve management of its rail system, such as conducting inspections to monitor track conditions and track repairs. However, over 550 miles (59 percent) of track on Army installations was in such poor condition that the track was closed pending repairs, according to our 2021 report.<sup>35</sup> Also, the Army has not determined if it would have enough rail operating crews (see fig. 16) to support large-scale combat operations and had not determined how many trained personnel would be needed for such operations.

**Figure 16: DOD Personnel Moving Equipment on Non-Restricted Track**



Source: Department of Defense. | GAO-24-107463

If the Army does not require a quality assurance program for overseeing the management of rail track, the Army may be unaware of Army rail track conditions and will not be able to fully inform decision makers with timely information so they may address any gaps to help support the missions of combatant commanders. Further, if the Army does not quantify and

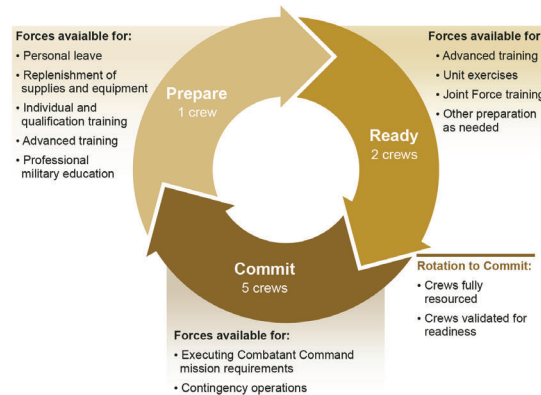
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<sup>34</sup>In the 2-year period 2017 through 2018, the Army reported an increased operational tempo that included more than 135 opportunities to practice deployment or redeployment tasks including brigade-size unit movements.

<sup>35</sup>GAO, *Defense Transportation: The Army Should Take Action to Better Ensure Adequate Rail Support to Combatant Commanders*, GAO-21-411 (Washington, D.C.: Aug. 23, 2021).

	<p>address the risks of any shortfalls of crews, the Army and DOD may not be certain that they can fully support a large-scale combat operation.</p> <p>We made three recommendations to the Army to require and implement a quality assurance program to inform decision-making in providing oversight of rail track conditions, to determine the requirement for trained rail operating crews, and to quantify the risk of any shortfall of crews. The department concurred with all three recommendations, and we are reviewing documentation regarding the Army's efforts to address them.</p> <p>We also have an ongoing review of DOD logistics in Europe and expect to report on the results of that work later in 2024.</p>
Space Domain	<p>DOD's ability to conduct space operations is critical to national security. In the face of Chinese and Russian efforts to limit access to U.S. space capabilities, DOD has made maintaining current and future readiness for space operations a top priority.</p>
Force Generation	<p>We expect to issue a report in May 2024 on DOD's readiness for space operations. The report will describe, among other things, Space Force's efforts to address current and future readiness challenges for contested space operations through its force generation model and through efforts to fully resource new systems.</p> <p>Space Force established a force generation model—referred to as SPAFORGEN—in early fiscal year 2022 that was intended to address its current readiness challenges. Many space units operate in place continuously from their home station, and officials noted these units lack a deployment cycle that includes time for rebuilding readiness. SPAFORGEN establishes a cycle of three phases intended to ensure the Space Force can sustainably present ready forces to combatant commands. Under SPAFORGEN, each participating unit establishes eight operational crews that cycle through three phases called Prepare, Ready, and Commit. (see fig. 17).</p>

**Figure 17: Space Force's Force Generation Model (SPAFORGEN)—Prepare, Ready, and Commit Phases**



Source: GAO analysis of Department of Defense information. | GAO-24-107463

In our draft report, we found that Space Force has not fully analyzed or reported all the personnel, and the types of personnel, that the service needs to fully implement SPAFORGEN. While a September 2023 Space Force report identified a shortfall of nearly 2,000 military personnel to implement SPAFORGEN, the report did not include estimates of the civilian or contracted personnel that will also be necessary to implement the model.

We also found that training-related limitations affected Space Force's implementation of SPAFORGEN. Specifically, Space Force faces interrelated challenges that include shortfalls in training personnel, limitations in training capability, and variation in the SPAFORGEN phase lengths among operational space units. Without a plan for how to navigate these challenges, Space Force will continue to face challenges ensuring SPAFORGEN provides opportunities for training and exercises as intended.

## Space Control

We plan to recommend that Space Force ensure it analyzes and reports the number of military, civilian, and contracted personnel required to implement SPAFORGEN. Also, we intend to recommend that the service develop a plan to ensure its execution of SPAFORGEN meets its stated purpose of generating space readiness by providing opportunities to participate in training and exercises.

As described in our draft report, the future readiness of DOD to conduct space operations relies not just on new or upgraded systems but on combat-ready units able to effectively operate those systems. In August 2023, Space Force took a positive step by establishing guidance outlining the actions needed to ensure operational space units are fully resourced with the appropriate personnel and training capabilities required for day-to-day operations prior to operationally accepting a new system. However, translating this guidance into reality will likely require significant resources—resources that the service has not identified.

We plan to recommend that Space Force assess its ability to implement its new guidance, to include identifying, analyzing, and responding to factors that limit the Space Force's ability to implement the guidance.

In November 2021, we issued a readiness and force structure report on space control—operations that ensure freedom of action in space for the United States and its allies and deny an adversary's freedom of action in space.<sup>36</sup> We reported that DOD's efforts to reduce shortfalls in space control were underway but that longstanding challenges persisted. We recommended that DOD incorporate space control in plans for rebuilding readiness and identify milestones and metrics to assess progress toward addressing identified readiness issues. Also, we recommended that DOD establish uniform threat standards that units would use when assessing their readiness to conduct their mission in a contested space environment. DOD concurred with these recommendations but as of April 2024 had not yet taken action to implement them.

Further, we recommended that DOD set specific measurable objectives and milestones for implementing DOD's space control goals over the next decade, as laid out in the *Defense Space Strategy*. DOD partially concurred, stating that it did not need a separate implementation plan and will rely on existing processes. However, we found that the strategy does

<sup>36</sup>GAO, *Space Operations: DOD Efforts to Improve Space Control Shortfalls Underway but Longstanding Challenges Persist*, GAO-22-530C (Washington, D.C.: Nov. 8, 2021).



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not establish specific measures and milestones to assess progress in meeting its identified objectives. In addition, DOD officials stated that they intend to use the budget process to oversee implementation of the strategy. However, we previously found significant limitations to relying on the budget process for complex force structure decisions. The department's lack of specific measurable objectives or milestones could significantly impede its ability to understand if its efforts and investments are sufficient and timely.

We have an ongoing review of the basing selection process for U.S. Space Command and expect to report on the results of that work in late 2024. We also have an ongoing review of the integration of allies and partners in space operations and expect to report on the results of that work in early 2025.

While DOD develops and deploys new weapon systems and considers new approaches for how its units organize and operate, it will continue to depend on many of today's capabilities for decades to come. As a result, DOD will need to continue to balance rebuilding the readiness of its existing forces with its desire to modernize.

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Chair Hirono, Ranking Member Sullivan, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

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## GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact Diana Maurer, Director, Defense Capabilities and Management, at (202) 512-9627 or [maurerd@gao.gov](mailto:maurerd@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Jodie Sandel (Assistant Director), Steven Banovac (Analyst-in-Charge), Ava Bagley, John Bumgarner, Aaron Chua, Nicole Harris, Briana Lalman, Amie Lesser, Richard Powelson, Michael Shaughnessy, Michael Silver, Nicole Volchko, and Chris Watson.

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## Related GAO Products

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The following list contains both public reports, which are available on GAO's website, and reports that are not publicly available. Report numbers with a C or RC suffix are classified. Report numbers with a SU suffix are sensitive but unclassified. Classified and sensitive but unclassified reports are available upon request to personnel with the proper clearances and the need to know.

*Navy Readiness: Actions Needed to Improve the Reliability and Management of Ship Crewing Data.* GAO-24-105811. Washington, D.C.: April 29, 2024.

*F-35 Sustainment: Costs Continue to Rise While Planned Use and Availability Have Decreased.* GAO-24-106703. Washington, D.C.: April 15, 2024.

*Army Modernization: Actions Needed to Support Fielding New Equipment.* GAO-24-106274SU. Washington, D.C.: April 11, 2024.

*Military Readiness: Comprehensive Approach Needed to Address Service Member Fatigue and Manage Related Efforts.* GAO-24-105917. Washington, D.C.: March 26, 2024.

*Force Structure: Army and Marine Corps Face Challenges Developing New Multi-Domain Units.* GAO-24-106266C. Washington, D.C.: March 14, 2024.

*Special Operations Forces: Documented Policies and Workforce Planning Needed to Strengthen Civilian Oversight.* GAO-24-106372. Washington, D.C.: March 4, 2024.

*Weapon System Sustainment: DOD Identified Operating and Support Cost Growth but Needs to Improve the Consistency and Completeness of Information to Congress.* GAO-24-107378. Washington, D.C.: February 29, 2024.

*Navy Readiness: Challenges Persist in Sustainably Producing Ready Naval Forces.* GAO-24-106363C. Washington, D.C.: January 11, 2024.

*Special Operations Forces: DOD Should Slow Acquisition of Armed Overwatch Aircraft until It Conducts Needed Analysis.* GAO-24-106283. Washington, D.C.: December 14, 2023.

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**Related GAO Products**

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*Special Operations Forces: Enhanced Training, Analysis, and Monitoring Could Improve Foreign Language Proficiency.* GAO-24-105849. Washington, D.C.: October 31, 2023.

*Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue.* GAO-24-106819. Washington, D.C.: October 11, 2023.

*F-35 Aircraft: DOD and the Military Services Need to Reassess the Future Sustainment Strategy.* GAO-23-105341. Washington, D.C.: September 21, 2023.

*European Deterrence Initiative: DOD Should Establish Performance Goals and Measures to Improve Oversight.* GAO-23-105619. Washington, D.C.: July 10, 2023.

*Navy Readiness: Actions Needed to Address Cost and Schedule Estimates for Shipyard Improvement.* GAO-23-106067. Washington, D.C.: June 28, 2023.

*Missile Defense: DOD Needs to Improve Oversight of System Sustainment and Readiness.* GAO-23-105578. Washington, D.C.: June 7, 2023.

*Marine Corps Indo-Pacific Posture: Actions Needed to Address Training Challenges.* GAO-23-105783C. Washington, D.C.: May 5, 2023.

*Special Operations Forces: Actions Needed to Assess Performance of the Preservation of the Force and Family Program.* GAO-23-105644. Washington, D.C.: April 27, 2023.

*Navy Ship Fires: Ongoing Efforts to Improve Safety Should Be Enhanced.* GAO-23-105481. Washington, D.C.: April 20, 2023.

*Weapon System Sustainment: The Army and Air Force Conducted Reviews and the Army Identified Operating and Support Cost Growth.* GAO-23-106341. Washington, D.C.: March 30, 2023.

*Tactical Aircraft: Technical, Delivery, and Affordability Challenges Complicate DOD's Ability to Upgrade Its Aging Fleet.* GAO-23-106694. Washington, D.C.: March 29, 2023.

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**Related GAO Products**

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*National Guard Helicopters: Additional Actions Needed to Prevent Accidents and Improve Safety.* GAO-23-105219. Washington, D.C.: March 14, 2023.

*Weapon System Sustainment: Navy Ship Usage Has Decreased as Challenges and Costs Have Increased.* GAO-23-106440. Washington, D.C.: January 31, 2023.

*Tactical Aircraft Investments: DOD Needs Additional Portfolio Analysis to Inform Future Budget Decisions.* GAO-23-106375. Washington, D.C.: December 20, 2022.

*Women in Special Operations: Improvements to Policy, Data, and Assessments Needed to Better Understand and Address Career Barriers.* GAO-23-105168. Washington, D.C.: December 15, 2022.

*Military Readiness: Actions Needed to Further Implement Predictive Maintenance on Weapon Systems.* GAO-23-105556. Washington, D.C.: December 8, 2022.

*Weapon System Sustainment: Aircraft Mission Capable Goals Were Generally Not Met and Sustainment Costs Varied by Aircraft.* GAO-23-106217. Washington, D.C.: November 10, 2022.

*Navy Readiness: Actions Needed to Improve Process for Preparing Ships to Deploy.* GAO-23-105294SU. Washington, D.C.: November 1, 2022.

*Special Operations Forces: Better Data Necessary to Improve Oversight and Address Command and Control Challenges.* GAO-23-105163. Washington, D.C.: October 5, 2022.

*National Security Snapshot: U.S. Support for the War in Ukraine.* GAO-22-106079. Washington, D.C.: September 8, 2022.

*F-35 Aircraft: DOD Should Assess and Update Its Engine Sustainment Strategy to Support Desired Outcomes.* GAO-22-104678. Washington, D.C.: July 19, 2022.

*Air Force and Navy Aviation: Actions Needed to Address Persistent Sustainment Risks.* GAO-22-104533. Washington, D.C.: June 15, 2022.

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**Related GAO Products**

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*Military Readiness: DOD Domain Readiness from Fiscal Year 2017 through Fiscal Year 2021.* GAO-22-105279C. Washington, D.C.: May 18, 2022.

*Naval Shipyards: Ongoing Challenges Could Jeopardize Navy's Ability to Improve Shipyards.* GAO-22-105993. Washington, D.C.: May 10, 2022.

*Military Depots: DOD Strategy for Addressing Deteriorating Facilities and Equipment Is Incomplete.* GAO-22-105009. Washington, D.C.: May 9, 2022.

*Navy Ships: Applying Leading Practices and Transparent Reporting Could Help Reduce Risks Posed by Nearly \$1.8 Billion Maintenance Backlog.* GAO-22-105032. Washington, D.C.: May 9, 2022.

*F-35 Sustainment: DOD Faces Several Uncertainties and Has Not Met Key Objectives.* GAO-22-105995. Washington, D.C.: April 28, 2022.

*Littoral Combat Ship: Actions Needed to Address Significant Operational Challenges and Implement Planned Sustainment Approach.* GAO-22-105387. Washington, D.C.: February 24, 2022.

*Combat Helicopters: Actions Needed to Fully Review Readiness Goals and Address Long-Standing Maintenance Challenges.* GAO-22-104607SU. Washington, D.C.: February 15, 2022.

*Navy Ship Maintenance: Actions Needed to Monitor and Address the Performance of Intermediate Maintenance Periods.* GAO-22-104510. Washington, D.C.: February 8, 2022.

*Space Operations: DOD Efforts to Improve Space Control Shortfalls Underway but Longstanding Challenges Persist.* GAO-22-530C. Washington, D.C.: November 8, 2021.

*Defense Transportation: The Army Should Take Action to Better Ensure Adequate Rail Support to Combatant Commanders.* GAO-21-411. Washington, D.C.: August 23, 2021.

*F-35 Sustainment: DOD Needs to Cut Billions in Estimated Costs to Achieve Affordability.* GAO-21-439. Washington, D.C.: July 7, 2021.

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**Related GAO Products**

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*Military Vehicles: Army and Marine Corps Should Take Additional Actions to Mitigate and Prevent Training Accidents.* GAO-21-361. Washington, D.C.: July 7, 2021.

*Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training.* GAO-21-366. Washington, D.C.: May 27, 2021.

*Defense Logistics: Army Should Ensure New System Operates in All Situations and Soldiers Complete Training.* GAO-21-313. Washington, D.C.: April 12, 2021.

*Military Readiness: Department of Defense Domain Readiness Varied from Fiscal Year 2017 through Fiscal Year 2019.* GAO-21-279. Washington, D.C.: April 7, 2021.

*Defense Transportation: DOD Can Better Leverage Existing Contested Mobility Studies and Improve Training.* GAO-21-125. Washington, D.C.: February 26, 2021.

*Navy and Marine Corps: Services Continue Efforts to Rebuild Readiness, but Recovery Will Take Years and Sustained Management Attention.* GAO-21-225T. Washington, D.C.: December 2, 2020.

*Navy Maintenance: Navy Report Did Not Fully Address Causes of Delays or Results-Oriented Elements.* GAO-21-66. Washington, D.C.: October 29, 2020.

*Navy Shipyards: Actions Needed to Address the Main Factors Causing Maintenance Delays for Aircraft Carriers and Submarines.* GAO-20-588. Washington, D.C.: August 20, 2020.

*Weapon System Sustainment: DOD Needs a Strategy for Redesigning the F-35's Central Logistics System.* GAO-20-316. Washington, D.C.: March 6, 2020.

*Military Readiness: Update on DOD's Readiness Recovery and Domain Readiness Assessment.* GAO-19-390RC. Washington, D.C.: May 6, 2019.

*F-35 Aircraft Sustainment: DOD Needs to Address Substantial Supply Chain Challenges.* GAO-19-321. Washington, D.C.: April 25, 2019.

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**Related GAO Products**

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*Defense Strategy: Revised Analytic Approach Needed to Support Force Structure Decision-Making.* [GAO-19-385](#). Washington, D.C.: March 14, 2019.





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Senator HIRONO. Thank you very much.

As long as Ms. Maurer pointed out the fact that their report suggested 114 recommendations and that you had met with the testifiers today, so I would like to ask all of you, starting with General Mingus, of the 114 recommendations that GAO made, which one did you consider the most important to implement, and did you implement it? We will just go down the list.

General MINGUS. Yes, ma'am. It is hard to prioritize because they are all important, and we agree with all the findings and the recommendations. But if I were to pick one it would probably be our fleet readiness, our weapons readiness is one of the areas that we acknowledge ourselves and are keenly focused on reversing that trend.

Senator HIRONO. When you talk about fleet readiness, are you talking about—there are a lot of elements that go into fleet readiness, such as—

General MINGUS. Our Bradleys, our Howitzers. Our fleet readiness currently is below the standards that we hold for ourselves, and part of that is a confluence of cascading of equipment from one unit to other, back to depot. Some of it is equipment that we have given to Ukraine and the supply parts that have to go to Ukraine. So it has been a host of things that have caused this, and our standard for most of our fleet is about 90 percent operational readiness rates, and if you aggregate across the fleet it is sitting at about 80 percent.

Senator HIRONO. So, General, I would be interested to know how you are doing with the fleet readiness aspect of the GAO recommendations, so we will followup with you on how you are doing with that.

General MINGUS. Yes, ma'am.

Senator HIRONO. Admiral?

Admiral KILBY. Thanks, Chair Hirono. I think I agree with General Mingus. We do take the GAO reports very seriously, read them, and try to really understand where we can make progress in a forward direction.

I would say three reports stand out. One, the latest report on fatigue, which applies to all the services, but the GAO has done reports for the Navy fatigue. So that is a serious report for us, especially given the manning situation that Ms. Maurer described. That is the second area, and that report was released on Monday. I have not had a chance to completely digest the report, but there is much, much of it that we agree with and concur.

Then finally the readiness report on availability and modernization and maintenance. Those reports are impactful to us, and we are taking those very seriously.

Senator HIRONO. So as we go down the list, my intention is that for the recommendations that have been suggested, and as you point out to this Committee, what you consider to be an important recommendation that you are going to implement, my intention is to followup to enable you to make those changes, as suggested.

So we will continue down the list. General Mahoney?

General MAHONEY. Thanks, Senator, and I agree thematically with my shipmate and my fighting mate over here. The one that stood out to me, as a leader of marines, was the report on the con-

dition of the barracks. If we are going to say that the bedrock of our fighting capability is the individual marine we have to ensure that there is a safe, sanitary, and secure place for them to come back after a hard day of training. That is the one that sticks out to me, ma'am.

Senator HIRONO. General Slife?

General SLIFE. Senator, thanks. So as I look through the work that GAO has done, the portions that were most compelling to me was the work that the GAO has done, actually several reports, on the F-35 specifically. This is, of course, the backbone of the Air Force's future strike fighter fleet. In many ways it is a fantastic platform. It is a fantastic capability we have. But it is extraordinarily complex, and it is complex in a number of ways. Number one, the structure of the program office, where we have multiple partners and allies that are involved in operating the platform, have a voice in how the platform is developed, clearly the Department of the Air Force and the Department of the Navy operate the U.S. fleets, and so there are differences in the way the Navy and the Marine Corps do supply and the way the Air Force does supply. So anything that is a shared resource becomes very difficult for us to manage, just inside the Department of Defense, much less with our partners and allies.

Then finally, as we have found that we become more and more interdependent with our partners and allies, the interoperability at the platform itself, we have to be able to share data. We have to be able to use common weapons. We have to service each other's airplanes. There are bureaucratic impediments in place that we are working hard to knock down, that will allow us to get the maximum value out of that platform.

But I would just tell you that the short answer to your question is that the things that I find most compelling in the GAO's work is that related to the F-35.

Senator HIRONO. Well, good, because we have had issues with F-35 and its capabilities for what seems like a long time. So I would be interested to know how you are going to make the kinds of changes that you just described.

Okay. General Guetlein.

General GUETLEIN. Thank you, Senator. We have had a pretty strong partnership with the GAO going forward since we stood up in 2019. One of the major pivots that we have been doing in the United States Space Force is pivoting to an employed-in-place approach to warfighting. Whereas the other services fight forward, we fight from the Homeland, and facilities that are heavily driven by software, we have to combine both our men and women in uniform, our civilians, and our contractor to get after our mission, and that requires us to change the way we measure readiness.

For example, we have to measure the power and cooling of our facilities. We have to balance FSRM resources with weapons systems sustainment resources. So we needed a completely new model to measure our readiness so that we could accurately report to the combatant commanders what they could guarantee to be provided by United States Space Force during times of crisis or conflict.

We are in the middle of that pivot. We will finish that pivot by this fall, and what you have seen in our readiness numbers, be-

cause we are changing the way we do it, is a significant decline in our readiness reporting. It is not necessarily because we have changed anything other than the fact that we are actually looking at what does it take to go to a fight, which is different than the system that we inherited from the United States Air Force. Over.

Senator HIRONO. I think as the newest entity to be set up, it remains to be seen how you are going to measure your attainment of mission.

Senator SULLIVAN. Thank you, Madam Chair, and I want to begin just because a lot of these hearings are all about challenges and problems. I want to begin by just complimenting you, gentlemen, and the forces you lead. I mean, there are a million reasons to compliment you, but I will just throw out a couple anecdotal ones.

The Navy, Admiral, with regard to the *Eisenhower* deployment, the *Carney*, I got a report saying it shot down close to 80 incoming missiles and drones fired by the Houthis. I know they are heading home right now, but those sailors did an amazing job.

The Marine Corps, General Mahoney, the full audit, I think that is actually a really big deal and a great example.

Air Force, General Slife, the work that you did the last year and a half, General Van Herck called it Super Bowl-level actions up in Alaska, when we had these spy balloons and the Russian Bear bombers coming in, and we were shooting down spy balloons, intercepting them, intercepting Russian Bear bombers, young, 25-year-old female F-22 pilots doing—I mean, the work that was going on up there, which you make look so simple, was remarkable.

General Mingus, I think you are giving pride and hope, just that 155 millimeter ammo. Look, some of my colleagues here are saying, “Hey, our industrial base can’t produce like we used to.” That is baloney, right. The Army is showing that right now, the way you are taking that curve on the production of our ammo is remarkable.

With the Space Force, General Guetlein, some of us were skeptical, myself included, the way you have stood up. I think a lot of people have a lot of pride in the Space Force. Your uniforms are almost as sharp as the Marine Corps’, so that is another thing that I think is quite impressive. It is hard to do that.

So thank you. There is a lot going on here that is very important.

But I do want to get some of the challenges. Let me start, General Mingus, with you and the Army’s recruiting goals and the struggle to meet those. One of the reasons the Army is shrinking, which it is, is because we cannot get enough Americans to volunteer. We are working on some of the issues. Senator Blumenthal and I actually are working on issues of access. We are probably going to legislate that, high schools and other places, where we have much better, stronger, open access for recruiters.

How are you feeling about that, General? What more can we do? Are we finally kind of hitting the bottom and coming up? I mean, if we keep missing recruiting goals at the level that some of the services have been, that is going to be the ultimate crisis because we cannot man our force.

General MINGUS. Thank you, Senator. We acknowledge the last 2 years we missed the mark, and not by a little bit.

Senator SULLIVAN. Yes. The numbers were huge.

General MINGUS. The Secretary and the Chief and the entire Army have taken this on as a mission that we have to succeed, for all the reasons you have pointed out. So our benchmarks this year are 55,000 in the door and another 5,000 in the delayed entry program for next year, and given the trajectories we are on right now, we had a very good spring and we are optimistic that we will meet those goals.

Senator SULLIVAN. So what did you do different? Like what happened? What are the corrective measures that you can learn from, that other services could learn from?

General MINGUS. I think many of these lessons are universal, but where I will start is the restructuring of our recruiting command. We made it a direct report to the Army. We are going to up-gun that to a three-star. We are professionalizing our recruiting force, both on the warrant officer side and the NCO [non-commissioned officer] side, increasing the numbers that are actually in the field, looking at their locations. Expanding the population is probably one of the biggest things. Instead of focused on juniors and seniors in high school we are expanding that into college age.

Senator SULLIVAN. Are you getting access to those institutions, to your satisfaction, high schools and colleges?

General MINGUS. We believe, for the most part, yes, sir. There are some challenges in certain parts of the country, but the receptiveness is getting better.

Then the last thing that we have done is what I mentioned in my remarks, and that is the Future Soldiers Prep Course. We have brought 18,000 through that program that would have not otherwise been able to meet the standard. We bring them in, and whether it is an academic or a cognitive or a physical issue, and we bring them up to our standard before we let them come through, and the folks that have gone through that program, that 18,000, in excess of 90 percent of them have met the standard on the back end of that.

Senator SULLIVAN. Good. Great. Well, look, if there is more that we can do as we are looking to mark up the NDAA, let us know.

Madam Chair, I have a bunch of other questions, but my time has expired so I will turn it over to my colleagues.

Senator HIRONO. Senator Kaine?

Senator KAINE. Thank you, Madam Chair and Ranking Member Sullivan. I will followup with you, General Mingus, on the Future Soldier because I am intrigued with that. You say about 18,000 folks have come through. I spent some time down at Fort Eustis, talking about this, and I was really impressed, maybe 18 months ago. Ninety percent were able to get to the standard by the end of that course.

It has not been in place that long, but I hope we are going to longitudinally follow this group to see what we learn about retention. Did it not only enable them to meet the standard but maybe prepare them to, hey, I really want to stick with this. It is probably a little bit too early to draw conclusions about that. Am I right about that?

General MINGUS. You are, sir, and we are absolutely going to track everyone, from a longitudinal perspective, just to make sure we have not created another problem. So far the data suggests that

it is not. First term is on par with other first termers, and so as a result we are considering the expansion, instead of just doing it in South Carolina maybe expanding it to other basic training locations.

Senator KAINE. Well, it will be interesting over time to compare folks who went through Future Soldier with those who did not, and see if there is a different kind of stickiness to their desire to stay. So I will look forward to following that. I know that many of the other services are watching carefully what you are doing and maybe others are implementing too. So thanks for that.

Here is an issue that I have raised with a number of you, and we have talked in the past. I am really worried about the inadequacy of the labor supply in our industrial base. You know, the 45-day shipbuilding analysis that was done, Admiral Kilby, you and I have talked about this work done by the SECNAV [Secretary of the Navy] directed to look at why are we so late on the *Columbia*, why are we so late on the *Ford*-class, *Virginia*-class. There are a number of reasons, but the workforce is a key one, and even when it is workforce plus supply chain, often the challenge on the supply chain is the workforce. So we see this really spread throughout, and I am really nervous about it.

Here is what I am finding, though, that troubles me. Every year, military recruiters turn away thousands of young Americans who are disqualified from military service for one reason or another, and I have had interactions with some in the last 90 days, "I wanted to serve my country, and I passed through all the vetting and security check. But I had asthma in my background," or "I had something else in my background that meant I was a no-go for entering the service."

I said, "Okay, when they tell you no, how did you feel?" "I was really disappointed." "And then did they say, hey look, if you want to serve your country you can still serve your country. Just because you cannot come into the uniformed service there are DOD civilian positions. There is an industrial base that are essentially in the foxhole with our Active service, in terms of the critical nature."

My interaction with people who have recently been turned away is, no, they were given nothing other than an, "I'm sorry, we can't let you in." I would hope that our services would direct patriotic people who want to serve this Nation, who for one reason or another may not meet a qualification, I would hope that they might be directed to other parts of our defense ecosystem, because we need an awful lot of people. We need the tens of thousands who exit military service every year, who are going to go out into the big, wide world and do anything. There are all kinds of opportunities for them to continue serving. I think many of them know that, but an awful lot of people, based on my son's experience when he was a really green first lieutenant and had his first marine platoon, and his sergeant came and said, "I am retiring in 60 days. What should I do to find a job?"

I mean, there ought to be ways to direct people into filling up these positions serving our country, in the industrial base or the DOD civilian side, and I do not know that we are doing that. I just would encourage you to see if we might be able to do that better. There is not a question there, but it is an encouragement.

I do have a question about counter-UAS in my last minute. We have been having some testimony and some hearings, some open, some classified, about UAS challenges, and obviously they are a threat in combat. But increasingly they are also a threat to our installations, both at home and overseas.

Addressing this threat requires an awful lot of coordination. If it is at home it is usually between a city or county and a State and local law enforcement agency, and maybe the DHS [Department of Homeland Security] or the FBI [Federal Bureau of Investigation] as well as a base commander and others. I worry a little bit that we are maybe not really coordinating as we are thinking about how to deal with the UAS threat around our own bases, both domestically and those that are overseas, where you have a foreign government also to deal with in terms of what you can do.

Are you satisfied with the degree of coordination that we are seeing in trying to get after and solve this problem? Any of you.

General GUETLEIN. Senator, I will answer that in 17 seconds, I can give you about 15 back because the answer is no, not satisfied. The reason we are not satisfied is because although the services coordinate effectively together and leverage each other's capabilities, every single locale is its own story. So there is no national approach to this counter-small UAS issue. It is local issue by local issue.

Senator KAINE. I do not want to go over my time, but let me ask one other question really quick. If there is somebody in the Pentagon who I could grab by the shoulders and say, "Hey, you are responsible for this, the coordination part of it. Admittedly it is complicated with all the levels, but you are responsible for this. Tell me what we are doing to really develop strategies." Who would I go to who is that person?

General MINGUS. I could be one of them. Dr. Bill LaPlante, Under Secretary of Defense for A&S, he and I co-chair the session that kind of leads this on behalf of the Secretary of Defense.

Senator KAINE. Okay.

General MINGUS. He stood up a tiger team, and that tiger team is still in place, Bill LaPlante and I, and there are a couple other forums that do this, and all the services are part of that forum that Bill and I co-chair. But we would love to come back over and give you a deep dive on that, sir.

Senator KAINE. I would appreciate that. Thank you. Thanks, Madam Chair.

Senator HIRONO. Senator Blumenthal.

Senator BLUMENTHAL. Thank you, Madam Chair. Thank you to you and the Ranking Member for having this Subcommittee hearing, and just to pursue the line of questioning that Senator Sullivan began, I think this recruiting issue will continue to challenge us, bedevil us, vex us, for years to come, looking at the long-range trends and the attitudes among young people. He and I are working to try to make high schools more accessible to your recruiters, and it is in their interests, our young people's interests, to know about what great opportunities there are for careers—not just jobs, but careers—in the military, and for their parents and their teachers to understand it, as well. So I think we need to put together a broader program, as Senator Sullivan and I have discussed.

Just to ask a question about this, General Mahoney. Is the Marine Corps still hitting its recruiting targets?

General MAHONEY. We made mission last year. We will make mission this year. The other part of gaining and maintaining a skilled force is retention, and our retention mission is very, very strong this year. For career marines we are over 100 percent, at 110 percent, and for first-term enlistments we are in the mid 1990s. We will make those numbers. Interestingly and importantly, the numbers that we are keeping have a 95 percent specialty match against grade. So we are not keeping people that are not in the specialties that we want, at the grade they want.

So they are headwinds, and it is hard, and your recruiting forces out there are working hard every day. But we will make mission.

Senator BLUMENTHAL. I have 3 minutes left. I have a big question, which I would appreciate you answering in writing. What have we learned from Ukraine? If you could give that answer to me in writing. I would not have time, and I know we would be putting you on the spot. I would appreciate you addressing that issue to us in writing.

[The information referred to follows:]

General MINGUS. From the conflict in Ukraine, we have learned how the character of war is evolving due to new and emerging technologies. Rapid innovation and integration of emerging technologies provides a decisive advantage. In Ukraine, the widespread use of unmanned aircraft systems and electronic warfare challenge traditional concepts of maneuver and make gaining and maintaining air superiority more difficult. At the same time, modern technology has not replaced requirements for significant investments in personnel and materiel to support successful large-scale combat operations (LSCO).

We are using these lessons to inform how we modernize our defense capabilities. Through Continuous Transformation, we are accelerating change in our formations, equipment, and the way we fight, while maintaining readiness. We are phasing out programs and platforms that no longer meet the requirements of today's combat environment and reinvesting across the Army's modernization priorities. We are also investing in our industrial base to meet the demands of LSCO, including significant investment in our capacity to produce 155 mm artillery rounds.

Admiral KILBY. In the Ukraine maritime domain, we have observed that the enduring traditional missions of a maritime force—sea control, sea denial, and maritime security to secure the safe movement of one's own maritime trade and deny an adversary's, persist. The enduring mission of a maritime force to project power overseas—to provide support to land operations from the sea persists as well. In sum, the enduring requirement for a nation's combined arms naval force to maintain freedom of maneuver in the maritime domain, to flexibly and promptly project power or execute amphibious operations against any adversary persist.

In the conduct of these missions—the means by which they are accomplished however has changed. In this regard we have observed the following trends:

- *Advanced Conventional Weapons:* We observe and note increased threats to surface ships from advanced conventional weapon systems with increased range and accuracy—this includes air, ground, and submarine launched, cruise and ballistic missiles, including hypersonic and nuclear capable—in large numbers. We remain alert to these increasing threats and continue to improve our collective U.S. joint systems and innovate to defeat these advanced threat capabilities.
- *Uncrewed and Semi-Autonomous Weapons:* We observe and note increased threats to surface ships from asymmetric systems—uncrewed and semi-autonomous surface, subsurface, and air platforms—in large numbers. To date, Ukrainian combat systems, tactics, techniques, and procedures (TTPs), have proven capable of defeating this emerging capability—persistent low signature attack, but frequently at a cost of limited, high value, munitions. We remain fully alert to this threat and continue to improve our systems and innovate to defeat this emerging asymmetric capability.



- Moreover, the Russia-Ukraine conflict has reinforced our view that asymmetric, autonomous capabilities play an increasing role in modern maritime warfare. In contrast to highly capable, multi-mission capital ships, with advanced weapon systems required to project power and exert sea control across distant maritime areas, Ukraine's successful use of inexpensive, uncrewed, single use, single mission, systems to attrite and deny the Russian Federation Navy use of the Black Sea, has demonstrated that there is a role for asymmetric, uncrewed, semi-autonomous, systems in certain conflict contexts.
- *Persistent Surveillance and Targeting*: We observe and expect increased susceptibility of surface ships and aircraft to detection, tracking, and targeting from increasingly automated, numerous, and persistent, Intelligence, Surveillance, Reconnaissance, and Targeting (ISR-T) capabilities. It is these supporting—companion capabilities that enable an adversary's use of advanced conventional weapons systems, and all types of unmanned and autonomous systems. Our combat systems, tactics, techniques, and procedures (TTPs), will have to mitigate this capability or otherwise minimize its impact.
- *Electromagnetic Spectrum*: We observe and note the reality on the Ukrainian battlefield that electromagnetic (EM) interference is pervasive—it is a permanent feature of the modern battlefield and combat operations. Our combat systems, tactics, techniques, and procedures (TTPs), must mitigate this capability or otherwise minimize its impact. The understanding and expertise necessary to use the EM spectrum, and to deny it to adversaries, needs to reside broadly across the general force.
- *Munitions Inventory and Combat Expenditures*: The Navy has supported war efforts in Ukraine and provided munitions through the use of Presidential Draw-down Authority (PDA). This has resulted in the transfer of critical munitions and impacted Navy inventories of key surface-to-air, air-to-air, and air-to-surface weapons. This effort has highlighted the limitations of current stockpiles and the defense industrial base's capacity to replenish them at scale and speed. To ensure readiness for potential future conflicts, the Navy and the Nation must continue to invest in expanding the munitions industrial base.
- Early Intel assessments allowed the Navy to be well ahead of potential request for forces from USEUCOM. Communication between the service, Joint Staff, and USEUCOM was extremely efficient to the point the Secretary of Defense Orders Book (SDOB) was playing catchup. Regarding readiness, Navy exhausted readiness through unscheduled deployments and extensions of already deployed force elements. The mission of “reassuring our partners and allies” in support of Ukraine impacted our readiness and force generation for fiscal year 2025 to fiscal year 2027. As we respond to crisis, we need to ensure we reassess our force allocation decisions, especially those involving stressed force elements, to determine if accepting more risk today outweighs the benefits of preserving readiness of the force for tomorrow.

*Vignette*: At the beginning of the Russia-Ukraine conflict, the Ukrainian Navy calculated an aggregate “general ratio” of Ukrainian to Russian maritime force as 1 to 12. (This number is a rough aggregate representing maritime force that includes surface ships, coastal missiles, sea-based-missiles, and cruise missiles.) Despite Russian numerical and technological superiority, through creative development and employment of asymmetric systems—unmanned air, surface, and subsurface platforms, The Ukrainians were able to destroy or damage a large percentage of the Russian Black Sea Fleet—17 combatants, including 9 key surface and 1 subsurface combatant, to effectively deny Russia sea control in the northwest and western areas of the Black Sea. The Ukrainians have neutralized the Russian Black Sea Fleet through applied intelligence, patience, planning, and asymmetric methods.

General MAHONEY. The War in Ukraine validates many of the foundational assumptions the Marine Corps used in its initial Force Design (FD) efforts in 2019. We made five broad assumptions as part of our FD effort. First, we assessed that the rise of the precision strike regime had arrived. The proliferation of cheap drones for ISR and missiles to both non-State actors (Houthis, Hezbollah, HAMAS) and non-peer adversaries (Iran and DPRK), it would be possible to achieve greater effects on a modern battlefield at a lower expenditure/volume of munitions. As consequence, we chose to pursue medium and long-range precision fires, as well as invest heavily in our ISR capabilities. Those ISR efforts included providing small UAS capabilities all the way down to the squad level.

Second, we knew that the proliferation of ISR systems would make every battlespace more transparent, and that the reconnaissance and counter-reconnaissance fight would become more important. As marines, we have long asserted that

our purpose is to locate, close with, and destroy the enemy through fire and maneuver. Due to the proliferation of cheap ISR, we assumed that the first verb—locate, would take on increasing importance in any fight. This ability to locate would also include an ability to prevent the adversary from doing the same. The War in Ukraine has validated this assumption in spades, while at the same time surprising us in some ways, to include the use of commercial space-based systems.

Third, we assumed that a modern battlespace lethality would be prolific due to the propagation of one-way attack drones and loitering munitions. Consequently, we prioritized close combat lethality to include the procurement of loitering munitions (drones) for our companies, platoons, and even squads in 2020. Our observations from the War in Ukraine validate this assumption as well. We are having to change our service level training to ensure our maneuver units are prepared to operate under the assumption that we are continuously observable.

Fourth, at the outset of our FD effort, we made a broad overarching assumption that our warfighting philosophy of maneuver warfare remained valid. Once again, the War in Ukraine has validated this assumption; however, in many ways that we did not anticipate. As a marine, you understand that there are two foundational elements to Maneuver Warfare—one grounded in Liddell Hart (attacking where you're least expected) and the other in John Boyd (out-pacing the adversary's decision-making cycle). The War in Ukraine has demonstrated beyond any doubt that Boyd was right, and that advantage can be achieved by one's ability to make decisions faster than the adversary, and on a modern battlefield—complete kill chains and kill webs faster than your adversary.

The one thing that we have learned that we didn't anticipate is that the speed of adaptation and learning necessary on a modern battlefield is just as important within the context of

Boyd's understanding of Maneuver Warfare. As we have witnessed with the prolific use of Electronic Warfare to counter drones or mitigate the effects of precision fires, adaptation at the speed of relevance is essential on a modern battlefield. This also applies to the successful application of sea denial using low-profile teams and small, low cost, attritable capabilities, against large, traditional naval forces. As has been well-documented, the move-countermove cycle is now down to weeks in Ukraine. As we think about our own efforts in recent operations in Iraq and Afghanistan to counter-IEDs, that cycle took months, if not years. That is no longer acceptable. To adapt we are making strides to innovate and adapt at pace.

The depth of magazine required to support offensive and defensive operations like those in Ukraine is simply something beyond the comprehension of most in our joint force. While the importance of the depth of magazine should not have been a new observation or new lesson learned, the war in Ukraine has provided a much-needed reminder.

**General SLIFE.** The dominant lesson learned is that air superiority remains essential to achieving decisive military advantage in conflict. Both Russia and Ukraine have thus far failed to achieve air superiority throughout the war, held at bay by substantial integrated air defense systems and limited prioritization through ground force-centric military command structures. Air parity has forced both Russia and Ukraine to rely on stand-off strikes, which are unable to produce operational to strategic impacts at scale. Additionally, the war in Ukraine also demonstrates the need for significant materiel and capability requirements and reinvigorates the discussion on appropriate Service resourcing. Winning future conflicts requires an appropriate mix of exquisite and low-cost capabilities, resilient air base networks, and sufficient munition inventory to enable strategic success.

**General GUETLEIN.** USSF has learned three primary lessons since Russia's war in Ukraine. First, we cannot understate the important role of the commercial space sector, with the complexities and challenges that go with it, in modern conflict. For example, commercial off-the-shelf (COTS) unmanned aerial systems have provided both combatants cost-effective, attritable, asymmetric effects with irreplaceable advantages for warfighters on the ground.

Second, the prevalence of low-cost, space-based remote sensing has exposed the changing nature of battlefield transparency. Space-based remote sensing provides electro-optical and radar imagery which increases battlefield transparency for all combatants. Supplementing government owned and operated remote sensing architectures with commercial services improves revisit rates and creates more persistent coverage of every part of the battlefield.

Third, the rapid evolution of electromagnetic and cyber warfare has significant impact on the modern battlespace. Potential combatants across the globe have been paying close attention to the rapid advancements of offensive and defensive electromagnetic and cyber capabilities, detailing which electronic attacks have been most

effective and against which systems, and where improvements might be made in potential future conflicts.

Let me ask you, Admiral Kilby, I am intensely interested in submarine production. I know Senator Kaine shares that interest. We have reduced, according to the Navy's proposal, the number of submarines per year from two to one. I think that reduction, without any disrespect, is unacceptable. I do not know whether the Navy went along with it. I understand all the complexities of internal consideration.

But I know the Secretary of the Navy has focused on workforce as a major constraint. So I am interested that in your testimony you do not really address that issue in detail. There is a sentence or paragraph on page 4 that says, "To this end, we are investing in public infrastructure in the industrial base, aligned with the DOD National Defense Industrial Strategy. The Navy is in the midst of a generational change," et cetera.

You know, one thing I did on the Armed Services Committee was to insert an apprenticeship program—this was 5 years ago—and other kinds of training. My colleagues at the time said to me, "This is education. This should be in the Department of Education." I said, "No. It is a matter of national security."

So if that is the constraint on our building two submarines a year, we need to do something fairly dramatic about it. I know you are operating within the DOD National Defense Industrial Strategy, and then the Shipyard Infrastructure Optimization Program. But the focus here seems to be mainly on capital investment, recapitalizing dry docks, et cetera.

I want to see something on training and something major, something that meets this moment, because whether it is munitions or artillery or submarines, we have a real challenge ahead.

Admiral KILBY. Senator, thank you. I agree with you. The investments in the submarine industrial base are significant. Thank you for the supplemental. That is \$3.4 billion. Our request that you are reviewing now is \$2.3 billion in fiscal year 2025, and almost \$9 billion across the FYDP. That is not just buying parts and things. It is workforce development. It is supplier base. It is all the things we think we need to do to bolster that base to produce those submarines.

Our goal is to produce a *Columbia* and 2.33 *Virginia*-class submarines by 2028. In order to do that we feel we need to make these investments.

Senator BLUMENTHAL. Well, thank you for your answer. Thank you for your service. Thank you all for your dedication and your great work for our country, and I will be following up on a number of these issues. Thanks so much.

Senator HIRONO. Thank you. I am going to call on myself for a second round of 5-minute questions, and then at that point I believe votes will be called. Then I will turn the hearing over to Senator Sullivan, and as long as all of you are here, he can continue with the questions that he has.

I have mentioned this before to others who have testified before the full Committee, but Admiral Kilby, I do have significant concerns about the cost overruns associated with the replacement of Dry Dock 3 in Hawaii. It is a critically important project, and no

sooner did I speak at one of the important segments of the construction that I got a cost increase of almost \$900 million, over \$400 million of which was due to poor planning on the Navy's part, meaning that \$400 million was due to the need to shorten the amount of time that it would take for this dry dock to be completed by almost 1 year.

I would say that that is poor planning. So Admiral Kilby, what assurances can you give me and this Committee that the Navy has cost overruns under control and that accountability steps are being taken to address this issue?

Admiral KILBY. Chair Hirono, thanks for that question. I share your concern. I am part of the SIOP [Shipyard Infrastructure Optimization Program] Oversight Committee. We meet quarterly. To your specific question about Hawaii supervision we have an officer in charge of construction activity at Pearl Harbor now in place to watch the QA and execution of that performance of that work on Dry Dock 5.

I do think it is a big effort, a once-in-a-century effort, to update these dry docks. They are complex. We are applying lessons learned. We are bringing industry in earlier to make sure we understand their voice and that is captured in our estimates to you. That is from Portsmouth applied to Pearl Harbor.

So I cannot assure you that it will not happen again. I can assure you that you have my attention and focus on it to try to ensure that this program is delivered as we would like it to be delivered, and at the cost that we predicted it to be delivered at.

Senator HIRONO. I know that a large part of that cost is attributable to other things such as supply chain issues, et cetera, but to have almost half of that increase amount attributable to lack of planning is very, very concerning. So I am asking for some level of assurance that that will be attended to.

I am hard pressed to identify a single large project that the Navy has undertaken that has come in on time and on budget. If you can identify a project that has met those requirements I would like to know what they are. But in the meantime, for Ms. Maurer, do you have anything to add from the GAO perspective, on what is going on with this massive cost overrun, as far as I am concerned, on Dry Dock 5 in Hawaii?

Ms. MAURER. Yes, absolutely, Madam Chair. We have some open recommendations to the Navy that they fully adopt some of the best practices that GAO has established over many years on cost estimation and scheduling large projects like the project at Pearl. Our most recent report on the SIOP effort last year, we had a couple of new recommendations that I think would be helpful. One is encouraging the Navy to take a look at design and risk analysis throughout the lifecycle of large projects like what is going on at Pearl, as well as to ensure that they are seeking out the opportunity for independent cost estimates, as well.

Senator HIRONO. Admiral Kilby, are you taking those considerations to heart?

Admiral KILBY. Yes we are, ma'am.

Senator HIRONO. Thank you. I will certainly followup.

For General Mingus, the Army is negotiating renewals for several training areas and land leases in Hawaii, very critical.

Pohakuloa comes to mind, and if we do not negotiate that land lease successfully I think that it would very much compromise the Army's and the Marines Corps' ability to conduct these very needed exercises.

But one of the requirements that I put into last year's NDAA is there should be an official designated responsible for coordinating the lease negotiations and reaching out to particularly the Native Hawaiian community. As far as I know, such a person has not been designated, even if I believe the time has passed. Can you update me on whether or not a person has been identified, and if not, when is that going to happen?

General MINGUS. Ma'am, the bottom line is I think it is going to be very soon. The DepSecDef directed the standup of the cell itself in January. They have not identified a lead, but I think it is very close.

But we, in the Army, are taking this very seriously. As you know, General Flynn has been very engaged since the beginning, held several town halls. We have had the initial environmental impact studies done. He has got another town hall coming up this month. We are attuned to the cultural sensitivities of this particular issue, absolutely, and we also are attuned to the fact that 2029 seemed a long way away, but it is going to take us every day between now and then to get us there. We look forward to working with you on this, and your team, as well.

Senator HIRONO. I cannot make it any clearer how important this aspect of the negotiations is, especially if there are groups, particularly I would say the Native Hawaiian community, for whom that mountain, on which Pohakuloa is located, is a sacred mountain to them. To not take that into consideration is going to be, in my view, at our risk.

Admiral Kilby, the Navy submitted a legislative proposal to Congress seeking authority to send up to six U.S.-based ships a year to foreign yards, i.e., in Japan, for repairs, to prepare for potential contingencies. While I am in favor of keeping the ships we have in optimal conditions, I think it is shortsighted to outsource maintenance, especially when the Navy's own shipyards are in such disrepair, why SIOP is so important.

For example, the surface ship repair piers in Pearl Harbor are in poor shape, with only 4 of the 13 berths available to conduct ship maintenance. I would think that we should be bringing those berths up to par as opposed to sending U.S.-based ships to other places to be maintained.

Instead of asking for authority to do overseas maintenance on U.S.-based ships, why isn't the Navy simply sending the ships already based overseas into these foreign yards for maintenance and repair? My understanding is there are dozens of ships already, for example, in Japan, that could be repaired. Why ask to have ships that are in the U.S. sent off to these foreign places to be repaired? Can you respond to that, Admiral Kilby?

Admiral KILBY. Yes, I can, Chair Hirono. Thank you. The concept behind the legislative proposal is to try to understand where we have places outside the United States in time of war that we could rely on for the repair of our ship. The general concept is short duration availabilities for those ships that are on deployment from

CONUS, not to at all diminish the work we need to do at our domestic yards and for work packages.

So I do not see any impact. If anything, we can get some work done and do more work, deeper, when those ships return to their normal schedules. So there is no desire here to impact our own industrial base at all and their ability to repair our ships. We would like to know, though, who our partner nations and their repair facilities are, who we can trust to send our ships should we need to do that. So it is meant to just explore and understand where we have partnerships.

For your specific question about forward-deployed ships, they deploy on a different cycle. It is called a patrol cycle, both in Japan and Rota. So they typically go out for 3 months and come back for 3 months. They have an ecosystem within their own shipyards, whether they are in Japan or Rota, to take care of those ships. So we understand how those work right now, from a forward-deployed naval force perspective.

Senator HIRONO. Well, frankly, before I would be convinced that we should authorize these six ships, so I would definitely like to engage with you further so that we can be on the same page. Thank you.

Senator Sullivan.

Senator SULLIVAN. Thank you, Madam Chair. Admiral, I want to continue following on shipbuilding. You know, the Secretary of the Navy's statement from April 9th was kind of a shocker. All four of the major programs, including the first *Columbia*-class sub, the new block of *Virginia*-class subs, the USS *Enterprise* carrier class, and the first *Constellation*-class frigate are all several years behind in terms of shipbuilding. That is kind of as bad as it gets, in my view, particularly when, as I mentioned in my opening statement, the PLA [People's Liberation Army] is cranking out 10 to 12 high-end ships a year.

So more specifically, only 66 percent of the attack submarine fleet in the U.S. Navy is available for operations. Amphibious ship readiness is at 32 percent, which is stunning. That impacts your United States Marine Corps. The latest fiasco with the USS *Boxer* deployment underscores a huge problem with amphibs.

So my question, Admiral, and I know you and I have talked about it, let's assume there are no cost restraints. Let's assume there is no—I mean, we have workforce issues—budget limitations. If you had a magic wand, and you are very smart and have a lot of experience in this world, what would you do to kind of start to fix this problem?

One of the things I was disappointed in, when the Secretary puts out this statement, shocking statement to everybody—by the way, great statement if you are an American adversary, like holy cow, look at that. These guys can't do anything right. But there was not a plan to fix it. So if you had a magic wand, what would you do to fix it?

Here is the reason why I am asking the question. This Committee, we just had a strategy session this morning, all the Republican Senators, we are ready to do big stuff—new shipyards. You know, I happen to think the idea that Senator Hirono was critical of you on might make sense during wartime. But what do we need

to do? Because we are in kind of willingness mode. Everybody sees this as a crisis. But we need leadership from the Navy, and to be honest, I do not think we have it.

So what would be the top three or four things? Again, no budget constraints, no nothing. Given your experience, here is what we should do.

Admiral KILBY. So two different parts to this question or this answer for you, Senator. Thank you for that. There is a ship production piece of that——

Senator SULLIVAN. Yes.

Admiral KILBY.—and there is a ship repair piece to that.

Senator SULLIVAN. Correct.

Admiral KILBY. So let's start out with the ship production piece. That is what the submarine industrial base investments are designed to get after, and they will also affect our repair business, as well. But specifically, that will address our nuclear force. Those are what nuclear investments are made to get after. We also have a surface ship investment, where we have invested almost \$1 billion to try to get suppliers and vendors to help our conventional surface ship, as well.

You have highlighted the issues, at least at some of the production yards, our workforce, and I would say experienced workforce. In some yards we have a very green workforce, so we have lost years of experience through a number of things and we have to build that up, which comes from workforce development and the investments we are trying to make.

So I think there is a piece of that where we just have to make those investments and let them take, and monitor and watch it take hold and see if it is trending the way we think it should trend.

From the repair perspective, we need to get after the business of how we do shipyard maintenance, both in our private yards and in our public yards.

Senator SULLIVAN. Do we need more shipyards, either private or public shipyards, for the U.S. Navy?

Admiral KILBY. I think it would be helpful to have—this is an indirect answer—I am not sure if I need more shipyards to make ships. I need more yards that can outsource work if those shipyards cannot handle it, and we are doing——

Senator SULLIVAN. On the maintenance side or on the production side?

Admiral KILBY. I think both. I think both, sir.

Senator SULLIVAN. Okay.

Admiral KILBY. I think some of those yards could help our nuclear community, as well, as long as they are qualified and pass standards.

Senator SULLIVAN. How about the disaggregation? I have been digging into shipbuilding a lot, as much as I can, my team has. But, I mean, does it make sense to build subs and carriers? I mean, should our yards be, hey, this is only subs, this is only carriers, this is only frigates. Can we do that? Is that kind of specialization helpful in terms of the ability to crank out ships?

Admiral KILBY. I am not sure. I will have to take that question and get back to you, Senator. You know, Huntington Ingalls in

Pascagoula does a great job. They have a wonderful plant, where they are able to produce multiple ships. So it can be done.

[The information referred to follows:]

Admiral KILBY. The foundation of a healthy shipbuilding industrial base remains stable, executable acquisition profiles that promote private sector development and retention of highly-skilled workforces and investments in world-class manufacturing and shipbuilding facilities, while allowing the shipbuilders to maintain a reasonable return on investment. The current limiting factor in the shipbuilding industrial base and associated supply chain is the lack of a skilled labor pool to adequately staff shipyards, original equipment manufacturers, suppliers, ship designers, and associated supply chains. The Navy is focused on growing and modernizing the shipbuilding and repair base as a national security imperative through thoughtful acquisition strategies, targeted industrial base investments, increased collaboration with both Government and industry, and working with our allies and partners to identify and leverage opportunities to share best practices and promote foreign investment into our Nation's existing shipbuilding industry.

I think there is a real estate piece to that, the size of the yard and their ability to be able to handle multiple lines, and are they facilitized to use computer-aided design. I think that is ultimately helpful to them, as well.

Senator SULLIVAN. Okay. Well, I will tell you this, Admiral. There is a lot of interest in helping the Navy, a lot. If you guys have big ideas, my own view is this Committee would embrace them, big ideas. Because we have got to get by this. If the Chinese keep cranking out 10 to 12 ships a year, and we are struggling the way the Secretary, in his statement, put it out, we are going to be in a real big hurt locker, if we are not already in one.

Let me ask General Mahoney a related question. The ARG/MEU [Amphibious Ready Group/Marine Expeditionary Unit] team is one of the most important elements of American readiness. I mentioned the amphibious readiness at 32 percent. I mean, holy cow. No ARG has been ready on time in the past 2 years in the INDOPACOM theater, our most important theater. Again, that makes the Chinese happy.

Then, General, the Marine Corps has said, in terms of force design, the marine littoral regiments need about nine LSMs per MLR. The Navy, I think, is on budget to produce eight LSMs by the early 2030s. So that is a giant disconnect with what you guys say you need in terms of force design and what the Navy is producing.

Publicly, the Marine Corps has been saying, well, the LSM procurement plan seems fine, but the LSM procurement plan, from my math, does not seem to add up at all. If you need nine LSMs for each marine littoral regiment and there are three marine littoral regiments, that is 27 LSMs. The Navy right now is saying you will get 8 by the mid 2030s. So isn't that undermining the amphibious readiness in terms of the Marine Corps' new force design, as well, General?

General MAHONEY. Senator, thanks. The LSM, as you rightly noted, is a key enabler for the movement, mobility, and sustainability of the MLR in the littorals. It is late to need. The initial procurement year was supposed to be 2022. The way it is programmed right now is a single ship in 2025, one in 2026, and then two each in 2027, 2028, and 2029, for a total of eight. You are correct. We will not see critical mass until the early 1930s in pursuit of our requirement of 35.



Between then and now, what we have done to fill that gap, vice just stare at it, have invested in leased vessels, invested in alternate platforms, expeditionary fast transport——

Senator SULLIVAN. But those are clearly suboptimal to the LSM. Correct?

General MAHONEY. They are not ideal, Senator. As a bridging solution they are not ideal.

Senator SULLIVAN. I mean, I appreciate the Marine Corps getting on the issue and having a bridging solution, but, you know, as I have said in many hearings—and I am going to ask about force design here in a second—but if the Navy is not investing in force design, Marine Corps force design will fail. I think that is just a fact. I just worry that on a basic concept as important as LSMs, as it relates to marine littoral regiments, it does not look like the Navy is invested.

General MAHONEY. We have the investment in this budget, sir, but I will say we need to go faster. As you pointed out in your opening statement, we cannot have our adversaries putting 10, 12 ships in the water, and we are worried about building, you know, less than that.

Senator SULLIVAN. So General, let me pivot directly to some of the Marine Corps force design issues. The Marine Corps recently decided to reactivate HMLA-269, which was deactivated in 2022, in accordance with initial force design plans. One of the major criticisms of force design was General Berger's "divest now to invest later" strategy, where there was a very significant divestment of proven combat power for future weapons systems to come on board, leaving a gap in combat capability.

General Smith has said that he would recalibrate force design to meet emerging threats. Obviously, this HMLA-269 decision is a recalibration, which I think it is good to see him doing that.

What other examples of recalibration can you provide the Committee with, with regard to force design, that the Marine Corps is either undertaking or contemplating, and are you still focused on three MLRs or is that now going to two?

General MAHONEY. Senator, one of the parts of the force design thesis was to take your assumptions, challenge them, validate them, wargame them, test them, learn from them, and refine. In the case of HMLA, which went from seven squadrons, originally envisioned to five, and then we adjusted in that calibration of our assumption cut us too thin, back to six, four on the West Coast and two on the East Coast.

We are looking at the same for a soft support capacity with our heavy lift, when CH-53K comes aboard.

Senator SULLIVAN. So that is another force design recalibration that you are looking to add back, heavy helo lift capability that was cut as part of force design?

General MAHONEY. As part of inventory management, yes, Senator.

Senator SULLIVAN. What about your F-35 cuts that were pretty dramatic?

General MAHONEY. Just as a matter of clarity, none of the programs were cut. We have bought the HMLA program, 369 airplanes, 189 AHs, 160, I think H-1s. We have bought out the V-

22 program, we have bought out KC-130s, and we will buy out 200 CH-53Ks. What we are doing within that buy is managing the inventory based on global force management, based on mag cap training, based on individual and organic training, making sure that we can make that demand and managing the fleet accordingly. We did not divest any tails, so to speak.

Senator SULLIVAN. Right, but they were not going out to the fleet, or some of them were not going out to the fleet.

General MAHONEY. That would be correct. The fleet would drive the demand, and then we would adjust the inventory to meet that demand. We started flying F-18s, and they were engineered for 5,000 hours.

Senator SULLIVAN. Let me ask real quick. The *Boxer*, how significant is that to West Coast MEU/ARG readiness?

General MAHONEY. All the big decks are critical. We are out of balance right now. The statute calls for 10 and we have 9. When Bougainville delivers we will have 10.

Senator SULLIVAN. Okay, and have you been in contact with your Navy comrades here on this very critical topic, that is the Navy-Marine Corps team?

General MAHONEY. Yes, constant contact, sir.

Senator SULLIVAN. Okay. Let me ask General Mingus. I am going to get back to you, 11th Airborne Division, as far as I can tell, and maybe you can provide me an update, morale is good. We love this unit in Alaska. One of the things, though, that I have been a little bit concerned about is the MTOW recognition of the higher costs of operating in the Arctic, just across the board, the ability to do anything, the ability to have weapons systems that work in 20 below, the ability to have the equipment, the gear, snow tires, right. I mean, these are all big issues, and they cost more.

So you and I have talked about it. I just want to kind of, in this hearing, get your commitment that as you are looking at the cost requirements, the MTOW of the 11th Airborne, that it is going to reflect the additional costs that would be appropriate for the operations that this unit is doing in Alaska, and don't just cookie cut, hey, you have got the 11th Airborne in Alaska, the 82d Airborne on the East Coast, we are going to make the costs the same. Well, they are not the same. To have success in Alaska it is probably going to cost more with that airborne unit. Can you comment on that, General?

General MINGUS. Yes, sir. Thank you. Not only do you have my commitment to you but I also have no choice because the Chief of Staff of the Army has directed me to fix it, so that is my goal.

Senator SULLIVAN. Good.

General MINGUS. That is one of the reasons why I personally went up there, here just a little while ago.

Senator SULLIVAN. Would you agree with my assessment that the costs of just operating in that environment is not going to be what the 82d Airborne deals with?

General MINGUS. Yes, sir, and it is going to be more because they still have to be able to go fight in the jungle too. So they have to have equipment to go to the Philippines, or go to Japan, or go to South Korea, but they also have to be able to operate in Alaska. So they are going to have a very unique MTOW, and it is not just

the equipment. It is the mechanics and all the other things that go with it to sustain it, to maintain it, and ensure that it operates in that environment.

So it is physically in the building with me now. We are working that. When I was up there I told Brian Eiffler, who had personally sent it to me. I have got it, because we do not want this to be a bottom-up. We want it to be a top-down driven process, and that is what we are doing now, sir.

Senator SULLIVAN. Thank you. How is morale up there, when you were there with that unit? I think General Eiffler has done a great job up there, but, you know, we have had this very high-level rash of suicides, shockingly high, that you never want to jinx it but it seems to be under control. Do you think that is because these soldiers have a really good mission, really good training, you know, a really good unit. The 11th Airborne is a very storied unit that you guys reactivated, which I think was great.

What is your sense of the morale there, and do you think we have—again, you never want to jinx it, but do you think we have that very troubling issue of high suicides rates more under control in Alaska?

General MINGUS. Sir, the data suggests the trends are all moving in the right direction, and I do not want to over-characterize based on a single visit, but my sense, when I was up there, is that that unit is in very good shape. Probably the single biggest thing, beyond the leadership, which is the biggest thing, the leadership up there has really taken ahold of this and owned it. But just the conversion into a mission that they can actually accomplish, as they move from a striker to a light brigade, they have embraced that. The climate and the culture associated with a light infantry brigade, it really fits much, much better for them up there.

Senator SULLIVAN. It is tough training, hard training, and then that headquarters now is a warfighting headquarters versus an admin headquarters. Correct?

General MINGUS. That is correct, sir.

Senator SULLIVAN. Okay. Thank you very much.

General Slife, I wanted to followup on our conversation just the other day. I appreciated all the time you gave me 2 days ago in my office. On the 18th Fighter Interceptor Squadron, I appreciate, again, the pressures that the Air Force is under. As I mentioned, that is actually a pretty motivated dual mission, with some great airmen, who are doing great work. Both as Red Air for the JPARC [Joint Pacific Alaska Range Complex] RED Flag exercises, and then they are going out and intercepting Bear bombers, which does not make the news down here in the Lower 48. But the Russians are doing Bear bomber runs against Alaska every month now, sometimes with armed escort fighters, and your young men and women are going out and intercepting these guys, that unit.

How are we optimizing that, given the cuts that the Air Force had? I just was chatting with General Nahom this morning. The plans that seem to make a lot of sense, even though you are trying to get rid of these F-16s, can we be assured that that unit will stay there, in that dual-capacity role, and do you think that is the appropriate dual-capacity role? As you know, it frees up our fifth-gen fighters to do the high-end fight as opposed to sitting alert, you

know, F-22 sitting alert mission, getting ready to go intercept Russian Bear bombers in Alaska. But what is your assessment on that, General?

General SLIFE. Senator, we think it is a winning idea. We intend to keep that unit there, and I expect that we will be able to retain 12 aircraft there. I believe what you and I talked about was 10, which we judged to be the minimum. But, you know, budgets are a snapshot in time, and as we have gotten more experience operating that squadron in the new mission we believe that we can maintain it at 12 aircraft, and we will continue to evaluate what the right size of that unit is in future budget cycles. But yes, we intend to keep it there.

Senator SULLIVAN. Great. You know, I asked Secretary Kendall about the KC-135 down at Eielson. You know, I have been talking about this issue for a long time with the KC-46s. I am a big fan of Secretary Kendall. Surprisingly, to me, in his posture hearing he seemed to walk that commitment back a little bit, which kind of surprised me.

I take very much your good counsel you provided me in our meeting recently about, hey, this is an all-in and we have got to make sure we deal with the housing and schools. I get that. I think it is a really important point that you were raising, and I have already raised that with some of our leadership back home in Alaska. But we are going to keep working the housing issue. That is really important, and we understand that.

Can you reaffirm that commitment on the KC-135? That is an important issue. It strategically makes complete sense, as you know, given how strategically positioned Alaska is. Again, I was a little surprised Secretary Kendall, who had made several commitments to me on this, seemed to be walking that commitment back in his posture hearing, which I am concerned about.

General SLIFE. Yes, sir, I can. I can reaffirm the commitment. We have already moved one additional KC-135 there, and as soon as we can work through some of the infrastructure issues and so forth, as we talked about, remain committed to putting the other three there, as well, just as soon as we can.

Senator SULLIVAN. Great. Thank you on that.

General Mahoney, I want to go back to force design. You know, one element that was moving forward under General Berger, then it kind of got dropped—I am sorry, under General Neller—and then it kind of got dropped, was this idea of kind of much more high-end Marine Corps training in Alaska. I had a good phone call with General Smith the other day. As you know, he and I were planning on going up to Alaska to walk the ground.

But in terms of training, which is second to none in my State, the ability to do littoral regiment training on the Aleutian Island chain, that is a very real-world mission. You have got Russian and Chinese joint naval task force coming off the coast of Alaska the last two summers, big ones, 12-ship joint naval task force last summer. Putting an MLR on the Aleutian Islands with capable weapons systems to take out Chinese and Russian ships would have been nice to have. The ability to train year-round—at one point General Berger told me you can only train 6 months out of the year in Alaska. I am still wondering what 6 months he was talking

about. It is the best training in the world. You have joint forces that would love to train with you. JPARC is the best air training probably on Planet Earth that you can do combined and joint operations.

The Marine Corps, in my view, certainly needs to get back to cold weather training. Of course, we do some in Norway, but high-end stuff you can do in Alaska, and then you are close, right, to Japan, to Korea, to Taiwan, if the balloon goes up. So my discussion with General Smith was really positive on that.

Can you give me an update, from your perspective, on the potential of this issue? Like I said, it was something that seemed to have a lot of momentum under General Neller. It was not even something I was involved in. It was just what the Marine Corps was doing. Then it lost momentum under General Berger. I think it makes sense, strategically, training-wise, for the Corps to look hard at this.

General MAHONEY. Senator, thanks, and I agree with you. As a fighter pilot who did the old Cope Thunder days of old in Alaska, then Red Flag, Northern Edge, Arctic Response, that training range is outstanding.

General Smith has reenergized our ops section, and I think he is committed to sending our PP&O [Plans, Policies & Operations], DC Aviation, and importantly, Marine Forces Reserve, to look at our Reserve component and how they can also align to exercising in Alaska.

Senator SULLIVAN. Great. Well, I look forward to working with you and General Smith and the entire leadership team on that issue, so thank you on that.

General Guetlein, I wanted to mention, in terms of the facilities and infrastructure that are crucial to the Space Force mission, I know that you are in the process of, and I think you have already handed off the Long Range Discrimination Radar System at Clear Air Force Base in Alaska, that is now fully Space Force. What do you need from the Congress, if anything, on transitioning not just those kinds of facilities, the ones in Alaska, but also any other place in the U.S. that relates to infrastructure to the Space Force's needs, that may have been or might still be Air Force infrastructure, and how is that going?

General GUETLEIN. Senator, we have taken responsibility for all of our FSRM and MILCON globally.

Senator SULLIVAN. So are you done with that, like that transition with the Air Force is complete?

General GUETLEIN. From a funding perspective and the ownership, yes, sir.

Senator SULLIVAN. Including Clear?

General GUETLEIN. Including Clear. But we still rely on the Air Force for the non-core space functions. So our CE members are Air Force members.

Senator SULLIVAN. Do you plan on changing that, or that is just going to be a joint kind of capability that you are now sharing with the Air Force?

General GUETLEIN. Sir, for the foreseeable future that will be the arrangement and the relationship that we have with the United States Air Force. When we stood up the Space Force we inten-

tionally stood it up to be lean and flat. We only took on the core space functions of space operations, intelligence, cyber, and force modernization.

Senator SULLIVAN. Can I ask, one issue I have raised it with the Chief of Staff of the Air Force, and I just want to put it on your radar. My understanding is that the deployments still out at Clear are 1 year unaccompanied deployments.

General GUETLEIN. Correct.

Senator SULLIVAN. You know, you might have an intrepid young captain who wants to bring her husband and her three kids to Alaska for a 2-year deployment, or a 3-year deployment. There is a wonderful community, Nenana, that is only about 15 miles away, that would love to host Air Force families.

The last time I checked into this, the Air Force, and now I guess the Space Force, has said that if there is a desire for not a forced unaccompanied tour but a 2-year tour or 3-year tour with family that you would consider it on a case-by-case basis. Am I describing that policy correctly? Or do you know, or do you want to get back to me on that?

General GUETLEIN. You are, but I would like to get back to you with the full details. We have both guardians and airmen at Clear, and I want to make sure our policies are aligned. But I do believe that is the way we are approaching it.

Senator SULLIVAN. So I think it would be best for the community and the airmen. Look, nobody likes doing 1-year unaccompanied tours. They are hard on families. If there was a way that you could start looking at that—again, do not force it, but if a young captain wants to come up with her husband and kids, you know, I know certain groups would love that. It is adventurous, beautiful, and the communities there would love to embrace them. So it is just a thought that we want to kind of build on.

General GUETLEIN. Yes, sir. I appreciate that. It is a beautiful area.

Senator SULLIVAN. Yes, and by the way, another great thing that you guys did, I mean, you tell me. That is the most sophisticated ground-based radar site on the Planet Earth, and you guys built that on time, under budget.

General GUETLEIN. Correct. That was one of my responsibilities at the Missile Defense Agency was building that site, and it is an amazing radar, the best on the planet.

Senator SULLIVAN. It is amazing, so thank you on that.

Then finally, Ms. Maurer, you have got 120 recommendations. Give me your top three for readiness and lethality and the ability to beat the Chinese in a war. Your top three.

Ms. MAURER. Sure. I am going to talk in clusters of recommendations.

Senator SULLIVAN. You are kind of cheating, but that is okay.

Ms. MAURER. I know. I know. So I would put F-35 sustainment in that bucket.

Senator SULLIVAN. As number one?

Ms. MAURER. As number one, because that is vital not only to the Air Force but it is a critical part of what the Marine Corps and Navy want to accomplish and need to accomplish, not just today but obviously in the future.

The second bucket has to do with fixing Navy ship sustainment, and more specifically Navy ship maintenance. There are a lot of different aspects of that. I think that is going to be a critical thing to keep following on.

Senator SULLIVAN. Does your report have big think, bold ideas on that issue?

Ms. MAURER. We think that we have had a whole series of report, with a number of recommendations, to fix Navy maintenance, at the depot level, the intermediate level. We have a draft report we are doing right now on sailor-led maintenance that has some big, bold recommendations, that will be coming out later on this year.

Senator SULLIVAN. Great.

Ms. MAURER. The third cluster is around this issue of force generation sort of writ large. You know, there is a lot of talk and a lot of focus on developing and deploying new technology, and that is tremendous. But the real challenges start once the new technology is available. So recommendations around making sure there are sufficient facilities, sufficient training, that there is a sufficient logistics system and structure put in place to fully enable the services to take advantage of those technologies. That theme cuts across a lot of different reports and recommendations.

Senator SULLIVAN. Great. Great work.

Well, again I want to thank all the witnesses for your testimony. I want to thank all the witnesses for your literally decades of service to our country. We very much appreciate it for your leadership.

The members of the Committee will have 2 weeks in which to submit additional questions for the record. We respectfully request that you get those back to this Committee in short order. I do not know what the official timeline is but some quick turnaround. We look forward to working with the leadership of all the services and GAO on these important issues. Again thank you, gentlemen and Ms. Maurer, for your exception service and excellent testimony today.

This hearing is adjourned.

[Whereupon, at 3:42 p.m., the Subcommittee adjourned.]

[Questions for the record with answers supplied follow:]

#### QUESTIONS SUBMITTED BY SENATOR MAZIE HIRONO

##### SHIP MAINTENANCE ISSUES

1. Senator HIRONO. Admiral Kilby, the Navy submitted a legislative proposal to Congress seeking authority to send up to 6 U.S. based ships a year to foreign yards in the Indo-Pacific for repairs to prepare for potential contingencies. While I am certainly in favor of keeping the ships we have in optimal condition, I think it is short-sighted to outsource maintenance, especially when the Navy's own shipyards are in such disrepair. For example, the surface ship repair piers in Pearl Harbor are in poor shape, with only 4 of the 13 berths available to conduct ship maintenance. Why isn't the Navy investing in these badly needed repairs to our shipyards at home instead of outsourcing the work?

Admiral KILBY. The U.S. Navy proposed amending current restrictions on ship maintenance to improve the Surface Wartime Repair and Maintenance (SWaRM) program. This program, crucial for sustaining operations in contested environments, is constrained by current regulation limiting scheduled maintenance in foreign ports to ships not homeported in the U.S. or Guam. Allowing U.S. and Guam-based ships to participate in SWaRM exercises in foreign ports allows for realistic wartime repair and maintenance training and enhances collaboration with international part-

ners. The proposed NDAA language provides assurances that maintenance executed under this new authority will not have a significant impact on our stateside industrial capacity. To reiterate, the proposal is not related to any assessment of stateside capacity or infrastructure. This proposal aligns with GAO recommendations to improve battle damage repair capabilities.

With respect to the Navy's shipyard infrastructure and maintenance capabilities, the Navy is prioritizing infrastructure investments and industrial plant equipment procurement under the Shipyard Infrastructure Optimization Program (SIOP), a comprehensive, long-term recapitalization of the Navy's four government owned and operated shipyards, to meet the Navy's nuclear-powered fleet maintenance requirements.

The Navy is committed to funding SIOP and the program is mature and well underway. Since 2018, SIOP has completed 40 facilities projects totaling \$1.1 billion, with an additional 51 projects worth \$6.3 billion under contract. Projects under construction include Pearl Harbor Dry Dock 5, Norfolk Dry Dock 8, and Portsmouth Dry Dock 1. SIOP has delivered 237 new items of industrial plant equipment valued at \$586 million and has 82 items in procurement.

Additionally, the Navy has developed a corrective action at Joint Base Pearl Harbor-Hickam to improve infrastructure readiness through military construction and restoration and modernization projects.

2. Senator HIRONO. Admiral Kilby, instead of asking for authority to do overseas maintenance on U.S. based ships, why isn't the Navy simply sending the ships already based overseas into these foreign yards for maintenance and repair?

Admiral KILBY. The exclusive use of naval vessels homeported outside the United States and Guam (also known as forward deployed naval forces, FDNF) for overseas maintenance and repair in foreign shipyards would increase the time FDNF sailors are out of homeport (also known as personnel tempo). Exclusively performing maintenance activities on these forward deployed ships would negatively impact high-tempo FDNF operations. It would also fail to realistically exercise the required capability. The use of non-FDNF naval vessels for these repair availabilities helps reduce the operational tempo of already stressed FDNF ships. Furthermore, scheduled maintenance on non-FDNF ships would have limited impact on personnel tempo because the maintenance period can be integrated into the ship's overall deployment schedule.

#### HICKAM AIRFIELD IMPROVEMENTS

3. Senator HIRONO. General Slife and Admiral Kilby, I have serious concerns about the structurally inadequate portions of the runway and old hangars at Joint Base Pearl Harbor-Hickam. The pavement condition is in the red for far too many locations. This undermines our ability to provide a forward location to project power outside the second island chain. To make matters worse, it appears there is no clear resource advocate for Hickam within Navy Installations Command. Have the Navy and the Air Force reconciled the dispute about funding repairs to Hickam Airfield, including adjacent C-17 maintenance hangars? If so, how was the funding allocated between the two components?

General SLIFE. The Department of the Air Force (DAF) and Department of the Navy (DoN) are committed to jointly addressing the Hickam Airfield requirements for the repair of the C-17 maintenance hangars and are developing a 1 to N list of requirements to rehabilitate the airfield at Joint Base Pearl Harbor Hickam (JBPHH). Part of this effort includes development of a long-term and living airfield pavement recapitalization plan while continuing in-house work to execute routine and emergency work.

Admiral KILBY. Department of the Navy and Department of the Air Force have coordinated and are working together to support Hickam Airfield at Joint Base Pearl Harbor Hickam.

The Navy is tracking the requirements to prepare the JBPHH Airfield for OPLAN execution and will continue to work together to ensure the proper prioritization of these projects occur within the congressionally provided funding levels: Annual FSRM for Airfield Pavements (Included in each fiscal year), Bldg 1055, Hangar 35 Docks 1 and 2 Restoration, DV Row Full Depth Repair & Concrete Parking, Generator Project at B1109 (PACAF), Hangar 3 Renovation for PACAF AOC B2045H (PACAF), Hickam Fitness Center & DFAC Renovation Study, Renovate Ni-CAD Battery Shop B2131H, Replace HVAC Units at B988, Row 1 Full Depth Repair & Concrete Parking, Row 2 Full Depth Repair & Concrete Parking, Row 3 Full Depth Repair & Concrete Parking, Row 4 Full Depth Repair & Concrete Parking, Rows



5—6 Full Depth Repair & Concrete Parking, Rows 9—11 Full Depth Repair & Concrete Parking, Rows 12—13 Full Depth Repair & Concrete Parking, Taxilane V & HB/Hangar 19 Towway, Convert AC to PCC, Wing Joint Mission Planning Center Design, Wing Joint Mission Planning Center.

4. Senator HIRONO. General Slife and Admiral Kilby, when will the repairs begin, who is performing the repairs, and when will they be completed?

General SLIFE. Some of the work is expected to start in fiscal year 2025. I defer to the Navy who, as the Joint Base lead, is responsible for executing the repairs, on the details of execution of the projects.

Admiral KILBY. The South Ramp, 9—11 Row Mill and Overlay and Taxiway T/Taxilane HA Convert AC to PCC are scheduled for award by fiscal year 2025 quarter 4. As the projects are currently in acquisition, we do not have the name of the contractor performing the work or the start/finish dates at this time.

5. Senator HIRONO. General Slife and Admiral Kilby, did this process include an agreement on how to monitor airfield conditions for future sustainment, restoration, and modernization efforts—including who would fund it?

General SLIFE. The services have agreed to follow the joint basing guidelines for facility sustainment to include the Department of the Navy's (DoN) policies, procedures, and guidance governing facilities planning, programming, acquisition, sustainment, modernization, new construction, and disposal at JBPHH. To facilitate this, the 15th Air Wing and the Naval Facilities Engineering Systems Command (NAVFAC) are working together to reprioritize airfield projects based upon the 2022 Pre-Construction Notification report and have updated the Long Range Repair Plan. Funding will also follow the joint basing guidelines for sustainment and restoration (DoN will sustain and restore all facilities at JBPHH) and facility and common infrastructure modernization where the DoN is responsible. When the modernization requirement is generated by a new DAF mission or expanded existing mission requirement, the DAF is responsible for the funding.

Admiral KILBY. Department of the Navy and Department of the Air Force have coordinated and are working together to support Hickam Airfield at Joint Base Pearl Harbor Hickam. The Navy and Air Force plan to continue inter-service engagement, specifically between 15th Operational Support Squadron (15 OSS) and Naval Facilities Engineering Systems Command (NAVFAC), to monitor and prioritize airfield projects.

#### ARMY INFRASTRUCTURE IN THE INDO-PACIFIC

6. Senator HIRONO. General Mingus, I have talked a number of times about the State of the Army's crumbling infrastructure in the Indo-Pacific Region. U.S. Army Pacific estimates the total cost to repair all their facilities is over \$8 billion. While I am encouraged to see the Army's overall budget for military construction has increased by \$1 billion this year, there is still a lot of work to do, especially in the Indo-Pacific. What is the Army's long-term plan to replace or repair crumbling infrastructure in Hawaii and the Indo-Pacific?

General MINGUS. Enabling the Army's mission in the Indo-Pacific through targeted investment in our critical infrastructure, especially in Hawaii, is a top priority for the Army. We have requested to invest \$231 million in Active Component construction in fiscal year 2025 to recapitalize Hawaii infrastructure. Over the next 5 years, the Army is proposing to invest over \$1 billion for infrastructure improvements in the Indo Pacific Investments vary from the recapitalization of water supply infrastructure to the construction of a combat aircraft maintenance facility, as well as live fire range modernization to sustain training readiness.

The Army has also requested \$268 million in facility restoration and modernization funding for fiscal year 2025 to support the Multi-Domain Task Force (MDTF), repair critical utilities, and restore permanent party barracks. Additionally, facility sustainment funding in Hawaii equals almost \$200 million annually to help minimize facility degradation and address failed building components.

In addition to the Hawaii investments, for fiscal year 2025 the Army requested over \$600 million in facility funding for the rest of the Indo-Pacific region.

#### SERVICEMEMBER FATIGUE

7. Senator HIRONO. General Mingus, Admiral Kilby, General Mahoney, General Slife, General Guetlein, and Ms. Maurer, earlier this year, the Government Accountability Office (GAO) found that fatigue and sleep deprivation among servicemembers continues to be a significant problem, with roughly two-thirds of servicemembers reporting they sleep 6 hours or less per night. My concern is that fatigue can lead

to accidents, injuries, death, and significant monetary costs. Will each of you please summarize what your service is doing to confront this and what impacts fatigue can have on readiness?

General MINGUS. The Army's Holistic Health and Fitness (H2F) program aims to improve soldiers' overall health, performance, and personal readiness. The cornerstone of H2F is Field Manual 7-22 (Holistic Health and Fitness) that provides doctrine-based guidance supported by empirically validated research for promoting holistic health across five domains. As a soldier optimization program, H2F specifically focuses on physical readiness, mental readiness, nutrition, sleep, and spiritual readiness. The sleep domain highlights the importance of sleep education, sleep duration, sleep timing, sleep continuity, and physical and psychological effects of sleep deprivation and fatigue on human performance and functioning. Problems occur when insufficient sleep degrades the brain's normal functioning and results in both physical and psychological fatigue. H2F's goal with the sleep domain is to enhance soldier education and skills on sleep principles, sleep cycles, understanding of the body and brain's need for sleep, and to address practical and realistic ways to incorporate healthy sleep hygiene.

There are several ways that H2F education and training is currently engaged to maximize sleep readiness and combat fatigue.

H2F encompasses a holistic approach, and all five domains working together to enhance performance and readiness. This holistic approach includes:

- *Education on Sleep Hygiene:* Soldiers receive training on the importance of sleep and how to improve sleep quality. This includes advice on maintaining a consistent sleep schedule, creating a conducive sleep environment, and avoiding stimulants before bedtime.
- *Monitoring and Assessing Sleep:* The program includes tools and resources to monitor sleep patterns. This can help identify soldiers who are not getting enough rest and allow for interventions to be made.
- *Stress Management:* H2F provides techniques to manage stress, which can significantly impact sleep quality. Practices like mindfulness, relaxation exercises, and mental health support are part of the program.
- *Physical Training Adjustments:* By tailoring physical training to individual needs, H2F helps prevent overtraining and ensures that soldiers are not overly fatigued, which can improve overall rest and recovery.
- *Nutrition:* Proper nutrition supports better sleep. H2F offers guidance on dietary choices that can enhance sleep quality and help manage energy levels throughout the day.
- *Recovery Protocols:* The program includes recovery strategies that incorporate adequate rest, including naps and sleep optimization techniques, to reduce fatigue and improve overall readiness.

These components work together to ensure that soldiers maintain optimal health and performance, reducing the risk of sleep deprivation and fatigue-related issues.

Last, H2F will be integrated within all levels of Professional Military Education from Private to General by fiscal year 2025. This education includes training from the five H2F domains identified in FM 7-22 and the importance of healthy sleep. Most recently, an entire day of H2F curriculum is now included into the Pre-Command Course. This curriculum educates every incoming Brigade and Battalion Command team about the importance of the five domains to ensure commands understand and prioritize holistic health and fitness at their units.

Admiral KILBY. Restful sleep for sailors is a significant component of the Navy's consistent pursuit of safe operations, both ashore and afloat. Safe operations manifest in operational excellence. Sailor fatigue and sleep deprivation risk negatively impacting operational excellence as they may be a contributing factor in near misses and accidents potentially resulting in damage and loss to equipment, injury, or death. The Navy has dedicated various lines of effort to research fatigue and its effect on performance, the results of which are then applied to positively affect manning, readiness and operational considerations.

The Navy has established crew endurance and fatigue management policy for each warfare community. This policy has resulted in procedures meant to ensure that sailors have adequate rest periods prior to mission evolutions while also setting mission endurance limits. Additionally, the importance of the body's circadian rhythm drives the method in which sailors are assigned watchbill duties. Sailors are afforded a more consistent sleep and wake schedule based on the body's natural biological processes.

Navy is testing wearable fatigue monitoring systems for their potential to give sailors and their chains-of-command near real-time updates on the State of fatigue.

This provides the individual sailor and his/her leadership the opportunity to make safe, risk-mitigating decisions based on quantifiable data. Research funding is also being allocated to test the suitability of mattresses onboard ships and submarines to provide quality sleep when compared to alternatives.

General MAHONEY. The Marine Corps addresses fatigue across the force through both our Marine Corps Total Fitness (MCTF) program and a system of programs and the Marine Corps Safety Management System (MCSMS).

MCTF is an evidence-based framework that integrates multiple capabilities and leverages existing resources to enhance prevention efforts and support the four domains of fitness: social, spiritual, mental, and physical. This holistic approach to health and wellness helps strengthen both marines and their family. MCTFs interconnected domains equip Commanders with a seamless system to boost readiness and enhance the wellness of their marines. One such example is the Warrior Athlete Readiness and Resilience (WARR) program. WARR includes a focus on developing healthy sleep habits. The second annual WARR Sleep Challenge is being held on Marine Corps installations 3–14 March 2025. The intent of this challenge is to drive awareness of the importance of sleep and how lifestyle factors can have an immediate impact on the quality and quantity of sleep. Participants track their sleep habits and energy levels during the challenge. In addition, more than 80 Semper Fit/WARR program staff have been certified as sleep coaches and provide sleep education.

In addition to MCTFS, the MCSMS includes detailed program that clearly outlines requirements and training for the management of risk both on and off-duty—to include fatigue.

The Marine Corps Risk Management Process directs Commanders to observe off-duty rest periods that are free of work-related requirements to allow for rest or sleep. It also prohibits vehicle operators from driving more than 10 consecutive hours in a 24-hour duty period, and to follow commanders established rest-recovery guidance. For duty related driving tasks, commanders must, at a minimum, conduct a deliberate risk assessment when operations require performing the maximum allowed 10 hours of driving. Such an assessment considers time on duty, the individual's physical condition, driving conditions, and length of travel. Commanders must also incorporate fatigue control measures such as alternate means of transportation or designating rest stops to ensure personnel are sufficiently rested. Travel by personally owned or government owned vehicles is limited to 400 miles per day, with a 15-minute rest break for every 2 hours of driving and a 30-minute meal break for every 10-hour driving period.

In addition to MCSMS, the Marine Corps aviation community also follows the Commander Naval Air Forces (CNAF) Naval Air Training and Operating Procedures Standardization (NATOPS) General Flight and Operating Instructions Manual (CNAF M-3710.7). CNAF M-3710.7 issues policies and procedural guidance applicable to a broad spectrum of users and complements individual type/model/series aircraft NATOPS manuals. These manual addresses sleep, circadian rhythm, limitations on flight time, operational tempo, crew day, and crew rest for flight crew and flight support personnel. In addition to CNAF M-3710.7, Standard Operating Procedures are directed at each squadron, Marine Aircraft Group, and Wing to can provide further limitations based on op tempo and operating environment to mitigate various types of fatigue.

General SLIFE and General GUETLEIN. The Department of the Air Force (DAF) is committed to ensuring our military is the most ready and operationally lethal military in the world.

The DAF has long understood that adequate sleep is a foundation of good health and critical to military performance and readiness, and has published fatigue management guidelines in DAF instructions and manuals.

The United States Space Force (USSF) established Guardian Resilience Teams (GRT) through a partnership with the American College of Lifestyle Medicine (ACLM). The USSF also developed a GRT Sleep Guide (Dec 2023) to promote sleep hygiene and mitigate the effects of the shift work. In addition, the DAF is actively engaged in multiple research projects looking at fatigue management, to include neurotechnology to mitigate fatigue, identifying circadian rhythm biomarkers, impact of pharmacological intervention, and wearable technologies to increase fatigue awareness, to name a few.

Ms. MAURER. Fatigue caused by inadequate sleep can negatively affect a servicemember's military performance and has contributed to accidents resulting in servicemember deaths and hundreds of millions of dollars in damage to Department of Defense (DOD) ships, vehicles, and aircraft, according to our prior work and the

National Commission on Aviation Safety.<sup>3</sup> Fatigue can cause a reduced ability to execute complex cognitive tasks, communicate effectively, quickly make appropriate decisions, and sustain a level of alertness required to carry out assigned duties, according to a 2021 DOD study on sleep deprivation and readiness.<sup>4</sup> In the study, DOD stated sleeping less than 7 hours per night can have significant effects on cognitive, emotional, and physical capabilities that directly affect military performance. These effects include deficits in marksmanship, physical training, decisionmaking, and risk-taking behavior.

DOD and the services recognize that impairment from sleep deprivation can be equivalent to the effects of alcohol intoxication and significantly increases the risk of physical injury. For example, Navy guidance cautions that getting less daily sleep than the minimum requirement can rapidly and significantly degrade alertness and performance, which can lead to mishaps and numerous negative health outcomes.<sup>5</sup> Navy data show that sailor effectiveness declines after prolonged periods without sleep, equating to impairment levels comparable to intoxication.

The services also recognize that sleep deprivation affects medical and force readiness and has financial implications. For example, Navy guidance states that less than 6 hours of sleep per night can lead to servicemembers being more prone to systemic heat injuries.<sup>6</sup> Army Holistic Health and Fitness system documentation outlines that chronic sleep deprivation contributes to medically nondeployable status of servicemembers.<sup>7</sup>

The services have also reported that lack of sleep can lead to mishaps—incidents that result in death, injury, illness or property damage. Mishaps can range from an aircraft crash to an ankle sprain at work.

- The Army has found that fatigue, lack of rest, or lack of sleep was a cause in 8 percent of tactical vehicle accidents between fiscal years 2010 to 2019.<sup>8</sup>
- The Naval Safety Center found that between 2015 and 2019 there were 489 reported instances of fatigued-driving related fatalities, serious injuries, and property damage involving marines and sailors.
- In 2017, the Navy had four significant mishaps at sea, including two collisions that resulted in the loss of 17 sailors' lives and hundreds of millions of dollars in damage to Navy ships, which the Navy attributed partly to sailor overwork and fatigue.<sup>9</sup> According to Navy guidance, after sailors have been awake for 18 hours, their performance, efficiency, and decisionmaking ability rapidly decline to 75 percent of baseline effectiveness or less, and accident rates increase for almost every activity.<sup>10</sup>

More recently, as required by the National Defense Authorization Act for Fiscal Year 2022, DOD established the Suicide Prevention and Response Independent Re-

<sup>3</sup>See, for example, GAO, *Military Vehicles: Army and Marine Corps Should Take Additional Actions to Mitigate and Prevent Training Accidents*, GAO-21-361 (Washington, DC: July 7, 2021) and *Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training*, GAO-21-366 (Washington, DC: May 27, 2021). Also, see National Commission on Military Aviation Safety, *Report to the President and Congress of the United States* (December 1, 2020).

<sup>4</sup>Department of Defense, Report to congressional Armed Services Committees, *Study on Effects of Sleep Deprivation on Readiness of Members of the Armed Forces*, (Washington, DC: March 2021). DOD conducted this study in response to section 749 of the National Defense Authorization Act for Fiscal Year 2020. Pub. L. No. 116-92, § 749 (2019).

<sup>5</sup>Commander, Naval Surface Force, U.S. Pacific Fleet and Commander, Naval Surface Force Atlantic Instruction 3120.2A, *Comprehensive Crew Endurance Management Policy* (Dec. 11, 2020).

<sup>6</sup>Office of the Chief of Naval Operations Instruction 5100.19F, *Navy Safety and Occupational Health Program Manual for Forces Afloat* (May 9, 2019).

<sup>7</sup>The U.S. Army Holistic Health and Fitness Operating Concept, *The U.S. Army's System for Enhancing Soldier Readiness and Lethality in the 21st Century* (October 1, 2020).

<sup>8</sup>In 2021, we found that the Army and Marine Corps reported 3,753 tactical vehicle accidents (e.g., tanks, trucks) from noncombat scenarios resulting in 123 servicemember deaths from fiscal years 2010 to 2019. GAO, *Military Vehicles: Army and Marine Corps Should Take Additional Actions to Mitigate and Prevent Training Accidents*, GAO-21-361 (Washington, DC: July 7, 2021).

<sup>9</sup>We have reported that the Navy has since acted to address sailor fatigue, resize surface ship crews to handle workload, and improve training in the surface fleet. See GAO, *Navy Readiness: Additional Efforts Are Needed to Manage Fatigue, Reduce Crewing Shortfalls, and Implement Training*, GAO-21-366 (Washington, DC: May 27, 2021) and GAO, *Navy Readiness: Challenges to Addressing Sailor Fatigue in the Surface Fleet Continue*, GAO-24-106819 (Washington, DC: October 11, 2023).

<sup>10</sup>Commander, Naval Surface Force, U.S. Pacific Fleet and Commander, Naval Surface Force Atlantic Instruction 3120.2A, *Comprehensive Crew Endurance Management Policy* (Dec. 11, 2020).

view Committee to conduct a comprehensive review of suicide prevention and response programs and found that sleep disruption was a risk factor for suicide. The committee issued a report, and among its 127 recommendations, seven are related to sleep, including providing education on healthy sleep habits during military training and regularly scheduled unit formations. The report also had a high-priority recommendation that duty schedules allow for 8 hours of sleep and minimize the frequency of shift changes.<sup>11</sup>

In March 2024, GAO made nine recommendations to help the department better manage servicemember fatigue, including that DOD conduct an assessment of its fatigue-related oversight structure, assign DOD leadership, and create and maintain a list of all fatigue-related research projects, and that the military services assign fatigue-related leadership.<sup>12</sup> DOD generally concurred with the recommendations and has begun taking steps to address them. For example, the Office of the Under Secretary of Defense for Personnel and Readiness reported that it would create and publish a comprehensive list of all fatigue-related research projects by May 2026.

#### SPACE READINESS

8. Senator HIRONO. General Guetlein, the Secretary of the Air Force recently tasked the Space Force to conduct more complex training exercises as part of his plan for “Great Power Competition.” General Guetlein, can you please talk about what kind of training shortfalls exist today for the Space Force?

General GUETLEIN. The Space Force was lacking in large scale exercise and mission focused training that encompassed multiple operational plans and a complex, large-scale military, operating to fight against a high-end adversary. The USSF’s Operational Exercise, called Resolute Space 25, is a series of nested exercises that increase in scope and complexity, and is focused on addressing the threats posed by near-peer competitors by operating as a critical component of the Joint Force.

The Space Force also lacks an operationally relevant and realistic test and training capability that provides environment for secure, relevant, and effective High-End Advanced Training, Tactics and Testing (HEAT3) and experimentation for a high-end fight against current and emerging threats. Current training infrastructure was designed and built for system proficiency and procedural currency in a benign environment. To address these shortfalls, we are building an Operational Test and Training Infrastructure (OTTI), with \$438 million requested in fiscal year 2025.

9. Senator HIRONO. General Guetlein, given that Space Force guardians who are assigned to Hawaii experience a very high cost of living, do you think a review of alternative housing options would be helpful?

General GUETLEIN. The Space Force acknowledges the unique challenges faced by guardians stationed in high-cost areas, including Hawaii, and is always open to exploring alternative housing options. To support our guardians in Hawaii, the DOD offers two key programs: 1) the Overseas Cost of Living Allowance (OCOLA), which adjusts based on local costs of goods and services, and 2) the Basic Allowance for Housing (BAH). The 2025 BAH rates for Hawaii increased by 10 percent on average, exceeding the national average of 5.4 percent. The DOD also implemented temporary 2024 BAH increases to mitigate the impact of rising rental costs following the Maui fires.

#### OPERATIONAL ENERGY DEMAND REDUCTION IN THE INDO-PACIFIC

10. Senator HIRONO. General Slife, the potential for a next generation tanker in form of a blended wing body (BWB) aircraft would save between 30–50 percent fuel, which would be invaluable to operations in the Indo-Pacific in terms of extended range, sortie generation, and reducing contested logistics vulnerabilities. How significant would a platform like BWB be for the Air Force and what the next steps for this program?

General SLIFE. A blended wing body (BWB) streamlined design is more fuel efficient than the tube and wing design aircraft we operate today, potentially offering more range, refueling capability, and cargo capacity. The Air Force is partnered with JetZero to build and fly a full-scale BWB demonstrator aircraft in 2027. Flight test data and lessons learned during the design, fabrication and assembly will in-

<sup>11</sup> A Secretary of Defense memorandum related to the report’s recommendations directed commanders at all levels to promote mission readiness through healthy sleep throughout the department, in accordance with DOD Instruction 1010.10, among other things. Secretary of Defense Memorandum, *Next Steps on Suicide Prevention in the Military* (March 16, 2023).

<sup>12</sup> GAO, *Military Readiness: Comprehensive Approach Needed to Address Service Member Fatigue and Manage Related Efforts*, GAO–24–105917 (Washington, DC: Mar. 26, 2024).

form future decisions regarding the possible integration of this type of aircraft into the Air Force's force design. BWB designs are being holistically evaluated in collaboration with Air Mobility Command to assess operational impacts in the Indo-Pacific and other Combatant command areas of responsibility.

#### PRIVATIZED HOUSING AND ENLISTED BARRACKS

11. Senator HIRONO. General Mingus, Admiral Kilby, General Mahoney, General Slife, General Guetlein, and Ms. Maurer, in the Fiscal Year 2024 National Defense Authorization Act, we included a number of oversight and management reforms related to unaccompanied housing. For each Service, and Diana as well, how have you all addressed the condition of barracks and housing over the last year and where do you think there are still areas for improvement?

General MINGUS. The Army is dedicated to providing safe, high-quality housing and barracks for its soldiers and families while continuing to balance modernization, readiness, recruiting, and other quality of life initiatives.

- *Barracks:* The Army plans to invest an average of \$2.1 billion annually in the construction, sustainment, restoration, and modernization of barracks for unaccompanied soldiers over the next five years. For fiscal year 2025, the Army is requesting \$2.5 billion in barracks funding. As part of this historic investment, the Army is requesting 100 percent of the requirement to sustain barracks, an investment of \$680 million in fiscal year 2025. Second, we are working closely with the U.S. Army Corps of Engineers to stabilize project cost growth through early involvement in the planning and design processes. Third, as part of these efforts, the Army has stood up a barracks working group which held a summit in December 2023 to discuss barracks management and design. In fiscal year 2025, the Army is requesting \$35 million to hire civilian barracks managers at multiple installations, which will eliminate the burden placed on soldiers to perform barracks maintenance as collateral duties.
- *Privatized Housing:* Starting in fiscal year 2025, privatized housing providers are investing up to \$2.5 billion over the next 3 years on new construction, renovations, and other improvements. The Army, working with the providers, is exploring every option to inject capital into the privatized portfolio, including raising additional debt, sales of excess real property, and additional government equity contributions. The new ground lease amendment language reinforces provider requirements to properly maintain homes and clarifies consequences for non-compliance.
- *Government Owned Housing:* The Army is investing \$403.7 million in fiscal year 2025 on government owned housing facilities. These investments include funding for sustainment, construction of 138 new homes, and renovation of 252 homes. Due to these investments, the Army expects 90 percent of its Army Family Housing will be in good or adequate condition by the end of 2025.
- *Both Privatized and Government Owned Housing:* Installation housing office personnel conduct 100 percent Quality Assurance inspections on change of occupancy maintenance and emergency/Life Health Safety work orders. The Army continues the fiscal year 2020 and fiscal year 2021 NDAA-mandated third-party inspections for all family housing (privatized and government owned/controlled) with estimated completion by end of 2026. In addition, the Army remains committed to combating all environmental hazards within housing and our recently updated policy (February 2024), improved training opportunities provided by the Installation Management Command and oversight focus on mold, lead-based paint, and asbestos-containing material mitigation.

Admiral KILBY. In the past year, Navy has focused on improving the condition of our barracks and our sailors' quality of life. Navy continues to be engaged with the Office of the Secretary of Defense and the other services in developing new standards and share best practices aimed at improving conditions in unaccompanied housing (UH). We developed and initiated "Forging Communities of Excellence," an initiative focused on improvement efforts along three distinct lines of effort (LOE): Facilities Improvement, Management, and Quality of Life.

#### *Facilities Improvement:*

- Under our Facilities Improvement LOE, there were six Navy installations with restoration and modernization (RM) projects awarded to address POOR and FAILING condition barracks, which will result in the improvement of 1,244 bedrooms for our sailors. Our efforts continue in fiscal year 2025 at three Navy installations with RM projects improving 613 bedrooms at those locations.

- We met the mandate to fund and execute 100 percent sustainment funding for barracks, spending \$232 million in fiscal year 2024. fiscal year 2025 is funded at \$235.1 million.
- Standardization of response to service calls has been implemented per Commander, Navy Installations Command (CNIC) NOTICE 11100 (22 Aug 2024). Standardizing maintenance response to emergency, urgent, and routine service calls across all installations ensures alignment with CNIC maintenance standards, priorities, and reporting.
- In accordance with the Fiscal Year 2020 NDAA, the Navy has contracted an independent third-party inspector to evaluate all public private ventures at Naval Base San Diego and Naval Station Norfolk. Inspections began in September 2024 and will conclude in March 2025. Once complete, reports will be prepared to give the DON a better understanding of the overall condition of the units and provide information on potential improvements that will directly benefit current and future residents.

*Management:*

- A new UH maintenance policy guided the establishment and operation of a maintenance team within UH to reduce maintenance request response time. Having timely resolution to maintenance issues demonstrates our commitment to not only ensure a safe and habitable living space but also to sustain our buildings and mitigate further damage. Additionally, this policy note provides clarification regarding work performed in and by UH staff, enterprise military housing maintenance reporting requirements, public works referral, and tracking.

*Quality of Life:*

- We expanded upon the QR code program first introduced in 2022 that allows UH residents to report issues with their residence using a mobile device. The Housing Maintenance Request Service was deployed to four installations—NAS Lemoore, NAVBASE San Diego, NAS Jacksonville and NSA Bethesda as a pilot. A new QR code initiative expands the existing capability by eliminating the manual entry requirement of the Housing Office. The limited release at the pilot locations provides valuable feedback and allows us to address issues prior to deployment enterprise wide.
- CNIC NOTICE 11103 (December 28, 2023) authorizes sailors to use personally owned small cooking appliances in all UH rooms on Navy installations as long as each device has an automatic shutoff feature and does not present a fire hazard. As of July 1, 2024, 58 percent of eligible rooms across the Navy have successfully expanded cooking capabilities for their residents and 28 percent are pending NAVFAC assessment. Fourteen percent are unable to offer the expanded cooking capability due to fire and/or electrical safety issues.
- The Navy introduced a free, high-speed Wi-Fi pilot program on February 1, 2024 at 12 permanent party Navy UH buildings in the Hampton Roads, Virginia area. The feedback and performance metrics from the pilot program were used to inform future expansion implementation requirements.
- A new temperature requirements policy provides temperature standards and guidance to address heating, ventilation, and air conditioning (HVAC) failures/lack of HVAC, and to ensure safe water temperature for the health, comfort and safety of residents in government owned and leased UH. These HVAC standards will aid in prevention and mitigation of heat and cold stress injuries and mold or mildew development. Water temperature standards will aid in prevention of burns, scalding, or bacterial growth. The establishment of a temperature standard creates a benchmark for expectations of each installation to execute.

General MAHONEY. The Marine Corps developed its Barracks 2030 initiative to improve Marine Corps unaccompanied housing. This initiative represents the Marine Corps' most consequential facilities investment to date, focusing on three primary lines of effort: Management, Modernization, and Material.

*Management:* The Marine Corps is professionalizing and streamlining barracks management by transitioning 532 uniformed, collateral-duty barracks managers to 347 professional civilian managers. In fiscal year 2024, 160 contract civilian barracks managers were hired, bringing the total to 200 (contractor supported) building managers, at a cost of \$25 million. In fiscal year 2025, an additional 32 contract civilian barracks managers will be hired, increasing the total of contracted civilian barracks managers to 232. Additionally, a Table of Organization and Equipment Change Request (TOECR) has been developed, submitted, and approved to increase the structure of Marine Corps civilian barracks managers to 115. Hiring actions for

Marine Corps civilian barracks managers are scheduled to commence at the end of quarter 2, fiscal year 2025, and conclude in fiscal year 2026.

To complement these management reforms, the Marine Corps has also fully implemented QSRMax, a QR code enabled, digital maintenance request system that allows marines to submit maintenance requests online using their preferred device and track the status of their requests in real-time. This system enhances communication between marines and maintenance personnel, increasing transparency and accountability. Of note, since the implementation of QSRMax over 10,000 requests have been processed.

With the hiring of contract and Marine Corps civilian barracks managers and the implementation of QSRMax, we envision not only improving upon corrective maintenance but also improving our ability to anticipate and proactively address issues that arise in the barracks.

*Modernization:* The Marine Corps is right sizing, reconfiguring, and recapitalizing the barracks portfolio. As of September 30, 2024, \$148.2 million has been executed for restoration and modernization projects on 11 barracks, positively impacting 4,200 marines. In fiscal year 2025, the Marine Corps issued Authority to Advertise for restoration and modernization projects valued at \$408 million and for design of future projects, affecting 12 barracks and 3,930 marines. Additionally, the Marine Corps commenced its Barracks Utilization Study, aimed at reviewing every single barracks across the enterprise, assessing internal layouts and utilization, with the goal of rightsizing our barracks inventory. To date, 6 installations have undergone the study, with the remaining 15 to be completed by quarter 1, fiscal year 2026.

*Material:* The Marine Corps is implementing standard door security lock systems and standardizing and reducing the furnishings refresh cycle. The Marine Corps is conducting a barracks access control pilot program to test the door security lock systems, with the intent to implement the systems enterprise-wide in fiscal year 2026. In fiscal year 2024, the Marine Corps executed funding of \$20.6 million for modern furnishings in 109 barracks, with deliveries occurring from January to October 2025. To date in fiscal year 2025, the Marine Corps has internally funded and obligated another \$10 million for modern furnishings, impacting 22 barracks. The Marine Corps also expects to obligate an additional \$5.7 million across the remainder of fiscal year 2025, estimated to impact 15 barracks.

In conclusion, the actions we have taken so far are just the beginning. Improvements to barracks are one of the most visible demonstrations of a leader's commitment to their marines. Each year, we make incremental, yet tangible improvements to our barracks, and we will see this through.

General SLIFE. The Department of the Air Force (DAF) is committed to taking care of Airmen and to investing \$1.1 billion in Facility Sustainment, Restoration and Modernization (FSRM) fiscal year 2022 to 2026, more than double the investment over the previous 5 years of fiscal year 2017 to 2021. DAF prioritizes dorm requirements above other needs with dedicated FSRM funds using the DAF Dormitory Master Plan to inform strategic investments to keep good dorms good while addressing systems and components that degrade over time. Further, the DAF fully supports full-time barracks managers and already has a cadre of Airmen Dorm Leaders and Dormitory Superintendents whose primary job is to ensure dorms are safe and that Airmen's issues are addressed.

General GUETLEIN. The Department of the Air Force is committed to taking care of guardians and is making a much needed investment of \$1.1 billion in Facility Sustainment, Restoration and Modernization (FSRM) fiscal year 2022 to fiscal year 2026, more than double the investment over the previous 5 years of fiscal year 2017 to fiscal year 2021. The DAF uses the DAF Dormitory Master Plan to inform strategic investments in dorms while addressing systems and components that degrade over time. Further, the DAF fully supports full-time barracks managers and already has a cadre of Guardian Dorm Leaders and Dormitory Superintendents whose primary job is to ensure dorms are safe and that guardians' issues are addressed.

Ms. MAURER. In our September 2023 report, we found that poor living conditions in military barracks undermine quality of life and readiness, and we made 31 recommendations for DOD to improve its oversight and management of barracks housing.<sup>1</sup> For example, we reported that DOD did not reliably assess conditions. We also found that potentially thousands of servicemembers lived in substandard barracks because DOD allowed the services to waive minimum standards. In addition, barracks managers assigned to oversee day-to-day management of facilities were in many cases not positioned to perform their duties effectively. We also found that service policies on exceptions to requirements for living in barracks varied by mili-

<sup>1</sup> GAO, *Military Barracks: Poor Living Conditions Undermine Quality of Life and Readiness*, GAO-23-105797 (Washington DC, September 19, 2023).



tary service and installation. Further, we found that DOD did not sufficiently assess the effects of barracks conditions on servicemembers, such as through surveys, and that DOD had not established a joint strategy for the services to coordinate and collaborate on improving barracks conditions.

Since we issued that report, DOD has implemented eight recommendations, including clarifying guidance on condition assessments, setting requirements related to waiving minimum standards, reevaluating policies related to barracks managers, adjusting guidance on eligibility for housing allowances, improving resident surveys, and developing a joint strategy to improve barracks conditions across military services. Specifically:

- In July 2024, DOD issued guidance requiring the military departments to conduct complete condition assessments of all permanent barracks every 2 years, and that qualified, trained personnel conduct these assessments.
- In July 2024, DOD issued guidance to the military departments setting requirements for waiving minimum standards on privacy and configuration of barracks, including requiring annual reporting to the DOD Chief Housing Officer on all issued waivers starting in January 2025. Guidance also requires military department secretaries to terminate waivers after 9 months without renewal.
- In January 2025, DOD also clarified guidance to identify appropriate reasons for providing housing allowances to those who would otherwise live in barracks, such as experiences of assault or harassment in barracks.
- In February 2025, the Navy provided documentation that it had reevaluated existing policies regarding barracks manager positions. As a result of the evaluation, the Navy reported replacing military billets with civilian personnel where necessary, and establishing a training curriculum for the position.
- In September 2024, DOD revised questions on its annual Status of Forces survey to include questions on both servicemember satisfaction with barracks housing, and effects on reenlistment decisions. Further, in February 2025, DOD directed the military services to survey all barracks residents through the annual Tenant Satisfaction Survey.
- In February 2024, DOD issued a Resilient and Healthy Defense Communities strategy, followed by an implementation plan in October 2024. Both the strategy and implementation plan identified specific actions required by various entities across DOD to improve barracks conditions.

DOD officials have told us they are taking steps to implement the remaining 23 recommendations, but these actions are still in progress. According to officials, DOD is working to address health and safety issues, incomplete funding information, insufficient oversight, and the feasibility of privatized barracks, among others.

While the department has taken important steps forward in improving barracks conditions, more work remains to ensure servicemembers and their families have access to quality housing, whether they live in barracks, privatized family housing, or in private sector housing in communities surrounding military installations. In addition to implementing remaining open recommendations related to barracks, implementing our outstanding recommendations related to strengthening oversight of privatized family housing, and collecting better information about areas with critical housing shortages, will help DOD address housing challenges affecting servicemembers and their families.<sup>2</sup>

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#### QUESTIONS SUBMITTED BY SENATOR DAN SULLIVAN

##### NAVY FLEET MAINTENANCE

12. Senator SULLIVAN. Admiral Kilby, the Navy's fleet readiness for ships and submarines is well-below the Navy's own stated requirements. The maintenance delays and readiness issue is further exacerbated and inextricably linked to the 1 to 3 year delays across most of the major shipbuilding programs. Fewer ships being produced on time means fewer ships in the water to execute their mission, which increases demand on fewer number of hulls, decreasing the opportunity for those ships to have needed maintenance done. Once more ships are produced there will be a larger demand for maintenance facilities to keep these ships operational. Better

<sup>2</sup> GAO, *Military Housing: DOD Should Address Critical Supply and Affordability Challenges for Service Members*, GAO-25-106208 (Washington, D.C., Oct. 30, 2024). *Military Housing: DOD Can Further Strengthen Oversight of its Privatized Housing Program*, GAO-23-105377 (Washington, D.C., April 6, 2023).

maintenance planning for the surface fleet is improving the sequencing of ship availabilities, but the fleet's readiness is still not where it needs to be to meet combatant commander requests for forces. Do you agree that shipbuilding delays are impacting fleet readiness?

Admiral KILBY. Yes, delays in shipbuilding have a cascading effect on fleet readiness by forcing in-service ships to cover the missions for the ships delayed in delivery, making the readiness of the Active fleet more important. The Navy prioritizes our people and readiness to deploy and fight today, while investing in the industrial base to build and maintain our fleet for tomorrow. We must get our ships, submarines, and aircraft in and out of their maintenance periods on time and on cost.

The Navy will continue to invest in the Shipyard Infrastructure Optimization Program (SIOP) and submarine industrial base (SIB) to support submarine maintenance, increase the health of industry, build supply chain resiliency, and improve our long-term capacity. Navy is working with private industry partners to enhance cost-effectiveness and schedule adherence in submarine maintenance, and this collaborative effort aims to deliver valuable surge capacity for submarine maintenance operations. Navy is continuing its efforts to drive out delays in finishing maintenance availabilities, enabling more players on the field through collaborative efforts with industry.

13. Senator SULLIVAN. Admiral Kilby, what is the Navy doing to ensure it will have adequate maintenance facilities available to service the new ships it plans to acquire?

Admiral KILBY. The Navy prioritizes our people and readiness to deploy and fight today, while investing in our industrial base to build and maintain our fleet to be strategically ready for tomorrow. The Navy continues to significantly invest in the SIOP and SIB to support submarine maintenance, increase the health of industry, build supply chain resiliency, and improve our long-term capacity. Navy is working with private industry partners to enhance cost-effectiveness and schedule adherence in submarine maintenance, and this collaborative effort aims to deliver valuable surge capacity for submarine maintenance operations. Navy is continuing its efforts to invest in the maritime industrial base (MIB), drive out delays in finishing maintenance availabilities and enable more players on the field through its collaborative efforts with industry. The Navy continues to balance loading across maintenance facilities and is continually reviewing and forecasting workload to ensure adequate future capacity.

14. Senator SULLIVAN. Admiral Kilby, crewing shortfalls across the surface fleet have necessitated pulling sailors from ships in maintenance availability periods to fill gaps at-sea meaning ships undergoing maintenance have fewer sailors onboard to assist with maintenance or quality assurance. How is this practice affecting timeliness of completing maintenance availabilities?

Admiral KILBY. There is no data that supports a correlation between lower manning levels during maintenance availabilities and the timeliness of completing maintenance availabilities. The primary reason for maintenance availabilities not completing on time is growth work, or new work that arises during the maintenance availability. This is depot level work accomplished by the shipyard and not by the ship's crew. Sailors play a significant role during maintenance availabilities, including vital work control and quality assurance functions, but the targeted manning actions conducted by the Type Commander are not a significant factor driving maintenance delays.

Manning gaps at sea continue to create challenges across the Surface Force. Deployed ships will continue to be the priority with some level of manning risk being taken by ships in maintenance availabilities. This personnel risk is managed closely by the Type Commander to ensure no ship drops below a level that prevents mission accomplishment.

15. Senator SULLIVAN. Admiral Kilby, what is the Navy doing to reduce maintenance delays and backlogs to meet desired Optimized Fleet Response Plan (OFRP) timelines?

Admiral KILBY. The Navy employs a tiered readiness model that varies unit readiness levels as they cycle through the OFRP, which is designed to ensure sufficient time is dedicated for regular training and maintenance prior to deployment in order to generate long-term sustainable operational availability. On average, at any point in time, about one-third of our ships are deployed around the globe or in post-deployment sustainment; about one-third are completing training and certifications to be the next-to-deploy forces; and about one-third are undergoing critical maintenance and modernization necessary to be ready to deploy again in the future. Typi-

cally, the sustainment phase, which includes deployment and post-deployment, is the longest period of time in the OFRP cycle. Ships in post-deployment sustainment maintain readiness levels to surge for a fight, if called upon, for most of the sustainment phase. Likewise, the next-to-deploy forces finishing their final training and certification phases can also be surged for a fight to respond to crisis.

The current readiness ratings, including current category (C)-ratings, are classified data that is regularly reported to Congress in the “Department of Defense Semi-annual Readiness Report to the Congress.” Navy is currently meeting operational requirements and is seeing improvements in readiness levels but acknowledges key challenges to readiness, particularly with recruiting/personnel and delays with ship maintenance. Navy is also driving cultural change and process improvement measures through efforts such as Perform to Plan, investing in contingent material for depot availabilities, investing in additional spare parts, planning and locking work for availabilities at least 4 months in advance of start, and using multi-year procurement funding for maintenance availabilities. More details can be provided at a classified level if desired.

16. Senator SULLIVAN. Admiral Kilby what is the size of the Navy’s depot-level maintenance backlog on the surface fleet, in dollars?

Admiral KILBY. At the end of fiscal year 2024, surface ships carried a \$1.87 billion depot-level maintenance backlog. This is about \$130 million lower than the end of fiscal year 2023.

17. Senator SULLIVAN. Admiral Kilby for ships you are proposing to decommission early, how much does their maintenance backlog contribute to the decommissioning decision?

Admiral KILBY. Multiple financial and operational factors go into determining if a hull should be selected for early decommissioning. Among them are overall material condition, total ownership costs, backlogged maintenance, and the warfighting relevance of each platform. Legacy platforms that are extremely expensive to repair and maintain and cannot stay relevant in contested environments must be retired in order to invest in the maintenance of other platforms and in essential capabilities the Navy needs. For Dock Landing Ships (LSDs), the rising costs of maintaining the material readiness makes the total operating cost of this ship a less efficient use of resources than investing in the rest of the amphibious fleet. The Littoral Combat Ship (LCS) class is not designed to operate effectively in a Great Power Competition environment and investment in retaining more LCS than necessary would prevent investment in higher priority programs that are better aligned with the National Defense Strategy. Divestment of Expeditionary Fast Transport (T-EPF) class ships enables significant cost avoidance for Navy in support of higher priority programs and aligns the T-EPF inventory to the requirement. The Department of the Navy requirement for T-EPFs is 12 (8 for Navy, 4 for USMC). Following divestment of T-EPFs 1–4, the Department of the Navy will have a total of 12 T-EPS. Operational limitations of the Expeditionary Transfer Dock limit the usefulness of this platform and the cost to maintain them exceeds the relative value.

18. Senator SULLIVAN. Admiral Kilby, if you had a magic wand, how would you increase U.S. ship maintenance capacity?

Admiral KILBY. The Navy’s maintenance operations for non-nuclear surface ships, submarines, aircraft carriers, and aircraft have achieved substantial efficiency gains that have allowed the Navy to leverage existing capacity and enhance operational readiness.

Improving maintenance throughput for non-nuclear surface ships, submarines, aircraft carriers, and aircraft hinges on several key levers. Enhancing workforce capabilities through targeted training and retention strategies is critical to being able to increase maintenance capacity across the Navy. These include optimizing the use of public and private maintenance yards, accelerating SIOP projects, integrating advanced technology such as 3D printing, investing in the MIB supply chain, and implementing streamlined processes.

#### NAVY SHIPBUILDING DELAYS

19. Senator SULLIVAN. Admiral Kilby, imagine you weren’t in a resource-constrained environment or operating under Fiscal Responsibility Act caps, what are the top five changes that the Navy needs to build the fleet needed to effectively meet our worldwide commitments?

Admiral KILBY. In a resource unconstrained environment with the objective of supporting the overall Navy priorities, I would request the following:

*Shore Infrastructure:* An overhaul of our current facilities, at home and abroad, to support warfighting, force generation and, quality of service improvements that support our warfighters and their families in a competitive maritime great power conflict era.

*Strategic Priorities:* The Chief of Naval Operations' recommendations for key investments to reduce risk in executing the Interim Defense Strategic Guidance include Military Construction and acceleration and expansion of Surface Warfare Priority Systems and Aviation Critical Planeside systems to support increased operational demand.

*Support Forces:* Increase operational support capacity by expanding Military Sealift Command's (MSC) auxiliary fleet with Buy-Used authorities and New Construction funding. This allows us to repair, replenish, and rearm air, sea, and undersea resources, prolonging battle survivability and sustainability of systems deployed overseas. Additional support for civilian mariners is key to realizing and utilizing a re-invigorated MSC.

*Manning and Training:* Authority and funding to man an expanding Navy and execute missions across the globe. Those forces will require additional world-class training and facilities.

The objective is to maintain the U.S. Navy into the future as the world's most powerful Navy to preserve the peace, respond in crisis, and win decisively in war.

20. Senator SULLIVAN. Admiral Kilby, if you had a magic wand, how would you increase U.S. shipbuilding capacity?

Admiral KILBY. Health and competition in the shipbuilding industrial base and supply chain are vital to strengthening the shipbuilding and repair industrial base. This effort requires a whole of government approach to rebuild the maritime power of the Nation. Rebuilding the MIB should focus on workforce training and development, incentivizing private sector investment in infrastructure, integrating advanced technology, improving the supply chain, and encouraging international shipbuilding collaboration.

With the help of Congress especially with investments in the submarine and surface ship industrial base to date, and in coordination with local and State governments as well as national organizations, the Navy and its shipbuilders will continue identifying opportunities to generate resiliency and productivity in the shipbuilding industrial base, workforce and associated supply chain.

#### NAVY MANNING

21. Senator SULLIVAN. Admiral Kilby, if the Navy were to resolve the shipbuilding problem, there is still the challenge of adequately crewing more ships? Does the Navy maintain a robust recruiting plan aimed at crewing an influx of new ships?

Admiral KILBY. Yes, the Navy maintains a robust recruiting plan to support the Navy Recruiting New Accessions Mission. Fleet demands, operational requirements, training capacity, separations, retirements, attrition, funding, and future personnel needs are some of the many variables included in the modeling processes used to determine Navy's required recruiting mission. Additionally, although Navy currently has more than 20,000 gaps at sea, given our improvements in recruiting over the past year, Navy has an achievable target of 100 percent inventory manning by 2027. To support this goal, Navy leadership employs a driver-based performance improvement approach to identify and address gaps, track high-impact actions, eliminate execution barriers, and implement solutions that drive measurable improvements toward the goal.

22. Senator SULLIVAN. Admiral Kilby, in the 1980s and early 1990s, several Oliver Hazard Perry Frigates were manned with Active Duty and Reservists to achieve a full crew complement. Has the Navy considered adding reserve billets to ships to assist with the manning gaps at-sea?

Admiral KILBY. The Surface Force faces the challenge of meeting the necessary manning scale to effectively deploy mission capable ships while balancing risk with future force generation requirements and shore support capabilities. The shortage of a ready pool of sailors presents a significant obstacle to achieving optimal readiness levels across the Fleet. Addressing this issue necessitates a total force manpower approach to enhance the recruitment, continued training, and retention of qualified sailors, forging a resilient and sustainable manning structure capable of effectively supporting the operational demands for the Surface Force in peacetime and in conflict.

Over time, the number of reservists assigned to ships has decreased but reserve personnel still do fill at-sea billets today. Full-time, training and administration of

the Reserve sailors on a permanent, rotational basis have dedicated at-sea billets. Part-time, Selected Reserve sailors, leveraged through both voluntary and involuntary mobilization authorities, fill a limited number of vacant billets. The Navy will look for continued opportunities to make Reserve manpower investments toward building additional strategic depth of Reserve personnel with required Navy enlisted and officer classifications needed at sea.

#### AMPHIBIOUS WARSHIP READINESS

23. Senator SULLIVAN. Admiral Kilby, it is now clear that the Navy's decision to not address the rudder issue on the USS *Boxer* when it was discovered during a maintenance period and instead granting a waiver to depart from its design specifications was a mistake that has led to the lead ship in an Amphibious Ready Group to not deploy with the other two ships in its group. What is being done to address how that risk decision was made so it can be prevented in the future?

Admiral KILBY. Navy uses a process that takes technical, programmatic and operational readiness priorities into consideration to develop a plan to operate a ship's system with material non-conformance. The Departure from Specification (DFS) process outlined in the Joint Fleet Maintenance Manual is focused on ensuring ships are ready for tasking. In the case of USS *Boxer*, none of the adjudicated DFSs on the rudder system during her last CNO maintenance availability contributed to the failure of the starboard rudder's upper bearing. The upper bearing, intended to be a life of ship component, materially failed in the ship's 29th year of service. The Wasp-class was originally designed with an intended 40 years of service life.

24. Senator SULLIVAN. Admiral Kilby, the recent fiasco with the USS *BOXER* is a perfect example of amphibious readiness issues. The ship wasn't ready to go for its October deployment date. It went out in April and was back in San Diego days later, with all the embarked marines and their equipment offloaded at the pier. The lead ship in the Amphibious Ready Group is pierside because the Navy couldn't maintain it. There is a provision in the Fiscal Year 2024 National Defense Authorization Act that requires the Navy to regularly brief this committee on Amphibious Warship Readiness. So, what is the Navy doing to improve amphibious ship readiness?

Admiral KILBY. Conducting maintenance availabilities on-time remains a top Navy focus. We are ensuring ships are combat-ready for operational demands. Commander, Naval Surface Forces and Commander, Naval Sea Systems Command conducted an Amphibious Ship Maintenance Study of amphibious ship maintenance performance to identify areas where the force can improve. The study covered broad aspects of amphibious maintenance to include availability planning, execution, modernization, government oversight, and quality control. Navy is making changes in processes to drive delays down, improve maintenance planning, and address poor material conditions. Navy will focus on advanced planning for ship availabilities to ensure they start on time, allow shipyards to order long lead material earlier, and better manage their workforce. Upcoming budget submissions will reflect implementation of these recommendations.

25. Senator SULLIVAN. Admiral Kilby, are there challenges unique to amphibious ship readiness that are different than other classes of ships that explain why amphibious ships have such lower readiness numbers than cruisers and destroyers?

Admiral KILBY. The primary reason for amphibious ship deployment delays has been emergent maintenance. These issues have occurred outside of normal maintenance periods and are exacerbated by the ships' age and previous deployment extensions. In addition, amphibious ships have older engineering plants and the older large deck ships have older steam propulsion systems with limited parts and technicians. They have negatively impacted the Navy's force generation capability, reduced maritime global operational presence, and increased both operational and maintenance costs.

The majority of amphibious ship deferred maintenance is being addressed in availabilities that commenced in fiscal year 2024 or are programmed to start in fiscal year 2025. Age (30+ year old ships), high operational tempo, and obsolescence of parts, systems, and specialized labor are contributing factors to the higher deferred maintenance costs for amphibious ships. Over \$100 million of the \$352 million is specific to two LHDs whose ballast tank maintenance was previously deferred, but this work will be done in their upcoming availabilities that begin in fiscal year 2025. In compliance with the Fiscal Year 2023 NDAA, the Navy subsequently revised our amphibious ship force structure plan to sustain 31 amphibious

ships, and program for this deferred maintenance in their fiscal year 2024 and fiscal year 2025 availabilities.

On June 12, 2024, the Chief of Naval Operations (CNO) and Commandant of the Marine Corps (CMC) signed a Memorandum of Understanding (MOU) on Amphibious Warfare Ship Terms of Reference, demonstrating Navy and Marine Corps full alignment and commitment to amphibious ship readiness. The new terms of reference serve as supplemental guidance to existing readiness reporting criteria and will ensure consistency and uniformity in Navy and Marine Corps amphibious force planning, assessment, and operational mission execution.

26. Senator SULLIVAN. Admiral Kilby and General Mahoney, what progress has the Navy made in coordinating with the Marine Corps to identify the required number of operationally available amphibious ships to meet Combatant Commander demand in the Indo-Pacific theater?

Admiral KILBY. Navy and Marine Corps work together, through the global force management allocation process, to set the number of operationally available amphibious warships, coupled with Marine Expeditionary Units, each year to inform the global allocation of these forces through the Global Force Management Allocation Plan and to meet directed readiness table requirements.

Amphibious ships in the Indo-Pacific theater are permanently assigned to U.S. Indo-Pacific Command (USINDOPACOM). USINDOPACOM conducts nearly all of its maritime operations with its assigned forces and does not usually rely on additional allocation of service retained forces. Other Combatant Commands (CCMDs), such as U.S. Central Command and U.S. European Command, rely on the allocation of service retained and USINDOPACOM forces to conduct their maritime operations. USINDOPACOM, in coordination with its maritime component U.S. Pacific Fleet (PACFLT), sources its demand of amphibious ships by optimizing their assigned operationally available ships. Last, in the event of a crisis in USINDOPACOM, forces could be supplemented by amphibious ships designated as the Immediate Response Force which may be reallocated from other CCMDs.

The February 2024 joint Naval Board between the CNO and the CMC set key priorities for improving and optimizing Navy and Marine Corps amphibious operations. Since the Naval Board, a joint Navy-Marine Corps Integrated Planning Team has met each week, coordinating efforts across all echelons of command within each Service, to meet each of the four priorities established by the Service Chiefs. In June 2024, common amphibious operations terminology between the Navy and Marine Corps was approved by a joint CNO-CMC MOU. Navy uses the language established in this common lexicon to define ships as operationally available. PACFLT and Marine Forces Pacific, in compliance with the common terminology, continue to identify opportunities to support planned campaigning. Additionally, the CNO and CMC endorsed a common amphibious warship readiness reporting mechanism to ensure both services have a shared perspective of the amphibious ship readiness at all times.

General MAHONEY. In 2024, the Commandant and Chief of Naval Operations directed respective staffs to work closely together to refine supporting and supported Commander requirements to ensure readiness of the Navy/Marine Corps team in support of Combatant Commanders' demands. The Marine Corps is working diligently with the Navy for creative solutions to maximize forward presence while the Navy implements new controls in an effort to increase ship availability.

To enhance communication, the Navy and Marine Corps have signed a Joint Memorandum of Understanding aimed at establishing a standardized lexicon for amphibious warship readiness levels (as discussed in question 29).

27. Senator SULLIVAN. Admiral Kilby, what is the current State of readiness for Expeditionary Fast Transport (EPF) vessels?

Admiral KILBY. Twelve of the fourteen existing EPF vessels are at, or scheduled to move to, long-term layberth locations for extended maintenance periods, with most of the previously assigned crew members reassigned to fully operational vessels. These vessels are in lay up because of the need for extended maintenance, and to reassign the Military Sealift crews to higher priority oiler and supply ships. Reassignment of personnel from these vessels is one element of MSC's Workforce Initiative, a comprehensive plan to address civilian mariner retention and recruitment shortfalls, and the resulting crewing shortfalls that are adversely affecting all 61 Government Owned/Government Operated vessels. Two of the twelve EPFs will remain at layberths in the Seventh Fleet area of responsibility while the other ten are in CONUS at locations on the East, Gulf and West Coast. The newest two EPFs, USNS Apalachicola and USNS Cody, are conducting required post-delivery testing

on the East Coast and will proceed to their Post-Shakedown Availabilities this summer.

28. Senator SULLIVAN. Admiral Kilby, what is the current State of readiness for the Landing Craft Utility (LCU) vessels?

Admiral KILBY. The current LCU 1610 class is an aging landing craft that first entered service in the 1960s. Despite the age of this class, the Navy was able to meet all LCU deployment requirements in fiscal year 2024 and is projected to do so again in fiscal year 2025. The long-term plan for this class is to replace them with the new 1710 class LCU starting in quarter 4, fiscal year 2025. Pacific units are scheduled to receive their landing craft first, followed by Atlantic units. Fiscal year 2024 funding was allocated for depot level maintenance on the 1610 class to ensure they remain operational until they are eventually replaced by the 1710 class.

29. Senator SULLIVAN. Admiral Kilby and General Mahoney, I understand the Navy and Marine Corps will sign a document that clarifies the common terminology applicable to amphibious warship readiness. Will that document also apply to Expeditionary Fast Transports, Landing Craft Utilities, and the leased commercial vessels the Marine Corps is using as a mobility bridging solution?

Admiral KILBY. The Amphibious Warship Terms of Reference only applies to Amphibious Warfare ships, which directly support Marine Expeditionary Unit deployments onboard Amphibious Ready Groups, not to Expeditionary Fast Transports, Landing Craft Utilities, or leased commercial vessels.

General MAHONEY. No. The Joint Memorandum of Understanding signed by the Chief of Naval Operations and the Commandant of the Marine Corps on June 12, 2024, specifically targets the standardization of readiness terminology for the Navy's amphibious warfare ships. This scope does not extend to other vessel types, including Expeditionary Fast Transports, Landing Craft Utilities, or leased commercial vessels that the Marine Corps may use as part of its mobility bridging solution.

#### LANDING SHIP MEDIUM

30. Senator SULLIVAN. General Mahoney, the Marine Corps' public position is that it agrees with the Future Years Defense Program procurement profile of 1, 1, 2, 2, 2 for the Landing Ship Medium (LSM). The problem is that each Marine Littoral Regiment (MLR) requires nine LSMs and this would only get eight by the early 2030s. In your opinion, is a procurement profile that does not provide the minimum number of LSMs to move one MLR (assuming 100 percent readiness) adequate given the threat in INDOPACOM?

General MAHONEY. The LSM program is late to need. The top priority is to begin procuring a capability starting this fiscal year.

The initial Navy acquisition strategy was to procure 18, while assessing the USMC requirement of 35, as LSM were delivered and evaluated through employment.

*Changes to LSM program since fiscal year 2024:* Responses to the Request for Proposal (RFP) received in fiscal year 2024 were deemed unaffordable, as they were well over the \$268 million estimated and budgeted for the fiscal year 2025 procurement of the first vessel. Therefore, the fiscal year 2025 NDAA was modified (section 128) to disallow procurement of LSM solicited in the RFP, as defined by the approved Capability Development Document requirements. NDAA offered an "Exemption" to utilize fiscal year 2025 funding to procure a "commercial or non-developmental item."

As a result, the Marine Corps, in coordination with the Navy, revised a list of Top-Level Requirements for modified select threshold values to acceptable levels achievable with currently available non-developmental vessel (NDV) designs.

A Resources and Requirements Review Board (R3B) approved these revised requirements on January 24, 2025, with the intent to procure the first NDV as LSM Block 1 in fiscal year 2025, with incremental procurements to match the initial President's Budget 2025 Plan for eight in the FYDP.

*Littoral Maneuver Bridging Solution (LMBS)* to provide mobility, maneuver, and sustainment to The Stand-in Forces (inclusive of the MLRs) until LSM Block 1 are available in appreciable numbers.

As stated in the question, with original procurement profile of LSM already "late to need," the LMBS was developed, and approved by an R3B in October 2023 to provide near-to mid-term operational mobility and tactical maneuver until LSM reaches initial operational capability. LMBS was originally intended to be a combination of vessels, to include T-EPF, LCU, and chartered vessels, phased into service in theater fiscal year 2024 to fiscal year 2029.

Uniformed sailor and MSC manning shortfalls have delayed deployments of T-EPFs for LMBS, but other opportunities, such as acquisition of LCU 2000 craft, spot charter of RO/RO vessels, and extension of Stern Landing Vessel charters are intended to provide capability to MLRs in the near term.

None of the LMBS vessels meet the full capability intended with the LSM, but employed in the aggregate, these vessels will provide initial mobility and maneuver capability to stand-in forces for the near-term.

31. Senator SULLIVAN. General Mahoney, what are the readiness implications of standing up the first Marine Littoral Regiment prior to having the Landing Ship Mediums ready to support it?

General MAHONEY. Without the Littoral Mobility Bridging Solution (LMBS)\* and subsequent fielding of the Landing Ship Medium (LSM), Marine Littoral Regiments (MLR) will be significantly hindered in executing force closure from home station to their deployed area of operations and tactical maneuver and sustainment while deployed in a littoral operating environment.

However, delays in LSM development and challenges in implementing a bridging solution have forced the 3rd MLR to rely on USTRANSCOM support, limited to force-closure in their deployed area of operations in the Philippines. This support does not enable tactical maritime maneuver or sustainment within their operating area.

By fiscal year 2026, the 3d MLR will be capable of executing its full mission-essential tasks during deployments, assuming adequate naval support within a permissive operating environment and no shift to crisis or conflict. If such a shift occurs, the MLR would lack the ability to close the force from home station, reposition the force once forward, and sustain the force during combat operations. In that case, elements of the MLR already forward located across an island archipelago, would be confined to movement via land, not able to maneuver to critical choke points, not able to reposition to complicate enemy targeting, and either quickly run out of critical supplies such as munitions and unmanned systems, or be forced to receive resupply from less risk-worthy (compared to LSM) strategic air and maritime platforms.

\* LMBS will be a combination of surface naval platforms operationally available in the near term to provide an intermediate capability to the MLR for a period of approximately 10 years, until LSM squadrons are able to meet the operational demand. The target total lift capacity for the LMBS is 116,100 sq ft of cargo and 1,200 personnel, validated in the October 2023 Navy Resource Requirements Review Board process.

32. Senator SULLIVAN. General Mahoney, if the version of the Landing Ship Medium procured in the Future Years Defense Program closer to what the Marine Corps originally envisioned or what the Navy originally envisioned?

General MAHONEY. The Navy and the Marine Corps jointly concurred on the LSM requirements during the requirements process. These requirements supported the maneuver, mobility, and sustainment of Stand-in Forces (inclusive of the MLRs) and were suitable for operational employment and access (shallow draft and beach-ability) within the intended operating environment. Based on the results of the Request for Proposal, we made adjustments that are reflected in the updated Top-Level Requirements. Tradeoffs for functionality, MILSPEC components, and affordability resulted in the current approved requirements.

The newly revised LSM Block 1 requirements for incremental procurement of non-developmental vessels are sufficient to meet the intended Marine Corps scheme of maneuver supporting distributed operations. LSM Block 1 will provide marked improvement over the near-term LMBS solutions and will allow an expanded phasing of capabilities into theater.

33. Senator SULLIVAN. General Mahoney, what attributes in the Landing Ship Mediums procured under the Future Years Defense Program (FYDP) would you eliminate in order to get a larger number of them operationally available before the end of the FYDP?

General MAHONEY. The new LSM block approved does just that—it modifies the original requirements to deliver a more affordable vessel in a timelier manner. The Top-Level Requirements for LSM Block 1 offer sufficient attributes to support the marine scheme of maneuver and distributed operations.

Beyond the ship's attributes, there is a great opportunity to build LSMs by contracting with more than one vendor at more than one yard. The implications for the ship building industrial base are apparent.



## ARMY 11TH AIRBORNE RESOURCING &amp; READINESS

34. Senator SULLIVAN. General Mingus, it is critical that the Modified Tables of Equipment recognize the higher cost of operating in the Arctic. That includes Cold Weather All-Terrain Vehicles (CAT-V), snow machines, snow tires for tactical vehicles, and two sets of extreme cold weather clothing. The snow tires are a serious issue. Right now, all the division's tactical vehicles—Humvees, Joint Light Tactical Vehicles, trucks—all use the same tires they would at the National Training Center in the desert at Fort Irwin, California. These do not provide adequate grip in the snow and ice the soldiers operate in half the year. They use tire chains in training areas but can't use them on the public highways they use to access the training ranges. They deserve a better, safer solution that enhances tactical vehicle mobility. Can you assure me that the 11th Airborne's modified tables of organization and equipment will provide for appropriate equipment and gear that reflects the division's unique mission?

General MINGUS. Alaska is essential to the Army's ability to maintain Arctic capabilities. In line with the 2024 DOD Arctic Strategy, the Army will develop doctrine, training, and equipment to meet the unique requirements of cold weather, mountainous, and high-altitude environments. As we develop capabilities for Army 2030 and beyond, this key terrain also remains an important part of our focus on the Pacific theater. Therefore, the Army will ensure that 11th Airborne Division is appropriately resourced with the soldiers, equipment, and training needed to execute its missions.

The Army recognizes the unique equipment demand associated with serving and operating across the Arctic. I am leading an Army Requirement Oversight Council (AROC) to validate the personal equipment (uniforms, skis, snowshoes) and organizational equipment (CATVs, snow machines, tents, heaters) required to ensure our soldiers have what they need to accomplish the mission in an Arctic environment. Upon completion of the Army Requirements Oversight Council process, the Army will develop and produce MTOEs and field new equipment as resources allow.

35. Senator SULLIVAN. General Mingus, the Stryker brigade combat team (BCT) at Ft. Wainwright has transitioned into an infantry brigade combat team (IBCT). The manning levels for these two BCTs are different, with the Stryker Brigade Combat Team having around 5,000 personnel and the IBCT having around 4,000 personnel. It is my understanding that 350 soldiers were assigned to 11th Airborne Headquarters, leaving roughly 650 soldiers beyond what the IBCT calls for. Knowing that 11th Airborne lacks a division artillery headquarters, sustainment brigade headquarters, and aviation brigade headquarters, will these formations be filled with the 650 soldiers who are in excess of the IBCT's manning requirement?

General MINGUS. The Army recognizes the strategic importance and unique environmental challenges of Alaska and global arctic environments. The conversion of the Stryker BCT to an Infantry BCT, a formation that is (a) better suited for arctic conditions and missions, and (b) more rapidly deployable to respond to missions in the Indo Pacific region and around the globe, allowed the Army to create the 11th Airborne Division headquarters and invest in other critical Army structure priorities. The 11th Airborne Division provides the Army with a functional warfighting headquarters that can operate in Alaska and that is capable of global deployment. The Army is committed to investing resources to improve its capabilities to fight in the Arctic, balanced with other regional and global requirements. As an example, the Army activated the Arctic Aviation Command, an aviation headquarters assigned to the 11th Airborne Division, designed to provide oversight and command and control of all Alaska-assigned Aviation units. Additional Alaska-based requirements will be considered in the future during our Total Army Analysis process.

## AIR FORCE AIRCRAFT IN ALASKA

36. Senator SULLIVAN. General Slife, the Air Force redesignated the 18th Aggressor Squadron at Eielson as the 18th Fighter Interceptor Squadron (FIS), the only one in the Air Force. Lt. Gen. Nahom, the Alaskan Command commander, said this decision was based on readiness concerns for the 5th generation fleet in Alaska, which was previously flying the Homeland defense alert mission. The 18th FIS has been conducting real world intercepts for months, allowing F-22s and F-35s to train and deploy more into INDOPACOM. In this process, the Air Force overlooked the fact that its fiscal year 2025 budget called for the divestment of 11 of the F-16s in the squadron. This would clearly not leave enough F-16s to conduct the Homeland defense mission, which means the F-35s and F-22s have to help out, negatively impacting their readiness. What is the Air Force doing to ensure that the

18th FIS can conduct the alert mission without requiring 5th generation fighter augmentations?

General SLIFE. The Fiscal Year 2025 President's Budget (PB) proposes reducing the 18 FIS Total Aircraft Inventory to 10 aircraft, providing sufficient augmentation for F-22 and F-35 aircraft to execute the Homeland Defense Mission in Alaska. The Fiscal Year 2025 President's Budget is only a snapshot in time, and with more experience operating the new mission, the Department of the Air Force (DAF) will continue to evaluate the appropriate aircraft inventory for the 18 FIS. The DAF will closely monitor the Homeland Defense Mission in Alaska to ensure robust and resilient Homeland Defense capabilities are postured against threats. Simultaneously, we must reduce legacy aircraft and transition limited resources to newer platforms than can deter and defeat future threats.

37. Senator SULLIVAN. General Slife, what is the long-term plan to replace the pre-block F-16s with a suitable replacement aircraft?

General SLIFE. A portion of the pre-block F-16 Fleet (Block 15/25/30) will be recapitalized with F-15EX or F-35 Aircraft. This plan allows the Department of the Air Force to focus modernization efforts on the most advanced-post-block aircraft and divest the least capable aircraft. F-16 post-block fleet will receive advanced capabilities to improve survivability and increase offensive viability in evolving threat environments into the 2040s. The Air Force intends to right-size current aircraft inventories to expedite the transition away from less capable aircraft and prioritize investment in cutting-edge capabilities.

38. Senator SULLIVAN. General Slife, can you re-affirm the Air Force's commitment to deliver four KC-135s to Eielson?

General SLIFE. Yes, the Department of the Air Force is committed to delivering four (4) KC-135s to Eielson.

#### SPACE FORCE FIGHTING FROM GARRISON

39. Senator SULLIVAN. General Guetlein, at a time when all the other services are shifting their concept of fighting to be distributed, expeditionary, and agile, the Space Force is unique in that it will have to remain a garrison force to conduct sustained, reliable operations in the space domain. Can you explain how redundant and reliable sources of energy and water are needed at Space Force Stations in a way that is different from the other services?

General GUETLEIN. The Space Force's ability to conduct critical 24/7 operations from our home stations is reliant on resilient installation systems and infrastructure. We have identified the key systems and infrastructure that are essential to mission success. We maintain resilient energy and water through a comprehensive approach to security, multi-source system redundancy, and risk management to ensure our systems remain operationally capable across the entire spectrum of conflict.

40. Senator SULLIVAN. General Guetlein, do your units at Space Force Stations train to ensure mission continuity in the event of utility disruption?

General GUETLEIN. Yes, many of our units operate critical 24/7 mission systems and train to ensure mission continuity in the event of utility disruption. Guardians train and participate in continuity exercises to ensure mission continuity by identifying utility disruptions, ensuring their systems seamlessly transfer to back-up power, and by implementing procedures to return to main power as appropriate.

#### MISSILE DEFENSE

41. Senator SULLIVAN. Admiral Kilby, General Mingus, General Slife, and General Guetlein, the Department of Defense has funded efforts to defend the United States from ballistic missile attacks for over half a century through a Missile Defense System (MDS). The MDS consists of diverse land-, sea-, and space-based systems and assets located across the globe. Among more recent plans, the Department of Defense is developing an integrated missile defense system for Guam, which is planned for operations in 2027. How is the Department of Defense ensuring that combatant commands' readiness requirements for the Missile Defense System (MDS) are pacing evolving missile threats?

Admiral KILBY. The Joint Staff leads the Integrated Air and Missile Defense (IAMD) Capability Portfolio Management Review (CPMR) which is a top down, concept driven, threat-informed capability development process that informs DOD decisionmaking. The CCMDs, Services, and the Missile Defense Agency (MDA) participate in this process. The CPMR process conducts continuous and comprehensive portfolio reviews. An important input to this process is the Combatant Commands'

Integrated Priority List (IPL), which prioritizes issues that limit the CCMD's ability to successfully achieve assigned roles, functions, and missions. An output of the IAMD CPMR is the Joint IAMD Portfolio Priority List (JIPPL), which is a prioritized list of capabilities required to enable CCMD and joint force objectives. Both the IPL and the JIPPL are used in developing service budget proposals.

General MINGUS. As a member of the Joint Requirements Oversight Council, I review the annual Capability Gap Assessment for Integrated Air and Missile Defense to ensure that Army and Joint capabilities are meeting combatant command requirements and evolving threats. In this role I also review periodic Capability Portfolio Management Reviews for Integrated Air and Missile Defense to assess evolving threats relative to the Joint Warfighting Concept. These two Joint processes ensure appropriate balance within the Integrated Air and Missile Defense portfolio and inform the Missile Defense Agency for their budget development process. In addition, I serve with the Army Acquisition Executive as a member of the Missile Defense Executive Board in its mission to provide oversight of the activities of the Missile Defense Agency.

General SLIFE. The current priority across the entire Department of Defense is to deliver on the President's Executive Order issued on January 27 calling for the development and fielding of a next generation missile defense shield for America. This DOD-wide effort will place the burden of escalation upon the adversary, thereby strengthening deterrence and providing greater security for the American people.

General GUETLEIN. The Joint Requirements Oversight Council reviews the annual Capability Gap Assessment for Integrated Air and Missile Defense to ensure that joint capabilities are meeting combatant command requirements. Periodic Capability Portfolio Management Reviews for Integrated Air and Missile Defense assess evolving threats relative to the Joint Warfighting Concept. These two Joint processes ensure appropriate balance within the Integrated Air and Missile Defense portfolio and inform the Missile Defense Agency for their budget development process. The USSF provides Integrated Tactical Warning and Attack Assessment (ITW/AA) capabilities for the INDOPACOM area of responsibility. The ITW/AA requirements, operational status, and capabilities are managed through a USSPACECOM/NORAD Operations Approval Board and Mission Overview Board to ensure ITW/AA capabilities are meeting combatant command requirements.

42. Senator SULLIVAN. Admiral Kilby and General Mingus, given the substantial investment for missile defense in Guam, what are you doing to ensure there are sufficient munitions/interceptors to meet mission requirements?

Admiral KILBY. IAMD is a whole of DOD effort. The Department is investing in uplifting the munitions industrial base's capabilities and capacities across prime manufacturers, sub-vendors, as well as organic DOD arsenals. We are also seeking to procure to maximum executable production rates for critical munitions. For instance, the Navy is procuring new SM-6 missiles at maximum production capacity, while also using supplemental funding to perform recertifications on the existing SM-6 inventory. The Navy will work closely with the MDA to ensure the Aegis Guam System munition requirements are accounted for and prioritized appropriately in DOD planning and procurement profiles.

General MINGUS. The Fiscal Year 2025 President's Budget Request includes \$303 million for the Army to support missile defense in Guam. The Army will position sufficient interceptors on Guam to meet the initial unit requirements with additional inventory shipped to meet the anticipated demand signal as required.

43. Senator SULLIVAN. Admiral Kilby and General Mingus, what are the expectations of maintenance and downtime for the various systems deployed to Guam?

Admiral KILBY. The various systems deployed to Guam create a layered defense that minimizes overall maintenance and downtime. The decision to bring any element down for maintenance is informed by USINDOPACOM decisions, the Concept of Employment, and readiness posture levels.

General MINGUS. The individual capabilities under development that make up the Army's Guam Defense System (GDS) are designed to minimize downtime and meet the Operational Readiness (OR) goal of 90 percent. Each individual system's sustainment plan and associated Technical Manuals ensure scheduled and unscheduled maintenance is performed as instructed. In most cases, initial system maintenance will be provided via Contractor Logistics Support and each Army system will have appropriate maintainers assigned, along with required repair parts to meet anticipated demands. Additional maintenance data will be gathered as Army GDS systems progress through planned developmental and operational testing, along with soldier logistics demonstrations.

44. Senator SULLIVAN. Admiral Kilby and General Mingus, how does the Department of Defense plan to maintain 360-degree missile defense capability of the new, integrated system in Guam when deployed systems have periods of planned and unplanned downtime?

Admiral KILBY. In order to minimize the effects of planned and unplanned downtime, the missile defense capability being developed for Guam takes a system-of-systems approach with a variety of layered sensors and effectors plus integration of multiple command and control and fire control systems.

General MINGUS. Like all air and missile defense systems, the Guam Defense System (GDS) must provide a sustainable and operational capability that minimizes the adverse impacts of air and missile attack, even during periods of planned or unplanned downtime. This starts with a deliberate threat analysis and defense design based on the operational environment. Planned downtime is maximized during periods of lowest assessed risk to mitigate the potential threats, commensurate with mission requirements and available resources. Enhancing the overall effectiveness of the defensive capability during downtime requires a layered system-of-systems approach that can be sustained over time and integrated into a common command and control system with sufficient capacity to address the volume of any potential threat.

#### MARINE CORPS AIRCRAFT SQUADRONS

45. Senator SULLIVAN. General Mahoney, what analysis informed the decision to move back to 12 aircraft squadrons?

General MAHONEY. Two primary inputs informed the decision to increase the number of F-35 aircraft per squadron from 10 to 12 across 18 Active component squadrons and 2 Reserve component squadrons. First, extensive exercising revealed that the ten aircraft per squadron construct yielded a sub-optimal sortie generation rate. Twelve aircraft squadrons, on the other hand, enable the Fleet Marine Force to achieve higher sortie generation rates that better satisfy the demands of the service and wider joint force.

Second, Johns Hopkins University conducted a third-party assessment that validated these findings. Their independent study supported the service's conclusion that 12 aircraft per squadron is the appropriate construct to ensure mission success and operational efficiency.

46. Senator SULLIVAN. General Mahoney, what are the benefits to 12 aircraft squadrons versus 10 aircraft squadrons?

General MAHONEY. The 12 aircraft squadron construct provides two primary benefits. First, anticipated threats in the current operational environment necessitate aircraft inventories that maximize sortie generation rates and unit mobility. Detailed analysis revealed that a 12 aircraft construct enables the Marine Corps to achieve greater sortie generation rates than the 10 aircraft construct, while still allowing squadrons to deploy in support of Marine Expeditionary Units and other vital GFM commitments.

Second, the 12 aircraft construct provides the Marine Corps with greater sustainment capabilities and readiness profiles for its F-35 fleet, due to the flexibility inherent in this increase.

47. Senator SULLIVAN. General Mahoney, what changes is the Marine Corps making to CH-53K squadrons?

General MAHONEY. The Marine Corps is in the process of replacing its legacy heavy lift helicopter, the CH-53E Super Stallion, with the new and improved CH-53K King Stallion. The CH-53K is the only viable replacement for the aging and inventory-limited CH-53E, due to its ability to support the Marine Corps' critical Heavy Lift Mission. It is a vital component of the mobility and logistical support required for distributed operations in a contested environment. Upon the completion of this transition, the Marine Corps will still maintain six operational squadrons and one Fleet Replacement Squadron. Although the transition may provide insights into personnel organization, there are currently no planned or anticipated changes to the CH-53K squadron construct.

