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HEARING
ON
NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2022
AND
OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS
BEFORE THE
COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED SEVENTEENTH CONGRESS
FIRST SESSION
SUBCOMMITTEE ON SEAPOWER AND
PROJECTION FORCES HEARING
ON
**DEPARTMENT OF THE NAVY
FISCAL YEAR 2022 BUDGET REQUEST FOR
SEAPOWER AND PROJECTION FORCES**

HEARING HELD
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**DEPARTMENT OF THE NAVY FISCAL YEAR 2022 BUDGET
REQUEST FOR SEAPOWER AND PROJECTION FORCES**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Thursday, June 17, 2021.

The subcommittee met, pursuant to call, at 11:20 a.m., in room 2118, Rayburn House Office Building, Hon. Joe Courtney (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. JOE COURTNEY, A REPRESENTATIVE FROM CONNECTICUT, CHAIRMAN, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. COURTNEY. Good morning.

The subcommittee is now in session and meets this morning to hear testimony from the Department of the Navy on the fiscal year 2022 budget.

We have one member who is joining us remotely, Mr. Langevin up in Rhode Island, and I think he knows the drill in terms of announcing himself and waiting to ensure that the audio is picked up. So I think I am going to skip the “FedEx” statement at the beginning here.

So before us today to discuss the Navy’s request for fiscal year 2022, we have three witnesses who are no strangers to our subcommittee.

We welcome you all back this morning.

Acting Assistant Secretary of the Navy for Research, Development and Acquisition, Mr. Jay Stefany; Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities, Vice Admiral James Kilby; and Commanding General, Marine Corps Combat Development Command, Lieutenant General Eric Smith.

Thank you all again for joining us this morning.

The 2022 budget for the platforms and capabilities under our panel’s jurisdiction cover a wide range of priorities on and below the seas and will be a critical component of the 2022 fiscal budget and the National Defense Authorization Act [NDAA].

I think it is always important as we get started to know the past in order to understand the present, and I want to take a moment to review the journey that we took last year with the Navy’s fiscal year 2021 budget.

As the Congressional Research Service [CRS] reported last April, the prior administration sent Congress a \$19.9 billion shipbuilding budget that requested an 18 percent cut from the previous year and in its Future Years Defense Plan, the FYDP, that accompanied

the budget, projected a shipbuilding budget for fiscal year 2022 of only \$21.1 billion.

Just to use that as a metric, the budget that was submitted this year on May 28, 2021, by the administration, it actually is \$22.6 billion, which is 7 percent higher than last year's budget submission.

And I share this not as a partisan statement. To the contrary, that record is a reminder that this subcommittee last year, as in prior years, has been an independent body that even with constrained top lines like the one we are wrestling with this year has revised Navy budgets.

That, in fact, is our constitutional duty. Article I, section 8, clause 13 clearly states that it is Congress that has the authority to provide and maintain a Navy. And last year we exercised that power when we rejected the proposed cut of a *Virginia*-class submarine and enacted a final shipbuilding budget of \$23.2 billion, well above the \$19 billion request and actually still above this year's request from the administration.

So just like last year, we have a tough job ahead of us. This budget has some positive elements, and it has some issues that we have to solve.

As I told the Acting Secretary of the Navy and CNO [Chief of Naval Operations] 2 days ago, the absence of a Future Years Defense Plan and a 30-year shipbuilding plan adds a higher degree of difficulty to our work.

And in the absence of those multiyear documents, I want to say to our witnesses at the outset today that my colleagues and staff expect and know we will receive clear testimony and follow-up answers to questions, which will be many, in the compressed schedule that we face.

Shipbuilding and ship maintenance, as we all know, is a long game, and the decisions we make today will have longer lasting consequences than many other parts of the Defense Department's budget.

As I said, there are some positive elements in the budget submission. In contrast to recent budgets over the last few years, the Navy's budget plan strongly supports our undersea fleet. The budget before us includes stable, two-per-year production cadence for the *Virginia*-class submarine program and continued investment in the Navy's number one acquisition program—namely, the *Columbia*-class ballistic submarine program—and also long overdue private sector submarine maintenance projects.

Together, this budget makes the strongest investment in the stability and growth of our undersea capabilities and industrial base since the 1980s.

As Admiral Gilday forcefully testified on Tuesday this week, our undersea advantage over both China and Russia is our most powerful tool of deterrence, and we cannot let the size of that fleet falter. This budget accomplishes that goal.

That said, I remain concerned about some other specific changes and trade-offs reflected in the budget. Once again, our panel is tasked with making sense of an unexpected cut in steady rate production of the DDG-51-class destroyer program. I am deeply concerned that sudden course change will disrupt the stability of the

industrial base, undermines confidence in multiyear procurement agreements, and threatens our ability to meet our defense strategy.

At the same time, the budget proposes an increase in ship retirements, nearly double the number of new ship construction proposed, including an increase in the retirement of cruisers planned for modernization.

Cruiser modernization is an issue which this subcommittee has grappled with for many, many years. I hope our witnesses today will provide more detailed insight into the analysis behind this proposal and how it fits into the Navy's overall efforts to meet its operational requirements.

Whatever the ultimate goal of the size of our fleet, the basic fundamentals of successful shipbuilding remain the same: stable and predictable requirements that industry can plan towards and rely on, steady rate production that facilitates effective workforce development and cost reduction, and underlying long-term strategy that the Navy, Congress, and industry can work from.

Unfortunately, too many recent budgets have fallen short of some of these fundamentals only to rely on Congress to fill the gaps. This is the second year in a row, under two different administrations, that the Navy has presented a budget that removes a planned major combatant vessel only to list it as their number one unfunded requirement. That is not a trend that any of us here on this committee relishes or wants to see becoming the new normal, and this would be the third year.

Our subcommittee has a well-earned record for bipartisan scrutiny of shipbuilding budgets to provide this continuity and insight, regardless of which party holds the White House. I am confident that we will act again this year in a similar way and ensure that we make prudent and needed adjustments to build on the final proposal.

With that, I turn to my good friend and ranking member from Virginia, Mr. Rob Wittman, for opening remarks that he may have.

[The prepared statement of Mr. Courtney can be found in the Appendix on page 41.]

STATEMENT OF HON. ROBERT J. WITTMAN, A REPRESENTATIVE FROM VIRGINIA, RANKING MEMBER, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. WITTMAN. Well, thank you, Chairman Courtney. Again, thanks for your leadership and for your staunch direction in what we need to pursue as far as shipbuilding.

I want to thank our three witnesses for joining us today.

Gentlemen, if we are truly sincere about preparing for a maritime conflict with a great power, we should all grade President Biden's Navy budget as unacceptable. I give it a D-minus. With proposing eight battle force ships, of which two are tugboats, we are going backwards, not forwards. This is not the proper attempt to deter a global conflict.

I think what is most perplexing to me is the lack of vision and the desire by senior Biden officials to mark time while the lethargic Biden Secretary of the Navy nomination process continues. We are already 6 months into this administration. We are only informed

this week of the administration's intent to nominate a Secretary of the Navy.

It has been said that Emperor Nero fiddled while Rome burned. In this case, President Biden is fiddling while the Navy is metaphorically burning. We have no strategic direction, no plan to dissuade China, and no budget to adequately prepare for maritime conflict. The administration has even refused to deliver a 5-year budget plan and a 30-year shipbuilding plan on time, as required by law.

Secretary Hicks recently indicated that this budget request was developed with a clear-eyed approach on how to deter military aggression when it comes to China. I am not sure what she was looking at, but it is clear that she overlooked the Navy.

While the administration is fiddling, the budget request is recommending that we divest 15 battle force ships, including 7 cruisers. The seven cruisers alone have more missile capacity than the entire British fleet.

I want to say that again: Those seven cruisers alone have more missile capacity than the entire British fleet.

We have already spent hundreds of millions of dollars on ensuring these cruisers are returned to the fleet, yet now we find we are going to retire them.

While this administration is fiddling, the administration indicates they cannot afford a second destroyer, a critical platform to deter maritime conflict. And while we are retiring other surface combatants, we are saying we are going to exacerbate that by now not building an additional destroyer.

While this administration is fiddling, the budget underfunds critical investments in Tomahawk missiles, heavyweight torpedoes, and sonobuoys.

While this administration is fiddling and stymied with inaction, the Navy is prepared to give up on over \$700 million in smart acquisition savings available by procuring four amphibious ships.

President Trump established a maritime conflict as a key budget priority and prepared a plan to deliver this capability. President Trump's plan envisioned discrete cuts throughout the defense budget to fund 12 battle force ships he proposed for construction in fiscal year 2022.

The Biden administration arrives, wants to take more time to study the future maritime conflict, and throws out the tremendous work done by our witnesses today.

Undoubtedly, the Biden team will reach the same conclusion as their predecessors—or maybe they already have reached their own conclusions and are now building an assessment tailored to prove the current conditions correct.

Frankly, this is a waste of time and not only is unacceptable, but is dangerous and imperils our national security.

It is time to stop fiddling. We need to be visionary and to allow the industrial base to rightsize to deliver efficiently for our national security needs. We need to be steely-eyed in dissuading conflict and delivering adequate resources to enable this plan. And we need to be brave enough to balance cross-service resources to deliver credible power relevant to the future conflict.

We have so much work on this budget request to make it even mildly prepared for dissuading future conflict, and I look forward to working with my colleagues to correct this dangerous naval trajectory.

Finally, I want to be clear: I do not lay any of this blame at the feet of our witnesses today or by the stellar leadership of our subcommittee chairman or by any member of this committee. Every single one of you has been focused on what we need as a Nation to do what is necessary to deter conflict.

I believe that everyone are great Americans who are in a difficult position of defending a lackluster budget developed in part by folks who have never had to testify before this subcommittee.

Again, I appreciate the chairman for holding this important hearing, and I yield back the balance of my time.

[The prepared statement of Mr. Wittman can be found in the Appendix on page 44.]

Mr. COURTNEY. Thank you, Mr. Wittman.

And we will now turn to the witnesses.

It is my understanding, Mr. Stefany, you are going to provide a statement for the three witnesses. Is that correct?

Mr. STEFANY. Yes, sir, one statement for all three of us.

Mr. COURTNEY. Great. Well, the floor is yours.

STATEMENT OF FREDERICK J. STEFANY, ACTING ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT AND ACQUISITION, DEPARTMENT OF THE NAVY; VADM JAMES W. KILBY, USN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR WARFIGHTING REQUIREMENTS AND CAPABILITIES, DEPARTMENT OF THE NAVY; AND LTGEN ERIC M. SMITH, USMC, COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND, AND DEPUTY COMMANDANT FOR COMBAT DEVELOPMENT AND INTEGRATION, HEADQUARTERS, U.S. MARINE CORPS

Mr. STEFANY. And thank you, Representative Wittman, for the comments for the three of us. We appreciate that.

Chairman Courtney, Ranking Member Wittman, distinguished members of the subcommittee, on behalf of myself, Vice Admiral Kilby, Lieutenant General Smith, we thank you for the opportunity to appear before you today to address the Department of Navy's fiscal year 2022 budget request for seapower capabilities.

We would like to thank this subcommittee for your leadership and support for the Navy and the Marine Corps programs that support our forward-deployed naval forces.

As a maritime Nation, our economic prosperity and security are linked to the world's oceans. The Navy and Marine Corps team are the Nation's maritime force, forward deployed each and every day, protecting the vital interests of our Nation, supporting our allies and partners, and providing a credible and visible deterrent to our strategic competitors.

Our goal is to prevent conflict. But should deterrence fail, we are ready to answer the call to fight and to win.

In the year-plus since the COVID-19 pandemic hit the United States, our Navy-Marine Corps team and our industry partners have delivered 7 new ships, with 3 more deliveries planned for

later this year, as well as over 100 boats, crafts, and vehicles, and maintaining our current fleet.

We have awarded the frigate design since last time we met with you, and we have under construction the first of the *Columbia*-class SSBN [nuclear ballistic missile] submarines, a truly heroic effort across our entire acquisition and sustainment community in very trying times. And I want to recognize all members of the community.

The Department of the Navy's 2022 budget balances the readiness, capabilities, capacity, and people to advance key Department priorities. As Secretary Austin highlighted in his recent testimony to the Appropriations Committee, the budget also reflects difficult funding decisions necessary to ensure we have the right mix of capabilities the Nation needs most and supports investment in a modern future force that can deliver integrated, all-domain naval power.

While difficult decisions were required, I would like to highlight some of the areas we were able to increase our investment in the fiscal year 2022 budget request.

The Department's top priority is recapitalization of the Navy's portion of the nuclear triad; then meeting readiness needs to field a credible, non-nuclear deterrent ready to fight tonight; followed by investments in modernizing our force for tomorrow's fleet; and then finally, building the capacity of the Navy, congruent with the budget controls. This ensures that we do not create a hollow force while sustainably growing the fleet.

To that end, we continue to fully fund our number one procurement program, the *Columbia* submarine, to the independent cost estimate, which will ensure our timely delivery of all ships in the class to meet STRATCOM's [U.S. Strategic Command's] requirements.

We are also investing in land-based test facilities for the frigate and for our unmanned surface vessel programs, and we are requesting advanced procurement funding to smooth the ramp-up of construction to two frigates per year, just outside of this year.

Although a different mix of ships, this budget does propose the same number of ships as last year and supports the capability required to enable distributed maritime operations.

To ensure we have a whole force, the fiscal year 2022 budget invests additional funding in ship and aviation maintenance, and you will see an increase in our funding for SIOP [Shipyard Infrastructure Optimization Program], the shipyard optimization modeling and planning efforts, that will lead to major SIOP projects in the near future.

With a focus on developing a Navy force capable of distributed maritime operations, as outlined in our CNO's Navigation Plan and the Commandant's Force Design, this budget provides the necessary R&D [research and development] investments to start development of new capabilities with our industry partners, such as the follow-on to the *Virginia*-class attack submarine, the next-generation tactical aircraft, and the future large surface combatant. It also increases our development efforts that we started previously on hypersonic and directed energy weapons.

Finally, the budget invests in key enablers to support distributed operations, such as Project Overmatch, which is a seamless network that will leverage demonstrated progress in command and control in all domains and facilitate the manned and unmanned teaming required for future warfare.

We thank you for the opportunity to appear before your subcommittee today and for the strong support that this subcommittee has always provided to our sailors and our Marines.

And with that, we look forward to your questions. Thank you.

[The joint prepared statement of Mr. Stefany, Admiral Kilby, and General Smith can be found in the Appendix on page 46.]

Mr. COURTNEY. Great. Well, thank you, Mr. Stefany. And, again, I am going to ask just one or two questions and make sure the other members get a chance to participate fully.

Admiral Kilby, as is obvious, the proposal to decommission seven cruisers, as in the past year—as I said, this is not our first rodeo in terms of dealing with this issue on the subcommittee—is something that has obviously resulted in a lot of pushback and commentary.

When the budget came out, within a couple of days, as is normal, the unfunded priorities list came over from the Navy, as did all the other branches. To me, it was noticeable that, on the one hand, restoring the DDG was number one on the list, but there was nothing in that unfunded priorities list [UPL] regarding restoring the cruisers.

And I was wondering if you could just kind of give us an explanation of just the thinking behind the decommissioning proposal, particularly in terms of the question of missile tube capability.

What does that mean in terms of air defense command for the cruisers' role in terms of accompanying our carriers and where the DDG construction process sort of fits into that, and whether we are creating a gap? I mean, that is fundamentally the question I think we have to figure out here in terms of that proposal.

Admiral KILBY. Yes, sir.

Short answer, we are not creating a gap for the function of the air and missile defense commander. We have looked at that and mapped it out, and we will continue to pace the arrival of Flight III, which will assume that responsibility for our strike groups because of the capabilities it brings to the cruisers.

To me, it is more than just VLS [vertical launching system] cells. It is what is the sensor that a ship brings, what are the capabilities of that combat system, and what is the confidence and reliability we have in that hull to get underway.

In 2017, I was the strike group commander for the *Carl Vinson* strike group. My air and missile defense command ship was the *Lake Champlain*.

She missed roughly one-third of the deployment because of maintenance things, not because her radar was down, not because her combat system wasn't capable, not because she didn't have a full magazine, but she had tank top cracking that required her to get that fixed to be safely underway.

Vella Gulf missed a month of her previous deployment and has missed 2½ months of her current deployment.

So all of that, in my mind, has to go into the mix when we factor the availability and reliability of those ships. Those missile tubes will only count if they are underway alongside the carrier.

Mr. COURTNEY. Thank you.

So, again, you are going back to the air defense command. In terms of the analysis that you conducted, I mean, you are obviously sort of feathering in the new DDG-51s with the new radars in terms of making sure that that function is going to be covered. Is that correct?

Admiral KILBY. Yes, sir, that is correct. That will have the latest combat system, which is Aegis Baseline 10. It will have the Air and Missile Defense Radar, which is a much more capable and less maintenance-intensive radar than the SPY radar. And that is a natural fit for where the threat is going and what we want that air and missile defense commander to do for that strike group.

It will be commanded by a captain, not a commander. Our destroyers now are commanded by commanders, and that is generally their first command unless they had O-4 [lieutenant commander] command. And our air and missile defense command ships are captained by a captain, so that is their second command or their major command. So they bring an experience set and a crew that has been trained and is more senior to execute that function.

I don't want to dismiss the value of 122 missile cells or an Aegis cruiser. I am an Aegis cruiser guy. I have done four of my six ships on Aegis cruisers. I love them. But our average age of our cruisers is 32 years. They were built for 30 years. Four of our ships are over 34 years.

So I am really trying to look at the most valuable ship that we can fund, the most valuable program within our budget to make our force equal across all functions—air, surface, and subsurface—to align to the threats as we see them, sir.

Mr. COURTNEY. And speaking of budget, so if, again, there was a decision made at the Appropriations Committee or HASC [House Armed Services Committee] to restore the cruisers that you are proposing to decommission, that carries a price tag with it.

Can you sort of walk us through what that would result in, in terms of having to find offsets in a constrained budget?

Admiral KILBY. Yes, sir. So trying to keep a complex problem simple.

If we were to retain the seven cruisers that are in the budget to be decommissioned in 2022—that is five from previous budget and *Hué City* and *Anzio* in this budget—it would be roughly \$5 billion across the FYDP.

If we were to retain those ships for 2 years, all seven ships, that is roughly \$2.78 billion.

The cost to modernize *Hué City* and *Anzio* alone is \$1.5 billion, approximately.

So that is the rough breakdown of figures for those ships.

Mr. COURTNEY. Great.

Well, thank you. I know there is going to be probably a lot more discussion this morning on that issue.

And with that, I will turn it over to my friend, Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

I want to start with Secretary Stefany.

Am I correct that the law does require a 30-year shipbuilding plan and a 5-year defense plan?

Mr. STEFANY. Yes, sir, you are.

Mr. WITTMAN. Okay. Then I am just curious as to why President Biden hasn't provided that to us at this point?

Mr. STEFANY. Yes, sir. I can tell you this on the two parts you brought up.

Part one, the 5-year future defense plan, that that is the direction we have gotten from the Department, that we are not to provide. I cannot tell you why, the logic there.

On the 30-year shipbuilding plan, we do plan to still provide that to you. My understanding is the final signature, or chops, on it were yesterday. And my hope would be tomorrow, maybe Monday at the latest, you will get that plan, sir.

Mr. WITTMAN. I think it is unfortunate and regrettable that we won't get a Future Years Defense Plan.

Mr. STEFANY. Yes, sir.

Mr. WITTMAN. Vice Admiral Kilby, Admiral Davidson indicated earlier this year that he thought that conflict with China would occur, instead of in the 2030s, probably within the next 6 years.

If Congress were to support the retirement of 15 battle force ships in fiscal year 2022, is this going to hurt or help our ability to deter this conflict that is seeming to be sooner than later?

Admiral KILBY. On the surface, I would just say the air and missile defense commander role from cruisers is covered. For the 15 battle force ships, more is better, obviously, as long as we can count and be confident that those ships will be underway with us. So that is my one caveat there.

I have questions about the cruiser, and that is why we put them in the budget as laid in today.

Mr. WITTMAN. And if there are issues about availabilities, it seems like to me the big issue there is maintenance availabilities. So we have shipyards that need to be getting ships in and out on time. So it seems like to me it shouldn't be retiring old ships, it should be maintaining the ones that we have got in order to have that availability.

Let me do this. I want to ask you on some things on cruiser retirement.

How many missile tubes are provided by the seven cruisers the administration is proposing to decommission?

Admiral KILBY. It is 122 missile cells per ship, sir, so times 7. I will do the math, but it is roughly—

Mr. WITTMAN. 910.

Admiral KILBY [continuing]. 910.

Mr. WITTMAN. Got you.

Admiral KILBY. Thank you, sir.

Mr. WITTMAN. Sure.

What percentage of the Navy's entire surface fires are provided by those seven cruisers.

Admiral KILBY. A large percentage of those ships, sir.

Mr. WITTMAN. Got you.

All right. How many large unmanned surface vessels are required to replace the strike capacity offered by the seven cruisers? And what is the timeframe to deliver the replacement capability?

Admiral KILBY. I would say, at a rough estimate, double the number of large unmanned surface vessels [LUSVs] in our current instantiation, because they are going to have 64 cells, so it would be double that.

And the timeline is yet to be determined, because we have got to go through the confidence, as we have talked about in previous hearings, to field that capability. So that is land-based testing, all of the things we need to do to be confident in that search. So it won't be in the timeline that these cruisers could serve.

Mr. WITTMAN. So 28 LUSVs and a long period of time. I think the best case scenario—best case, if everything goes according to plan—probably 15 years.

Admiral KILBY. Sir, just to clarify.

Mr. WITTMAN. Yes.

Admiral KILBY. I think if it is 7 cruisers, it is 14 LUSVs.

Mr. WITTMAN. Fourteen LUSVs.

Admiral KILBY. Yes, sir.

Mr. WITTMAN. Okay. All right.

How much money has been invested in the last 5 years in these cruisers to extend their service life?

Admiral KILBY. A significant amount of money, and it is costing more than we thought it would be.

Mr. WITTMAN. Okay.

Admiral KILBY. So initially it was \$2.4 billion, but, again, we are adding a lot of money to do that, sir.

Mr. WITTMAN. Got you.

Are we able to provide sufficient cruisers and destroyers to the combatant commanders today to meet their OPLANs [operation plans] while retiring the seven cruisers? And is that going to help or hurt our ability to project power?

Admiral KILBY. I believe we are providing the number—let me be clear. The combatant commanders want more than the Navy has to give them.

Mr. WITTMAN. Sure.

Admiral KILBY. I don't want to be Pollyannish about that.

We are providing manned strike groups to meet the demand signal as apportioned by our global force management cycle to satisfy our combatant commanders.

Mr. WITTMAN. Very good.

Lieutenant General Smith, my first question to you is simple. Is the amphibious force forcible entry capability today what is needed as a joint force to defeat China?

General SMITH. Sir, if I understand the question, is it still a requirement for the joint force?

Mr. WITTMAN. Uh-huh.

General SMITH. Absolutely, sir. JFEO, joint forcible entry operation, absolutely vital to the combatant commander, yes, sir.

Mr. WITTMAN. Do you see this as a needed capability into the next decade?

General SMITH. Absolutely, yes, sir.

Mr. WITTMAN. We all know the backbone of the force is being able to generate two MEB, or two Marine expeditionary brigade, lift. The administration appears ready to walk away from that, to

have that forcible entry capability and the supporting infrastructure. Some projections have our amphibious fleet down to 26 ships.

Tell me, what is the Commandant's red line as far as the bottom line for total number of amphibious force ships?

General SMITH. Sir, straight answer up front is the requirement, based on a study that Admiral Kilby, my friend Jim, and I did together, was you need 31 traditional amphibious ships in the appropriate mix, which is 10 big decks—LHA/LHD [landing helicopter assault]/[landing helicopter dock]—and 21 LSD [dock landing ship]/LPD [landing platform dock].

The low end of that study is 28, and the difference in those 3 is that you pass—there is additional risk in arrival times. Added into that, sir, is 35 light amphibious warships. And that includes, sir, that is based on a single MEB, Marine expeditionary brigade, forcible entry.

Mr. WITTMAN. Yes.

General SMITH. And our expeditionary units that are out always, and our forward-deployed naval force in Japan.

Mr. WITTMAN. Last question. Do you believe that it is essential and critical that the contract for the one LHD and the three LPDs be executed? And if it is not, do you believe that creates unacceptable risk for the Marine Corps?

General SMITH. Sir, I do believe that the multiship is a good thing. It saves dollars and it ensures that those amphibious ships, which in the case of the big deck amphibbs, sir, are strategic assets, are available for the combatant commander. Otherwise, sir, we are passing risk on to the combatant commanders.

Mr. WITTMAN. Very good.

Thank you, Mr. Chairman. I yield back.

Mr. COURTNEY. Thank you, Mr. Wittman.

Now up next is Mr. Langevin, who is joining us from Rhode Island.

Mr. LANGEVIN. Thank you, Mr. Chairman. Can you hear me okay?

Mr. COURTNEY. Loud and clear.

Mr. LANGEVIN. Very good. Thank you, Mr. Chairman.

I want to thank our witnesses for their testimony today and for your service to our Nation.

I will start with this for Mr. Stefany.

So a Navy memo recently revealed that the Navy may have to choose between funding a new destroyer, attack submarine, or fighter jet in the future.

Mr. Stefany, how would funding the *Columbia*-class submarine through the National Sea-Based Deterrence Fund improve that situation?

Mr. STEFANY. Yes, sir.

The short answer is, if the funding came out of the Navy and had to go into that fund, then it doesn't change anything. But if it was a separate funding source that would go into that National Sea-Based Fund, then, obviously, we would have more resources in the Navy to fund those three major upgrade programs that we need to do for the warfighters.

Mr. LANGEVIN. I certainly think that is the direction we need to go, and I agree not taking it just out of the Navy, it is got to be new money.

Admiral Kilby, so we are looking for ways to boost our missile launching capability on ships. Considering the railgun can deepen a ship's magazine and allow the Navy to shift more resources to offense, has the Navy considered how the railgun can help with this problem?

Admiral KILBY. Yes, sir. We have worked mightily since 2005 to bring the railgun to fruition. So far it has not proved to be what we want to continue to invest in.

There is a challenge technologically there. It certainly has great promise if we could close the fire control loop in a meaningful way and use it as an anti-ship missile defense piece. That is complex right now, and we don't believe there is a path to do that now.

Certainly, the concept of an electromagnetic railgun is very virtuous because it allows me at a cheaper level to do as you suggest, reserve my VLS launching capacity with my high-end missiles for offense and I can defend my ship with a cheaper, more renewable magazine.

But there are a couple of complex technological things I have to do, other than close the fire control loop, and that is satisfy and solve the energy storage problem, as well as the barrel wear on the electromagnetic railgun, to make it an enduring capability for our ships.

Mr. LANGEVIN. Well, I will just point out that I think that some of the alternatives that you are considering are just as challenging and costly as well. I think it is a mistake to be abandoning railgun.

Admiral Kilby, using currently available air defense weapons, how well could Navy ships defend against a large number of missiles and UAVs [unmanned aerial vehicles]? And what side has the cost advantage?

Admiral KILBY. Right now, sir, because of the way the threat is advancing, we have to use very expensive missiles like the SM [Standard Missile]-6, and we are developing an SM-2 Block III Charlie, which is an active seeker, SM-6-like, that is required for those advanced threats. So that is an expensive way to attrite the adversary.

The CNO, in his CNO NAVPLAN [Navigation Plan], charged us to get after directed energy in particular—I call that [inaudible] defense for that ship—so I can better and with more confidence defend that ship and reserve that magazine for other things.

But there are challenges, as you point out, with directed energy, and we have got to work our way through those challenges to have a laser with enough power to provide anti-ship cruise missile defense, as well as electronic warfare and point defense systems.

So it is a family of systems to create this capability you suggest to build confidence and not use those high-end weapons. But we are at the wrong end of the cost curve with our most expensive weapons, sir.

Mr. LANGEVIN. Agreed.

Before my time runs out, Mr. Stefany, your written testimony mentions that the Navy is investing in cyber protection in this PB [President's budget]. But it looks like the major cyber accounts

have relatively flat funding. Where are you making these investments?

Mr. STEFANY. Sir, I will need to get the specific line items back to you. But it is really in the process of certifying what we call the CMMC [Cybersecurity Maturity Model Certification] process and investing in our industrial base with them and getting them certified to be able to meet our cyber requirements.

Mr. LANGEVIN. Okay. I would ask for a written, more detailed response because I am not seeing it.

Mr. STEFANY. Yeah. Happy to do that, sir.

[The information referred to was not available at the time of printing.]

Mr. LANGEVIN. I yield back.

Mr. COURTNEY. Great. Thank you, Jim.

Next up is Mr. Gallagher from Wisconsin.

Mr. GALLAGHER. Admiral Kilby, the budget plans to reduce Navy Active and Reserve end strength by 2,529 sailors, if I am correct. That is a big reduction in a short period of time. What is the plan for end strength over the FYDP?

Admiral KILBY. So I think we pace our end strength with our platform requirement, sir. So that is a manning generation to drive that. So in general we are, I think, going to see a slight increase, but right now it is level based on what you laid out here and the demand signal for those sailors.

But we need to invest in the pipe to make those sailors, so if we can, in fact, grow our Navy, we can receive those sailors and train them and send them to our ships. So there is a cost to do that as well, and I think we are in a position to do that.

Mr. GALLAGHER. Well, just so I understand this whole FYDP situation, Mr. Stefany, did you suggest you are not going to give us a FYDP at all or just for the time being?

Mr. STEFANY. The direction we have for 2022 is not at all. The first FYDP will be with the 2023 budget that will come over in the February timeframe.

Mr. GALLAGHER. How does that work, though? I mean, if we passed a law in 1989, when I was 5 years old, that says you have to provide us with a FYDP, and then you don't provide us with a FYDP, you are saying the direction you have been given is to break the law and not provide a FYDP. It just seems like an odd thing.

Mr. STEFANY. I guess I can't answer the logic. It came down to us that way, sir.

Mr. GALLAGHER. Well, I would hope—I mean, if nothing else, please go back to the building and suggest it would be nice if we got a FYDP as quickly as possible. It would help us analyze a lot of these things, I think. But I will move on from the FYDP, “F up,” as it were, and move on to the frigate.

You mentioned the frigate in your comments. I think we all want it delivered on time and on budget. I understand the need for combat systems changes, but given that the plan was a proven design, I asked the same question of the CNO: Will you commit to, in your capacity, minimizing changes to existing hull and machinery on that platform?

Mr. STEFANY. Yes, absolutely, sir. That is part of the acquisition strategy, minimize change—actually eliminate change—if we can,

and deliver 10 ships. The 10 ships in our contract are all identical, sir.

Mr. GALLAGHER. And then I will just go across the board here.

Former INDOPACOM [U.S. Indo-Pacific Command] Commander Admiral Davidson suggested in open testimony to Congress recently that he is concerned about a potential PLA [People's Liberation Army] invasion of Taiwan within the next 6 years. So not in 20 years, not in 10 years, but within the next 6 years.

I will just start with Admiral Kilby and go sort of from left to right, my left to right.

Do you share Admiral Davidson's concern?

Admiral KILBY. I do share his concern. But I am also looking towards the future, because I don't have a crystal ball and I don't know when that conflict is going to occur.

So I want to transition the force, I want to invest in technologies that are going to pace the adversary and have a capable Navy going forward, which requires some research and development now in order to match what we are seeing from an intelligence perspective.

Mr. GALLAGHER. Mr. Stefany.

Mr. STEFANY. Yes. As soon as 6 years? Certainly agree with that and share that view.

And to Admiral Kilby's point, we have to find that sweet spot of investing and making sure that our current fleet will still be very viable 5, 6, 7 years from now, sir.

Mr. GALLAGHER. And General Smith.

General SMITH. Sir, I agree with that assessment. But I would also add our job is to fight tonight.

Mr. GALLAGHER. Yeah.

General SMITH. Or tomorrow morning. So I am always looking as if tomorrow morning is the fight.

Mr. GALLAGHER. Well, I think the concern here is that the Davidson window is closing. Every day we sort of punt on fielding a deterrence by denial posture, in the first island chain in particular, but in INDOPACOM more generally, is a day where we lose time and where the PLA, and the PLA Navy [PLAN] in particular, gain an advantage.

So I just would encourage you in communicating with us to—I mean, let's figure out how we can operate on a 2025 timeline, not a 2045 timeline going forward.

FYDP is a 5-year defense plan, the acronym, if I am remembering correctly. Another thing the FYDP would help with is planning on a 5-year time horizon.

So thank you. I yield my 15 seconds.

Mr. COURTNEY. Thank you, Mr. Gallagher.

I would just note that these statutory requirements for multiyear plans, sometimes they are more honored in the breach than in the observance.

The first year of the last administration, we ran into the same absence of a FYDP. And as the nuns who taught me said, two wrongs don't make a right. I think it is really—particularly when we are talking about transition type of plans, is that you have got to have more than a 1-year set of headlights.

And so hopefully maybe we can follow up, as we did last year, in terms of the absence of a 30-year plan to really just say there is a reason why that is in law and that it is really to help everybody.

So, in any case, with that little speech, I will now yield to Mr. Golden.

Mr. GOLDEN. Thank you.

This past December, Congress passed the fiscal year 2021 NDAA, which included section 21, I know you are familiar with, which says that the Secretary of the Navy may not deviate from the large surface combatant requirements, including the 2016 Navy Force Structure Assessment, until the Secretary certifies in writing that the Navy can mitigate the reduction in multi-mission large surface combatant requirements, including anti-air and ballistic missile defense capabilities, due to having a reduced number of DDG-51 destroyers with the advanced SPY-6 [radar].

It also requires a report on the detrimental impacts to the large surface combatant industrial base and a plan to mitigate such impacts if the fiscal year 2021 Future Years Defense Program is implemented as proposed, a review of the benefits to the Navy fleet of the SPY-6 radar aboard the DDG Flight III, as well as an analysis of impacts to the warfighting capabilities of the fleet should the number of such destroyers be reduced.

I have your certification here, sir. You provide the certification without any explanation whatsoever on how the Navy will mitigate the impact of the reduction to anti-air and ballistic missile defense capabilities. It is almost as if it is a cut-and-paste of the certification requirement from the bill itself under a new award document with a signature at the end.

In the accompanying report, the Navy says it does not foresee negative impacts to the large surface combatant industrial base.

I am telling you today that it will have a negative impact.

You mentioned the backlog. Any backlog at Bath Iron Works was on its way to being gone until a very recent COVID outbreak at the yard earlier this year. You know our shipbuilders have been building ships for the Navy during this pandemic, putting themselves at risk, and they are proud to do that for our Nation's sailors. They are proud of our sailors.

Bath Iron Works will be on pace to produce two DDG-51 Flight III per year by the end of this year. This backlog referenced to justify this reduction won't even exist by the end of this Congress.

BIW has been hiring thousands of young shipbuilders each year because the Navy has been driving them to hit the 2-year mark. So this cut looks like you have been driving them towards a cliff that leads to layoffs, about 500 layoffs, and that is a negative impact.

You did discuss the benefit of the SPY-6 coming online. In regards to providing an analysis of impacts to the warfighting capability of the fleet should the number of destroyers be reduced, you didn't address it.

The most recent defense appropriation noted that the committee believes that the lack of a predictable, stable acquisition strategy for large surface combatants undercuts naval maritime superiority and injects risk into the industrial base.

The committee provided an additional advanced procurement amount for an additional DDG Flight III destroyer in fiscal year 2022. Collectively, these provisions communicated congressional intent that the Navy reverse its negative procurement trend of the DDG Flight III and strongly recommended a three-ship procurement in this fiscal year.

Last December, the Navy gave us a late shipbuilding plan, saying it would procure two DDG-51 Flight IIIs in fiscal year 2022. The ink is barely dry on the paper and we have received this budget request for just one.

We can't even count on 6 months of consistency, one of several reasons why Congress is concerned about the shipbuilding industrial base and our naval superiority.

This proposed budget puts the large surface combatant workforce at risk at a time when we should be developing it to fill the gap of a bathtub effect caused by prior boom and bust budgets. This puts the future DDG(X) [Next Generation Guided-Missile Destroyer] workforce at risk and will have a negative impact on the ability of the Navy to deliver capabilities necessary to meet its operational needs by the end of this decade.

I think that this is a failure bearing national security implications.

Admiral Kilby, the Navy recommends the decommissioning of the *Ticonderoga* cruisers while simultaneously slowing and reducing the acquisition of the DDG-51 Flight III with its new combat system, SPY-6 radar, and the ability to house and perform the role of air and missile defense at a higher level.

Your first Flight III with the SPY-6 radar arrives in 2025. You are cutting a ship to be delivered in 2027. The math is concerning.

How can we afford such an early reduction of this new radar capability on the Flight III?

Admiral KILBY. Sir, the decision to not procure the Flight III is an affordability decision. It is not anything else. It is a high regret for the Navy. As indicated, it is number one on our UPL. The benefits of an AMDR [Air and Missile Defense Radar] are undeniable, as I tried to lay out in an earlier response. We have to have that radar.

Mr. GOLDEN. Thank you, I agree.

Mr. COURTNEY. Thank you, Jared.

Next up is Mr. Carl. The floor is yours.

Mr. CARL. Thank you, Mr. Chairman.

Thank you, Ranking Member Wittman.

And thank you, gentlemen, for coming back and sharing your thoughts and your wisdom with us. I learn so much in these meetings. As a freshman, that is important.

Vice Admiral, this committee has heard all about the impact of the Chinese soft power, as it is referred to, going around the world, especially in South America in our own backyard.

Now we see the Chinese with a COVID vaccine which is not reliable but being distributed through the region.

Thankfully, our government, we have agreed to donate roughly 500 million doses to countries around the world.

Now, the two medical ships that we have that we rely most on are the, if I have this correct—correct me if I am wrong—is USNS

[U.S. Naval Ship] *Mercy* and *Comfort*, and we spend about \$100 million a year just in maintenance on those two. And I also understand that they are converted oil tankers. Is that correct?

Admiral KILBY. That is correct, sir.

Mr. CARL. And they are extremely slow, extremely slow.

My question to you, sir, is this. Could a smaller, faster, more agile medical ship be used by the Navy to help distribute this vaccine this very day and combat these Chinese soft powers that are taking place around the world?

Admiral KILBY. Thanks for the question, sir.

So in previous committees we have talked about increasing our logistical base for our ships to support distributed maritime operations, which is our operating concept. And at a high level, that means I am going to distribute my force more than I have in the past in order to create dilemmas for our adversaries.

Incumbent on that is increasing our ability to handle our ships if we take damage. So one of those concepts is this thing called Role 2 care, and we are working to instantiate it on an EPF [expeditionary fast transport] platform, and that wouldn't have all the capability of *Mercy* or *Comfort*, which is Role 3 care, but it would be able to extract a higher density or number of casualties should we need to, and that includes sailors and Marines.

So to me, we are going to need to increase our ability to do that from a force design perspective and look at replacing the *Mercy* and *Comfort* with another surrogate capability potentially that could provide that Role 3 care in the future.

Mr. CARL. Could we use it right now down in Central and South America getting in and out of the shallow waters?

Admiral KILBY. I believe we could, sir.

Mr. CARL. Thank you.

I yield my time back, Mr. Chairman. Thank you.

Mr. COURTNEY. Thank you, Mr. Carl.

Next up is Mrs. Luria.

Mrs. LURIA. Well, thank you.

And I am going to make a slight change today. I am actually going to focus on the Marine Corps first and have a question, General, about the expeditionary advanced base operations, the EABO.

I am very intrigued by this concept and where the concept came from. Could you provide some insight? Was this a capability that USINDOPACOM requested? In other words, did INDOPACOM say, "We need to come up with an island-hopping strategy to achieve the following goals"? Did it come from the Joint Staff? Was it generated from a bright young officer within the Marine Corps?

Can you give me a little bit of background on how you developed this strategy?

General SMITH. Yes, ma'am, I can. It is actually a little bit of all of the above.

INDOPACOM clearly has indicated they need the ability to—well, it started truly with our distributed maritime operations.

If you are going to enable our fleet commanders and do sea denial—which is what we do, that is who we are as a naval force—that is a piece of it. How do you contest the sea from the shore? That is one of the genesis or part of the genesis.

INDOPACOM clearly has a need for us to do distributed maritime operations. And I can tell you that EABO, expeditionary advanced base operations, was going on—General Berger has emphasized it—it was going on even before.

When General Berger was in my seat and I was in III MEF [Marine Expeditionary Force], we were doing long-range raids, long-range seizures of terrain for a short period of time to refuel F-35Bs and do strike. We were doing that under a guy named Colonel “Bams” Brodie, an F-18 pilot, who was the 31st MEU [Marine Expeditionary Unit] commander back 4 years ago.

So it is a combination of all of the above, ma’am.

Mrs. LURIA. Well, thank you for that insight.

And did you establish a timeframe, like, “We want to achieve this capability by a certain time and on a certain scale”?

General SMITH. Yes, ma’am. What we know is that the Commandant’s direction to me is that by 2023 I have to provide an initial operating capability to Lieutenant General Steven Rudder, who is the commander of Marine Forces Pacific, all stop. By 2023 that initial capability is in his hands or I have failed.

Mrs. LURIA. Thank you.

And so to me it sounds like you developed a strategy, and from that strategy you then came up with requirements—these are the things the Marine Corps would need in order to accomplish that and with the timeline. And out of that ultimately resulted in the request in the budget that we are seeing because your request reflects the things that will allow you to achieve this strategy and this new type of operations.

Would you say that that is correct?

General SMITH. Ma’am, correct statement; concept, and then you get down to the specifics of specific requirements to meet that concept which supports that strategy, yes, ma’am.

Mrs. LURIA. Okay. Well, I appreciate you clarifying that.

And I know that we are going to do a second round, so I might not get through the next part in this first round. But, Admiral Kilby, I was going to shift to you.

Just to start the scene setter here, in 2005 the PLAN had 216 ships to our 291, so that was an advantage of 75. Fast forward to 2020, they have 333 ships to our 296. That is an advantage of 37. So, in fact, that is a swing of 112 ships in this 4-year period. And people say that China and the PLAN is a pacing threat. Well, when I hear pacing, I think like a pace car, we are keeping up with them.

Would you assess, are we keeping up with them today? Is that still an accurate term, to call them a pacing threat?

Admiral KILBY. They are a pacing threat. I would say shortly we are not keeping up with them.

Mrs. LURIA. Well, thank you.

And I wanted to next highlight the fact that another thing I have said is that I think we lost a generation of shipbuilding.

In 2007’s Navy budget submission you wrote that new platforms, such as CVN-21 [*Gerald R. Ford*-class aircraft carrier], DDG(X), CG(X) [Next Generation Cruiser], LCS [littoral combat ship], *Virginia*-class SSN [attack submarine], LPD-17, LHA(R), and the MPS [maritime prepositioning ship] family of ships, will comprise our next generation of battle force ships.

So of those eight classes of ships, half have either been failures or abandoned. We did not pursue the CG(X). We find ourselves today with cruisers that are over 30 years in age, which could severely impact our O&M [operation and maintenance] budget.

And because the LCS is not fully mission capable and we got rid of the frigate—we are just now starting to replace the frigate—the same is also true for the DDG—for the DD(X).

So for the past 20 years, we have lost a generation of building these surface combatants.

And I think I will dovetail off what Mr. Gallagher said. In Congress what we want is a plan. And moreover what we want is to stop overstating and underdelivering. So every budget we have a plan. Every 30-year shipbuilding plan is, in my assessment, not really a 30-year shipbuilding plan because years 1 to 5 are constantly changing.

So I am really running out of time, and I think I will pause until the next round of questions to continue my next line.

Mr. COURTNEY. Actually, if, Admiral, you want to quickly respond or do you want to reserve on the second round to that?

Admiral KILBY. I acknowledge Rep. Luria's statements. She is accurate. I feel the force design for the future will set us up for a better path.

FFG(X) [Next Generation Guided Missile Frigate] is not a revolutionary ship. It has got all of many common elements that are on our platforms today. It will have a smaller AMDR radar.

So I think, while I acknowledge what you said about LCS and the *Zumwalt* class, we are on a path to not have so many new technologies on new platforms.

DDG(X) is going to take the combat system from the Flight III and put it on a ship that has got margin and reserve to grow into the future. So it is not such a tremendous leap.

I am not trying to ignore what happened in the past. I acknowledge what you said. But the force designs have more smaller surface combatants, frigates, which are roughly equivalent in combat power, not in magazine capability, to a Flight IIA. It is an important part of distributed maritime operations. And to create a DDG(X) that has got the reserve to add some of the things that Representative Langevin intimated I think is equally important.

Mrs. LURIA. Well, Admiral Kilby, thank you for that.

Mr. COURTNEY. We will continue. We will continue.

Mrs. LURIA. Yes. I yield back.

Mr. COURTNEY. Great.

Mr. Brown, the floor is yours.

Mr. BROWN. Thank you, Mr. Chairman. And I appreciate you convening this meeting.

I want to thank all of our panelists for presenting and making yourself available to answer questions.

I, too, want to pick up a little bit on something that Mr. Gallagher mentioned. He referenced his birth year of 1984. I just wanted to point out that is the year that I graduated college. But I also want to acknowledge that since that time he has far surpassed me in terms of acquiring and accumulating academic degrees.

So with that out of the way, let me turn to the business at hand.

So we consistently hear about the rising threats presented by China and the increasing significance, global significance, of INDOPACOM. Last year, the U.S. Navy deployed two MQ-4C Tritons to Guam as part of an early operational capability, and it is my understanding that initial reports were positive.

My question for you, Admiral Kilby, can you discuss the benefits that Triton has been providing in its Western Pacific operations and its alignment to the future maritime surveillance needs in INDOPACOM more broadly?

Admiral KILBY. Yes, sir.

So Triton is providing benefit from an ISR [intelligence, surveillance, and reconnaissance] perspective. We want to get to an increased capability on that platform, which is called IFC-4 [Integrated Functional Capability-4] or multi-int [intelligence], and that allows me to do things that I can with an EP-3 [aircraft] now, in addition to what we are seeing from the Triton now.

So our budget focuses on delivering that capability, that multi-int capability, which is some additional SIGINT [signals intelligence] capabilities and other things which will make that ship even more capable.

But as we talked about in March at the unmanned campaign hearing, this development of this hybrid force of which the MQ-4 is a part of that is building confidence in understanding our ability to execute these unmanned platforms.

So I think the capability is undeniable. It is beneficial. And it is especially beneficial in a Phase Zero operation, where I am trying to maintain SA, or situational awareness, on greater areas of the ocean.

Mr. BROWN. Well, thank you.

Mr. Stefany, given Admiral Kilby's previous statements and his statement today, and in light of the increasing need for maritime capabilities, what was the rationale for the break in Triton production in this budget? And how is the Navy mitigating potential disruptions to the supply chain?

Mr. STEFANY. Yes, sir.

So the break in this year's budget was to allow the new capability that Admiral Kilby mentioned, that IFC-4, to get fully developed so we can install it in the aircraft coming off the line at Northrop Grumman, you know, have the new capability right in those aircraft as they come off the line.

There are 10 aircraft that have been funded, that are under contract, that are in various stages of being built. And so taking a pause for a year would allow us to get those aircraft to have the new capability in them as they come off the line.

As long as we restart in 2023, I do not believe there will be a large impact on the production line at Northrop Grumman.

So that is part of our 2023 deliberation, is how many and what kind of profile going forward we will be budgeting for in 2023 and out, sir.

Mr. BROWN. And just a quick follow-up.

So I appreciate your assessment that you don't think there will be a large or major disruption in the supply chain. But it seems like implicit in what you are saying is that there will be a disruption.

Is there anything that the Navy has considered, anything that the Navy is doing to mitigate impacts, albeit small, as you are suggesting, to the supply chain?

Mr. STEFANY. Sir, I do not know the specifics. Our program manager is working every day with the company on that. But I can get you some specifics on the lower level things we are working on in the supply chain for you, sir.

Mr. BROWN. Great. I appreciate that.

Mr. Chairman, I will yield back the 23 seconds remaining of my time.

Mr. COURTNEY. Okay. Thank you, Mr. Brown.

Next up is Ms. Jacobs from California.

Ms. JACOBS. Thank you, Mr. Chair.

And thank you all for being here.

My first question is for Admiral Kilby.

I represent San Diego, and my background is in foreign policy and national security, so I think our maritime mission is incredibly important. And I echo my colleagues' calls for a plan, and I will look forward to reading it when you will provide it.

But I specifically wanted to follow up on my colleague Congresswoman Luria's questions around shipbuilding. As she said, we have seen a lot of delays, we have seen a lot of failures.

And I am wondering what the larger systemwide problem is and why shipbuilding has proven so challenging for the Navy, and, more importantly in my mind, what lessons we have learned that we can apply to new programs, especially, if they get to be proven unmanned vessels, which the Navy plans to make a significant part of the future fleet growth as we move forward so we don't continue to have these same challenges.

Admiral KILBY. Thanks, ma'am. I will start and I will ask Secretary Stefany to add on to anything that I don't cover adequately. Part of the answer—I want to go back to what I discussed briefly with Rep. Luria is that we make our designs a little more simple.

Just a quick history lesson. When we created the Aegis-class cruiser, we used a *Spruance*-class hull, and we introduced a new combat system and superstructure on that ship. Shortly thereafter, we introduced a new hull for the *Arleigh Burke* destroyer, which has proven to be remarkably successful, our most successful shipbuilding plan and shipbuilding class in the history of the United States Navy. But we didn't change the combat system. We took the combat system and evolved some sensors, but we really focused on a new plant, a new ship, a new hull form. And we are trying to return to that logic, and I will just dovetail that to Flight III as I discussed. We want to take the combat system from a Flight III destroyer, and introduce it into a DDG(X) hull. So I think that will help us because we are not introducing so many new things at once.

To the frigate program, we are taking a proven hull design, and we are putting largely government-furnished equipment on that hull to achieve that capability. So I think those types of things are more executable perhaps than a new class with an exquisite new propulsion system and a new combat system.

So I will just ask Secretary Stefany to join in that conversation. Before I yield, though, we talked in an unmanned hearing in

March about redundancy and simplicity to achieve something. So, it could be for an unmanned surface vessel, I increase the number of engines I have to achieve that reliability as opposed to creating a new propulsion system for that ship. That might be a more reasonable path for us to pursue.

Sir.

Mr. STEFANY. Thanks, Jim. I appreciate that.

So a couple other items, ma'am. Completing the design, having it very mature before we start construction. In previous programs, some of the ones that we have not done well on, we have started—you know, 20, 30 percent on design and then moving out. We are trying to get into that 70, 80 percent complete before we start building. Evolutionary, try to build off what we already know. Commercial, where we can, use a commercial product or a commercial design, has really paid off for us in the past. So those are some of the practices we are trying to incorporate in the ships—in the unmanned craft as we go forward.

Ms. JACOBS. Well, thank you. And just on the unmanned, I remain concerned about the COLREGs [Collision Regulations], but we can go into that at another time.

I will turn quickly to General Smith. I, earlier this week, talked with Sergeant Major Black and asked him about force design. I know we have gone over it a lot already in this hearing, but I wanted to ask, in particular, how the Marine Corps plans to navigate the fact that we need to be able to project force now with the fact that we need to be able to face challenges in the Pacific area in the future and how you are balancing those real and ongoing current threats with the future investments that we need to make?

General SMITH. Yes, ma'am. Very briefly, I would echo what my shipmate, Jim Kilby, said earlier that there is near-term risk that we are investing in some longer-term capabilities that we must have against a pacing threat we don't have now. In order to generate the resources for that, we divest of things that we cannot get to the fight immediately. So in all candor, ma'am, what happens is, you have to have those Marine expeditionary units. That is your fight tonight forward-deployed force. The ARG MEUs, the amphibious ready groups, Marine expeditionary units that are forward deployed, those three-ship units that are out there. Navy-Marine teams ready to do humanitarian assistance, disaster relief, and to strike if required.

That is your mitigation factor, and in all candor, it is done on the back of a bunch of young lance corporals and a bunch of young sailors. That is who is absorbing the risk right now until we get where we have to go.

Ms. JACOBS. Thank you. And in my last 2 seconds, I will just say that my office and I remain concerned about the cuts to the naval audit unit that I know came up in the full committee hearing, but Mr. Chair, I will yield back.

Mr. COURTNEY. Great. Well, thank you, Ms. Jacobs. So now we have completed the first run-through. We are going to do a second round. And, again, thank you to the witnesses for your patience.

Mr. Stefany, just to sort of follow up the question and maybe Admiral Kilby you can join in in terms of how we sort of overcome the problems of the past, which, again, I think everyone is being

very upfront and, you know, no one is trying to deny that there has been issues in the past.

I mean, I would say one of the most impressive examples of lessons learned is the *Columbia* program, you know. As of last year, the design completion was over 85 percent and, I mean, they are cutting steel, and they are starting to do prototypes, but in terms of, you know, when full production begins, comparing *Columbia* to the last SSBN program, the *Ohio*, the design completion was about 20 percent.

Again, I live in Connecticut. I talk to the folks in the yard. I hear the stories. I mean, they had major problems back then. And we, again, I think are in a much better place with the design completion, again, as we are on the eve of construction. We have also—there are some new technologies in the *Columbia*. There is going to be a life-of-ship reactor, which is going to mean no refuelings for this program, which is a real cost saver for the taxpayer, and more efficiency that is going to be included with that and there is an electric propulsor system, which is new.

On the other hand, there is a lot of lessons learned from *Virginia* which are being incorporated into *Columbia*. So we are not reinventing the wheel in terms of every aspect of the submarine. I don't know if you wanted to just sort of talk about that because I do think—frankly, we have to do this. The timing for replacement of *Ohio* is knife edge, and the cost requires us to pursue every efficiency possible.

Mr. STEFANY. Yes, sir. Couple of points. *Columbia*, our goal was 83 percent design complete before we started construction, and you point out we had 85 percent, right, so we had a goal that we had never actually achieved before, and we exceeded it, and put the effort in in *Columbia* to make sure that we held that till we started building the ship.

Some of the prototyping, some of the unique features to make the ships more affordable in the overall life, we actually prototyped—construction prototyped those before we actually put them into the design of the ship itself. So I think that will pay off going forward.

Some of the things like—like you mentioned *Virginia*, sir, one of the things we did learn is we had some life-of-the-ship components that we did not test beforehand and we are finding out they aren't really lasting the life of those *Virginia* submarines. So we are actually proving out that our—if we have a new idea, or a new way of sustaining the vessel, that we want to prove it out first. So those are some key things.

To Rep. Gallagher, don't change anything once we start. That is another key to *Columbia*. We are holding tight and not making changes now that we have started construction. So those are just some of the major lessons we have learned to not repeat past sins, so to speak, sir.

Mr. COURTNEY. Great. And I would note that this subcommittee participated in this process when we created the National Sea-Based Deterrence Fund [NSBDF], which, again, much to our exasperation, has not been fully embraced by the Pentagon. Nonetheless, the multiyear authorities which NSBDF includes, again, I think, we have seen from both Congressional Budget Office and

CRS [Congressional Research Service], impressive feedback about efficiencies in savings that those authorities have allowed.

And it is my understanding we are going to, maybe, take up some more this year in the budget to, again, keep the good momentum moving forward. Is that correct?

Mr. STEFANY. Yes, sir. We absolutely appreciate those authorities. It does—administratively, getting the money into the fund is a problem, but once it is in there, we are taking advantage of those authorities. Thank you.

Mr. COURTNEY. Well, we are on standby to help move that and fix that issue. Real quick on sealift, you know, the budget talked a bit about sort of opportunities for more used vessels that can help deal with what I think everyone on this subcommittee agrees is, you know, a concerning aging fleet that is out there right now. You know, we have not gotten actually that analysis, and I really would ask that the Navy, please, share us with that.

I would also note that, you know, again, this subcommittee sort of led the way in terms of the National Security Multi-Mission Vessel construction program, which is now happening in Philadelphia, which is using sort of a different contracting model, which we think is going to be a real potential exciting opportunity to, again, fix some of the problems that Mrs. Luria talked about in terms of, you know, just the clunkiness of our acquisition programs, and I see that as transferable to sealift.

So can you talk about what is the Navy's view of new-build sealift?

Mr. STEFANY. So I will start with that last point first and work backwards, sir. I was actually with the Shipbuilders Council of America yesterday and talked about that very point of can we buy ships like a commercial company would buy ships and not buy through the normal FAR [Federal Acquisition Regulation]-type regulations. That would streamline the process, save a lot of money, and if it is a commercial ship anyway, which is what sealift would be, why not do that?

So I am committed to at least look in and see if that is a possibility for whatever new we buy. As far as the used, we are buying, as you are aware, two from last year and then this year's budget proposes five more used ships for the Ready Reserve Force, and we will be using—we are using that same concept for buying those through the Maritime Administration that, of course, they used to buy the ships you are talking about up in Philly shipyard. So that having a commercial entity go out and buy those used ships and convert them to U.S. standards and then deliver them back to us.

As far as the overall study, I will have to ask Admiral Kilby to let you know where that analysis is, sir.

Admiral KILBY. Yeah. We will just take that for action to get you that report, sir.

Mr. COURTNEY. Thank you, Admiral.

Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

Vice Admiral Kilby, I want to go to you, and today is the anniversary of the collision involving USS *Fitzgerald* and the loss of seven sailors. And it still continues to haunt me today where there was lack of leadership on the part of a number of folks in Navy

leadership, on folks in the surface warfare community. And I still don't believe that we are at the point where we have adequately addressed all of the issues that were identified with that.

In fact, I want to go to the GAO [Government Accountability Office] report that came out earlier this month where they said, their words, it said: Sailors are not receiving adequate sleep. And they further stated: Sailors' fatigue poses a considerable risk to the safe and effective operation of Navy ships.

In fact, just today, the GAO issued a report that said: By a factor of four to one, SWOs [surface warfare officers] believe specialized career paths would better prepare them for their duties than the current generalist path. The SWO community is screaming for change.

Tell me, what is the Navy going to do in relation to those calls and the continued need, I believe, to address issues within the surface warfare community?

Admiral KILBY. Yes, sir. First off, we all share your feelings about *Fitzgerald* and *McCain*. I was in Hawaii coming back from deployment when ships that were left behind for my strike group were called to support *Fitzgerald*. We have done a lot of work, we feel, to professionalize and increase our mariner skill training. Some of those investments are still underway in Norfolk and San Diego, and will prove to be sufficient.

I think the initial data that we are seeing for our training is proving to be sufficient as far as JOOD [junior officer of the deck] training and OOD [officer of the deck] training. And that goes all the way up to the chain of command where there are sailors, or officers, who previously had screened for a command, did not make it through the shiphandling trainer, and were removed from the command bank. So to me those are all significant, positive steps.

I can't speak for the study, but I just can tell you on my personal experience, I have never been in the same department twice—engineering, combat systems, operations. So I have worked in every department except supply. And in the balance, my own personal opinion for me is, it prepared me to be a better commanding officer. Now, I am not saying that is the answer; I am just telling you that is my experience.

So we will have to go review the proposal here and understand the impact on our training and our system, but I wanted to share my own personal anecdote, because when I was initial commanding officer, that is new to me. I am new to being the captain. And when people are coming and making reports, I had some context because I had worked in those departments and I thought it prepared me better. So I think that is probably on the other side of the ledger from the proposals here.

I don't understand, or I don't have experience in exposure to the data that says a factor of four to one says that we should be specialists. So I need to take a look up on that and come back to you.

Mr. WITTMAN. I think that is incredibly important. I think there are a whole litany of issues that need to be addressed—career path, retention, very specifically female SWO officer retention. Also, reciprocity as far as SWO training and what it can relate to as somebody separates or retires, especially SCTW [Standards of Training, Certification and Watchkeeping for Seafarers] certification, so

somebody can go into the merchant mariner realm. And when we talk about the Ready Reserve fleet, you know, one of the issues is not just ships; it is mariners to run those ships. I think all those things are critically important to consider.

Secretary Stefany, can you tell me, what is the penalty associated with not entering into a production contract for the second destroyer in fiscal year 2022?

Mr. STEFANY. Yes, sir. The contract, multiyear contract we have in place has a penalty of \$33 million in either contracts, whether it is Bath or Ingalls, it would be a \$33 million penalty for what we call breaking that multiyear contract, sir.

Mr. WITTMAN. So not only will we be I think damaging the workforce as Mr. Golden pointed out, but also we will be suffering a penalty, a monetary penalty, where those dollars could be used, I think, in a much, much better way rather than paying a penalty.

Mr. STEFANY. Yes, sir.

Mr. WITTMAN. Let me ask this on the amphibious ship buy. What is the anticipated savings by executing the block buy with the LHD and the three LPDs?

Mr. STEFANY. So we just recently finished negotiations with the shipyard Ingalls and the saving is about 7.1 percent, or around \$700 million, sir.

Mr. WITTMAN. One last question. The Commandant has suggested a light amphibious warfare ship to provide the opportunity for the Marine Corps to execute the Commandant's Planning Guidance and what he wants is a smaller ship, something that can move around. The debate has always been should it be built to a military standard, should it be built to a commercial ship standard?

Can you tell me what does the Navy believe about this? Do you believe it should be built to a combat ship standard or a commercial ship standard?

Mr. STEFANY. Sir, is that question for me?

Mr. WITTMAN. Yeah. I want you and then Lieutenant General Smith and Vice Admiral Kilby.

Mr. STEFANY. Okay. I believe the other point the Commandant wanted was an affordable ship as well, so I think a commercial standards with specific Navy features is the way we need to go for this ship, and what those features are needs to be worked out with the Marine Corps.

Mr. WITTMAN. Very good.

General Smith.

General SMITH. Sir, very briefly, Admiral Kilby and I sit on the requirements evaluation team for that [inaudible]. So we are in lockstep. There is zero daylight between Jim and myself on that. It needs to be something that is, as Secretary Stefany said, affordable, so we can get it in numbers, and it has to be something that looks like everything else that is out there. You need to protect the cargo, meaning the Marines and the sailors that are on it for a limited period of time in order to be able to evacuate them.

That is the purpose of that ship. I know that is not a loved sentiment, but that cargo is precious to us, so it has to go off, but it has to be affordable in large numbers, sir, and it has to look like everything else. And I would pass to my shipmate.

Admiral KILBY. I am in agreement with Eric. My recollection, sir, may be imperfect here is that the law was born from the INFSA [Integrated Naval Force Structure Assessment] study the Navy and the Marine Corps did when we were responding to force design, which was acknowledgement that we needed a different platform to support the EAB [expeditionary advanced base] concept.

So—but Eric's right. We have been lockstep on this. My analogy, though trite, is if I am buying F-150 truck, I want to buy a custom truck; I don't want to buy an Eddie Bauer truck. Because if I take the Eddie Bauer off road, I might damage it, but the custom is built to do that and that is what I wanted—how I want to treat this amphibious warship, because I need to support those Marines.

Similarly, I need to look at survivability, which could be let's make sure that that ship if, regrettably, if it takes damage, I can get the most important cargo off that ship, which is the Marines and sailors that are on it.

So that is all going into the mix, as well as what does that ship look like. So there is a lot of conversation now as Eric and I get together with the Marine and Navy team to kind of refine the top-level requirements to understand what we need the ship to do.

Mr. WITTMAN. Very good. Thank you, Vice Admiral Kilby.

Mr. Chairman, I yield back.

Mr. COURTNEY. Thank you, Mr. Wittman.

Next up is Mr. Golden.

Mr. GOLDEN. Thank you. I guess I will give this one to both of you, and bear with me because I am kind of thinking it through. You know, up at Bath Iron Works, I have spent a lot of time up there getting to know the workers, touring that yard, and learning about the past several years.

One of the difficulties I think up there has been the DDG-1000 [Zumwalt-class guided-missile destroyer], which I know you are very familiar with. They put a lot of work into changing the way they did things, changing the way they built things, reorganizing the yard, learning some new skills or how to do them a little bit differently, and even acquiring new tools to do the work with.

They devoted a big part of their experienced workforce to that while hiring younger guys who were kind of staying on the Flight like IIA, and then all of a sudden the whole thing gets a big change package on them and disrupts the whole thing, and now they got to move these guys back. They got to reorganize their yard again. Really threw them for a loop and all over a weapon system, essentially, that hasn't—we don't have one or, therefore, a mission set with the *Zumwalt*.

I see that the Navy now has an acquisition out to try and get a hypersonic on these ships, and I assume that the Navy is finding that they bring some unique capabilities, some good capabilities.

So, one, how are we going to get something good out of these three *Zumwalts*? But secondly, what are you going to learn from it as you think about the DDG(X) and talking about the DDG(X)? Why don't you feel like you already have a hull? Perhaps the deck is a problem. You can scrap that. You got a big hull that you can pack a lot of power into. You have got an integrated power system and you are looking at putting hypersonics on it.

How can we ensure that this doesn't happen again, so that when you do make the move to the DDG(X), we don't see this kind of back and forth, but, rather, get a successful change?

Admiral KILBY. So I will start and then ask Secretary Stefany to come in. One, an important point is, this introduction of CPS [Conventional Prompt Strike] on DDG-1000, right, that ship has the capacity to allow us to introduce that weapon system, and not only that, its design of the launching system is virtually the same as the *Virginia*-class submarine. So we will get a benefit by installing that on DDG-1000, a two-fold benefit.

One, we will take that ship that, as you point out, was designed with another weapon system that didn't prove to be fruitful for us, and we are repurposing it for an effect that I think is significant, especially in the Pacific AOR [area of responsibility]. And, we will reduce risk on our way to install that capability on the *Virginia* class. So I think that is, first and foremost, important to get all we can out of those ships.

Second point, we are doing a lot of work and have been doing a lot of work at Carderock, and some of the staff members have been exposed to that work, and DDG-1000 hulls or variants of those hulls are in the mix to make sure we get the right hull form to do what we need to do.

As you point out, Rep. Golden, one of the key tenets is this integrated power system, which will allow us to install some of the weapon systems Rep. Langevin referred to, right? So I am now having not an electrical distribution system and a propulsion system, but a single system that gives me margin to do that in the future.

So I don't think it is all gone away. I think that is all in the mix and we are considering all those options.

So, Secretary Stefany.

Mr. STEFANY. On DDG-1000, I will point out that that ship was a whole new hull form, a whole new propulsion plant, and had 10 technologies that we had never done before that were being brought into that ship. So the lesson learned from there is, as Admiral Kilby has mentioned before for DDG(X) or whatever comes after DDG-51, we will not put them all in one, not have a new hull form or new propulsion plant and a whole new combat system all at once, but we will evolve and keep, at least initially for the first few hulls, the combat system the same and then evolve to the new combat system needs of the future that the current DDG-51 just can't accommodate because of power. And, so, a stepped approach is how we are, I believe, we are going to keep the cost and the risk within—

Mr. GOLDEN. Let me just say, we're proud of the work that the shipbuilders did, they got it done. You know, I guess, part of what I am interested in is, what can we do productively working together, this committee and the Navy and both of the yards, to figure out in advance what are we going to put on this thing for weapons systems and make sure that it is a successful transition? I hope that is a conversation that we can have.

Mr. STEFANY. So I think the best part is to get both companies with us in the conversation up front on day one and, I believe, both

the companies are now involved and that is the most important thing for us to do.

Mr. COURTNEY. Thank you, Mr. Golden.

Mr. Gallagher.

Mr. GALLAGHER. I think we had a really—for the navalists on the committee, we have had a really interesting week. And if I could attempt to summarize, well, at least what I have learned, it seems like, particularly with the testimony we had 2 days ago and what really came out in Representative Luria's questioning to the CNO and others was, since at least 2004 we have been playing this sort of divest-to-invest game, or making this argument that, well, we are going to buy future capability even though we can't really make the math work for present capacity. And so on the committee—and I have only been here 5 years—kind of feel a little bit like, you know, Charlie Brown and you guys are Lucy with the football and we keep getting it pulled out from under us and putting all our eggs in the basket of some sort of future, magical third offset thing is going to solve all our problems for us. But now we are starting to see all these signals from the environment, right?

You know, the PLA has a bigger battle force navy than we have, right? They are being more aggressive. They just had a historic number of aircraft threaten Taiwan. And now we find ourselves in what I have called the Davidson window struggling with this trade-off between the capacity demands of the present and sort of the promise of future capability. And I think to the extent you are hearing frustration on the committee, that is really it. And if we are operating on a 6-year time horizon—it is actually not just a matter, Lieutenant General Smith, of being able to fight now, it is what are we doing now to deter that fight from happening, to prevent the worst-case scenario. And it is useful to plan against the Taiwan scenario, because it is, in some ways, the most dangerous course of action.

So, recognizing we are not going to solve this problem right now, and that we are just at the beginning of this conversation, I would just be curious—and I will pick on the Marine Corps because I am a Marine—what is the Marine Corps doing now, today, to deter the PLA from attempting an invasion of Taiwan? What are we doing to get into the OODA [observe, orient, decide, act] loop of all the generals and the admirals and the party officials that are looking at that and thinking, you know, in a couple weeks, we got the 100th anniversary of the founding of the party, America seems divided, Russians seem to have gotten away with invading a country, this might actually be a pretty good time to test limits. What are we doing today to deter?

General SMITH. Sir, what III MEF, III Marine Expeditionary Force, Lieutenant General Clardy would tell you is we are out there every single day with 31st MEU and III Marine Expeditionary Force. So it's 20,000 Marines west of the date line, 27,000, give or take, in the Pacific. And to your—exercising, demonstrating, reassuring allies and partners. To your point about the divest/invest, I hear you, sir, that—

Mr. COURTNEY. Is your microphone on?

General SMITH. How is that, sir?

Mr. COURTNEY. That's much better.

General SMITH. So, sir, General Clardy and III MEF is absolutely out there exercising, demonstrating daily, allies and partners, using those 27,000 Marines in the Pacific, again, 20,000 west of the date line.

To your point, sir, about we have to get there, the things that we are trying to invest in now, sir, are done; they are proven. The MQ-9 Reaper with pods on it that enable you to pass data across the expansive Pacific, done. We own that—two systems now. The Naval Strike Missile fired off the back of a Joint Light Tactical Vehicle, done; successfully tested in the last few months. The Organic Precision Fires-Mounted where we are able to kill moving vehicles, in this hearing I will say in excess of 80 kilometers, in replacement for the tank, done; five for five test shots. So those things are available now, sir. Now, it is just a matter of getting them at scale through production into the hands of the warfighter.

Mr. GALLAGHER. How critical would your concept of a light amphibious warship be to that deterrence by denial posture? How would it support the Marine littoral regiments?

General SMITH. Sure. Vital, sir, because we are, in fact, the deterrence force along with our forward-deployed naval partners. We are the conventional deterrent. That light amphibious warship provides ambiguity for us; i.e., sir, when there is limited, unambiguous warning from an adversary, those vessels can go with those assets I just described and get—because they are beachable—anywhere in 4 days throughout that region, and now you have to respect those small 75 Marine units to enable distributed maritime operations. Those things are vital, sir.

Mr. GALLAGHER. Yeah. So I guess I will just close by saying, I understand we have to think long term and we have to make smart long-term investments, and think about future capability, but I just think we are—and I am not suggesting I have the answer, but I think we are going to need to get real creative real fast in terms of fixing our problem within the Davidson window, and deterring what could be a disastrous situation that would completely destroy our deterrent posture globally, not just in the first island chain, but globally.

I yield back.

Mr. COURTNEY. Great. Thank you, Mr. Gallagher.

Mrs. LURIA.

Mrs. LURIA. Well, thank you and I will start by echoing Mr. Gallagher's sentiment. I have said it many times. I think when you have a Battle Force 2025, because of this immediate concern, threat deterrent that we need in the Pacific, and, you know, very encouraged by the idea of the LAWs [light amphibious warships]. I think that the idea that we came up with the idea for a capability that can bring the fight forward, can go after some of the vulnerabilities of the Chinese in the theater is very important, and I want to, a little bit in the weeds, go back to try to understand, again, the genesis of this.

Quite simply, is there a document that was generated? Is there a process by which PACOM [U.S. Indo-Pacific Command] and/or the Joint Staff translated this requirement forward in order to then lead to the acquisition process and, i.e., the requests that you have in this budget? How do we do more of this? What process is there

that allows us to quickly operationalize a concept to actually delivery?

General SMITH. Very briefly, because I know your time is short. Our previous Commandant, General Neller, said this is what we are going to do. He issued out a document that said, begin to do this. Our Marine Corps Warfighting Lab issued a tentative manual for expeditionary advanced base operations. That is out now for review. Start with this and modify it. But the demand signal, really, ma'am, does come—nothing in a formal document, but it comes in our daily interactions with INDOPACOM through Marine Forces Pacific. It comes through those headquarters and say that COCOM [combatant command] has delivered a demand signal, what can you do for me?

Mrs. LURIA. So the demand signal through the GFM process, the global force management process, or future capabilities? How is the combatant commander, how is Admiral Davidson, now Admiral Aquilino, communicating to you as the services that are going to acquire capabilities that are requested through this budget, how is that being communicated into a process where that actually results in us buying something new, like the LAWS in order to help in the theater?

General SMITH. That certainly, ma'am, comes through their prioritized lists of things that they care about, they wish to have. It also just comes through literally, ma'am, daily interactions from the service components that are part of INDOPACOM saying this is what my boss just referenced; rather than wait on a formal process, I need this. Then the service chief with his title 10 authority says, this is what I want you to go look at and we take off looking for that. And in our case I think we found it.

Mrs. LURIA. Okay. Well, thank you for that feedback and perhaps an additional conversation I can continue with your staff. So I just was, again, thinking about what the combatant commander wants, needs, demands, and over the course of preparing for this week's multiple hearings, I noticed in the 2006 budget submission, it was stated that the fleet response plan construct was going to go from 24 months to 27 months and out of that, that would generate six carrier strike groups within 30 days, and two additional carrier strike groups within 60 days. So that would be a six-plus-two construct. And that was as recent as 2006.

And then the next year, it said six carrier strike groups in 30 days and one additional CSG [carrier strike group] with an additional 60 days, so we got to six plus one. And in 2010, it was just referred to multiple CSGs in the timeline, and at that point we went from 27 to 32 months. We got to a three plus two. Now we are at 36 months and it is arguable, you know, what carrier strike group presence we could generate in the Pacific within the timeline we would need for the TPFDD [Time Phased Force Deployment Data].

So we just continue to say that all of these things we are doing are getting after this problem, but if you just look at this history, this is 15 years of timeframe where we have reduced our operating cycle time, we have reduced our capability to provide our major assets, like carrier strike groups, on station in the Western Pacific to meet a potential conflict there.

And so I just thought wrapping this up and wrapping up kind of a week of Navy hearings, you know, every single time through this we keep hearing that there are going to be benefits, we are going to do things, we are going to change things, we are going to divest to invest, but we never see those benefits materialize.

In fact, this is 15 years of actually seeing less force generation possible to deal with this conflict, and no one ever goes back and says, "Hey, you said this would fix the problem, but it didn't." So just kind of wanted to wrap up the time I have today by saying, you know, that that is just what I am trying to do. I am just trying to point out that, you know, many courses of time before I or anyone on this dais was here, it feels as though the Navy has continued to come forward with these similar claims, and it is not very compelling, this divest-to-invest strategy.

And I know that my time is expired.

And I will yield back, Mr. Chairman.

Mr. COURTNEY. Actually, I mean, we are really at the tail end. If any of the witnesses wanted to respond to that, we have got time.

Admiral KILBY. Yeah. I acknowledge, Rep. Luria, your points, and all the work you did to lay that out. A couple of comments. Admiral Davidson, when he was Fleet Forces Command, really his predecessor, Admiral Gortney, created OFRP [Optimized Fleet Response Plan], instantiated it, and then distributed maritime operations, which is a way to get after this threat. And I would say that the—my view of the Navy is we have been focused on China since the 2008–2009 timeframe with the inset—the inception of the DF-21.

So the things that we have invested in, like an SM-6IB, like a maritime strike Tomahawk, might not be there if we hadn't had that foresight of several years ago to get after that so we can deliver those weapons by the 2025, 2026 timeframe, because it takes a long time to make a new weapon system. And those are significant and really focused on that adversary. But your point is well taken.

I guess I would harken back to we have got to be—my belief is, this is a Kilby belief, we've got to be disciplined on the use of our Navy. So when we do request for forces, and we use up carriers and extend them, we are dipping into that well and we are paying—we are using today's resource not husbanding it tomorrow because we are shortening the maintenance availabilities, we are compressing things.

So we have to be clear-headed and clear-minded about that with the assets we have. The goal of this budget was to create the most impactful force we could within the budget we had. And so I don't want to come off as viewing cruisers as not valuable. They are valuable. In the decision process we made to try to maintain those investments on those capabilities, we had to make some very hard choices. And in that is the nonfunding of the DDG—Flight III DDG in 2022.

So I think you bring up a lot of great points, ma'am, and we have got to continue this understanding of got to fund *Columbia*, which is expensive to do it right, to get to all the performance you laid out, Rep. Courtney. We have got to fund readiness, because if we

don't have a ready force, we don't have a force. And that includes the maintenance, the training, the supply, all those elements that make it up.

And then the capabilities are equally important, and then capacity is also a part of that, because capacity and capability equal lethality. So it is complex. But I think you bring up great points, and we, in this budget, try to create the most impactful mix, the most valuable mix given the resources we had.

Mr. COURTNEY. Great. Well, thank you for that very thoughtful exchange, but, again, we get the final word when we do the mark-up. So we look forward to continuing this discussion. What is that? To be continued.

Mr. Golden actually made one last request to have a quick question, I think to Lieutenant General Smith; then I think we are going to wrap it up here.

Mr. Golden, the floor is yours.

Mr. GOLDEN. Thank you to the chair and ranking member for graciously entertaining me and to all three of you as well. I am sure everyone is anxious to get going, and I got to get 3 miles in before I get back to the district.

So I just wanted to talk a little bit more about some of what you were talking about with Representative Luria, General. You were talking about sea denial capability as part of this redesign and I have also heard you and the Commandant talk about reconnaissance being the eyes and ears, the sensing capabilities that you are looking to bring forward.

When you think about sea denial capabilities in this redesign, is that something that you really see as, like, the reconnaissance, the eyes and the ears in support of sea denial activities carried out by the Navy, or is that actually also an offensive capability that you are looking to bring?

General SMITH. Sir, it is both.

Mr. GOLDEN. So, for example, seizing a strategically important shipping lane and locking it down?

General SMITH. Sir, absolutely.

Mr. GOLDEN. Containing an adversary inside of a cordoned area?

General SMITH. Yes, sir. And most importantly, sir, as that inside force who can sense and make sense, because we are there. We see it with our reconnaissance assets. I can pass that data back to Navy ships, to passing F-35As. I can pass that to anyone who has long-range precision fires, and I can act on it myself with those precision fires that I bring with me. So it is both of those things, sir.

And, frankly, sir, the deterrent piece, when I am there with an ally and partner who now understands I have got capability to deter that adversary in war, probably a little tighter relationship in peacetime.

Mr. GOLDEN. Yep. Absolutely. Forgive me if I am asking the wrong question. I don't know that there is a right answer, but as you think about all of this, would you say that the cornerstone of your ability to conduct this mission that has been envisioned is the squad, the platoon, the company, or the battalion?

General SMITH. Not a trite statement, it is the Marine. It is always the individual Marine. And it is the training and the recruitment of the right individuals, the training of them, the fostering,

the mentoring, the coaching, the teaching, so that they will do what you did, sir, in Afghanistan, and go into harm's way willingly, but it is the individual Marine, sir.

Mr. GOLDEN. So down at the squad level?

General SMITH. Yes, sir.

Mr. GOLDEN. Just a few more quick questions. Just wanted to make sure myself and also the committee and the Appropriations Committee understand just as you are looking at fiscal year 2023, and that guidance, that requirement you have been given by the Commandant, I know you won't let him down. What in this budget is important not just for fiscal year 2023, but for the next big step that you have to take in this redesign?

General SMITH. Sir, the thing that we actually, that we must have, we have to have the long-range precision fires because of the long lead time of those missile systems, both the Naval Strike Missile and the Tomahawks. People down in Tucson at Raytheon are busting their backsides fighting through COVID. We cannot—we can't offer time to the adversary. If you wait till we are finished and then begin to procure, you are giving them a 2-year gift, and we can't do it.

Mr. GOLDEN. You need funding for it.

So you have talked about the Reaper, the missile, the precision fires. I know you are looking for mobility, the amphib ship. Don't give me the Marines make do with less answer and [inaudible] need to think outside the box, but what is the next thing that is out there? What keeps you up at night that you wish you had if we could give you everything?

General SMITH. Sir, here is what keeps me up at night, and I hate to say this, sir, it is not a thing; it is a prospect. It is the prospect of a humanitarian assistance disaster relief, for example, happening in that region where I used to command—Indonesia, Bangladesh, the Philippines—and the first thing that arrives is a Chinese amphib, not a United States amphib with Marines and sailors aboard. That is what keeps me up at night, sir.

Mr. GOLDEN. You want the amphib. I will just say—and we don't have to work it all out right now, obviously, but I would be interested to, you know, talk more about it—what keeps me up at night is I think about the squad or the company out there or the individual Marine doing a mission like this out on an island in a strait taking on a pretty big mission. It is comms [communications]. You know, the infantryman always laughs about comms. It always goes wrong. It is always the reason why things don't go according to plan. So do you have the comms capability on both sides, Navy and Marines, to go out there and carry this out? Do you have what you need right now? And if you do, have you tested it out and do you know that it works?

General SMITH. We have some, sir, but it is not sufficient when an adversary—a pacing adversary decides to enter into the jamming and the deception game. We do have a pretty robust package, sir, and that is one of the elements of our force design package. And I will pass to Admiral Kilby. We do have some pretty robust resilient comms, sir, but they are not enough against a pacing threat and we are trying to double down to harden them and to make them more resilient when we are knocked off of the larger

grid so we have a joint force maritime component command communications network.

And with your forbearance, I would pass to my shipmate for what the Navy has invested heavily in.

Admiral KILBY. Couple quick comments. One, the value of a naval service is that we can be mobile, and we can create our own network from a strike group, or an ESG [expeditionary strike group], or a SAG [surface action group], if we have an elevated platform and a comms relay. So that is a value proposition that we should recognize.

The second piece is this thing called Project Overmatch. So that is using technology today in a different manner to make our comms more robust and resilient, and that is a significant effort for the Navy.

So you will see that burgeoning in 2022, but more robustly in the future and it is a key to not only the Navy, but the unmanned portion of the Navy in the future that we get that right.

Mr. GOLDEN. Thank you, gentlemen. I would just say, please, think about that, invest in it, and make sure you ask for what you need. The comms is key.

Mr. COURTNEY. Great. Well, thank you, Mr. Golden. So I think we have done our two rounds. Again, I want to thank the witnesses for your patience and look forward to working with you in the future.

And with no further ado, this subcommittee is adjourned.

[Whereupon, at 1:02 p.m., the subcommittee was adjourned.]

A P P E N D I X

JUNE 17, 2021

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

JUNE 17, 2021

Seapower and Projection Forces Subcommittee Chairman Joe Courtney
Opening Statement
“Department of the Navy Fiscal Year 2022 Budget Request
for Seapower and Projection Forces”
June 17, 2021

The Seapower and Projection Forces subcommittee meets this morning to hear testimony from the Department of the Navy on the fiscal year 2022 budget.

Before us today to discuss that request are three witnesses who are not strangers to our subcommittee and we welcome you back this morning – Acting Assistant Secretary of the Navy for Research, Development, and Acquisition Mr. Jay Stefany, Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities, Vice Admiral James W. Kilby, and Commanding General Marine Corps Combat Development Command Lieutenant General Eric Smith. Gentlemen, thank you for being here today.

The 2022 budget for the platforms and capabilities under our panel’s jurisdiction cover a wide range of priorities on and below the seas. Before we get started, I wanted to take a moment to highlight a few areas of focus on the critical Navy component of the 2022 fiscal year budget and the National Defense Authorization Act.

First, it is I think it’s important to know the past in order to understand the present and I want to take a moment to review the journey we took last year with Navy’s fiscal year 2021 budget. As the Congressional Research Service reported in April 29, 2021 a year ago, the prior administration sent Congress a \$19.9 billion shipbuilding budget that represented an 18% cut from the previous year and in its future years defense plan, projected a shipbuilding budget for fiscal year 2022 of only \$21.1B. The budget that was submitted this year on May 28 2021 by the Biden administration totals \$22.6 billion, 7% higher than last year’s budget submission.

I share this is not as partisan statement. To the contrary, that record of presidential budget submissions is a reminder that this subcommittee last year as in prior years, has been an independent body that even with constrained topline like the one we are wrestling with this year, has revised Navy budgets- which is in fact our constitutional duty. Article one, section eight, clause 13 clearly states that it is Congress that has the authority “to provide and maintain a Navy”. and last year we rejected the President’s cut of a Virginia Class Submarine and enacted a final shipbuilding budget of 23.2 billion. Just like last year, we have a tough job ahead of us -this budget has some positive elements and it has some problems that we have to solve. As I told the acting Secretary of the Navy and CNO two days ago, the absence of a future years defense plan and a 30 year shipbuilding plan adds a higher degree of difficulty to our work and I want to say to our witnesses at the outset today, my colleagues and staff expect clear testimony and follow up answers to questions which will be many in the compressed schedule we face. Shipbuilding and ship maintenance is a long game, and the decisions we make today will have

longer lasting consequences than many other parts of the defense department's budget

As I said, there are some positive elements in the budget submission. In contrast to recent budgets over the last few years, the Navy's submission makes a very strong request to support our undersea programs. The budget before us supports a continued stable two-per-year production cadence for the Virginia Class Submarine program, and continued investment in the Navy's number one acquisition program namely Columbia-class construction, and long overdue private-sector submarine maintenance projects. Together, this budget makes the strongest investment in the stability and growth of our undersea capabilities and the industrial base since the 1980s. As Admiral Gilday forcefully testified on Tuesday this week, our undersea advantage over both China and Russia is our most powerful tool of deterrence and we cannot let the size of that fleet falter. This budget accomplishes that goal.

That said, I remain concerned about some of the specific changes and tradeoffs reflected in this budget. Once again, our panel is tasked with making sense of an unexpected reduction in steady rate production of one of our highest priority combatant vessel with the proposed reduction of one DDG-51 destroyer. I am deeply concerned that sudden course change threatens the stability of the industrial base, undermines confidence in multi-year procurement agreements, and threatens our ability to meet our defense strategy.

At the same time, the budget proposes an increase in ship retirements – nearly double the number of new ship construction proposed – including an increase in the retirement of cruisers planned for modernization. Cruiser modernization is an issue that this subcommittee has grappled with for many, many years. I hope our witnesses today can provide more detailed insight into the analysis behind this proposal and how it fits into the Navy's overall efforts to meet its operational requirements.

Led by our subcommittee, Congress is clearly on record in bipartisan support of a 355 ship Navy due to the need to grow the fleet and capabilities needed. Whether it's the fleet of 2022, 2032 or 2042, the fact remains that the investments we make today dictate the fleet we will have tomorrow. And that the fleet we have is aging and becoming more costly to operate while demands for Navy capabilities and presence are increasing.

Whatever the ultimate goal is for the size of our fleet, the basic fundamentals of successful shipbuilding remain the same: stable and predictable requirements that industry can plan towards and rely on, steady rate production that facilitates effective workforce development and cost reduction, and an underlying long term strategy that the Navy, Congress, and industry can work from.

Too many recent budgets have fallen short of these fundamentals only to rely on Congress to fill the gaps. For example, this is the second year in a row, under two different administrations, that the Navy has presented a budget that removes a planned major combatant vessel only to list it as its top underfunded

requirement. That is not a trend any of us here on this committee want to see continued into a third year.

I'm proud that Congress, led by this subcommittee, has played critical and constitutionally required role in shaping our naval forces that provides continuity across individual budget years and administrations. I hope that our discussion here today lays out not just the challenges we face in 2022-- but the opportunities we have in this year's defense bill to both address the areas of needed improvement in this budget and steps to put the Navy on a more stable path in the 2023 budget and beyond.

Our subcommittee has a well-earned record for bipartisan scrutiny of the shipbuilding budget to provide this continuity and insight, regardless of which party holds the White House. I am confident that we will act again this year in a similar way and ensure that we make prudent and needed adjustments to build on this initial proposal.

With that, I turn to my friend and ranking member, Rob Wittman, for any opening remarks he may have.

**Opening Remarks of the Honorable Robert J. Wittman
for the
Seapower and Projection Forces Hearing on
Navy Fiscal Year 2022 Budget Request for Seapower and Projection Forces
June 17, 2021**

I want to thank Chairman Courtney for yielding and thank our three witnesses for testifying today.

If we are sincere in preparing for maritime conflict with a great power, we should all grade President Biden's Navy budget request as unacceptable. I give it a "D-." With proposing 8 battle force ships, of which 2 are tugboats, we are going backwards, not forwards, in our attempt to deter global conflict.

I think what is most perplexing to me is the lack of vision and the desire by senior Biden officials to mark time while the lethargic Biden nomination process continues. We are already six months into this administration and we were only informed this week of the administration's intent to nominate a Secretary of the Navy.

It has been said that Emperor Nero fiddled while Rome burned. In this case, President Biden is fiddling while the Navy is metaphorically burning. We have no strategic direction, no plan to dissuade China, and no budget to adequately prepare for maritime conflict. The administration even refused to deliver a five-year budget plan and a 30 year shipbuilding plan as required by law.

Secretary Hicks recently indicated that this budget request was developed with a clear-eyed approach on how to "deter military aggression" when it comes to China. I think that she must have overlooked the Navy.

While the administration is fiddling, the budget request is recommending that we divest 15 battle force ships, including 7 cruisers. These 7 cruisers alone have more missile capacity than the entire British fleet. We have already spent hundreds of millions on ensuring these cruisers are returned to the fleet.

While this administration is fiddling, the administration indicates that they cannot afford a second destroyer, a critical platform to deter maritime conflict. While this administration is fiddling, the budget underfunds critical investments in tomahawk missile, heavy weight torpedoes and sonobuoys.

While this administration is fiddling and stymied with inaction, the Navy is prepared to give up on over \$700 million in smart acquisition savings available by procuring 4 amphibious vessels.

President Trump established maritime conflict as a key budget priority and prepared a plan to deliver this capability. President Trump's plan envisioned discrete cuts throughout the Defense Department to fund the 12-battle force ships he proposed for construction in FY22. The Biden administration arrives, wants to take more time to study the future of maritime conflict, and throws out the tremendous work by our witnesses today. Undoubtedly, the Biden team will reach the same conclusions as their predecessors. Or perhaps they already had already reached their own conclusions and are now building an assessment tailored to

prove themselves right. Frankly, this waste of time is not only unacceptable, but it is dangerous and imperils our national security.

It is time to stop fiddling.

We need to be visionary to allow the industrial base to right size and deliver efficiently for our national security needs.

We need to be steely eyed in dissuading conflict and delivering adequate resources to enable this plan.

And, we need to be brave enough to balance cross-service resources to deliver credible power relevant to future conflict.

We have so much work on this budget request to make it even mildly prepared to dissuading future conflict. I look forward to working with my colleagues to correct this dangerous naval trajectory.

Finally, I want to be clear: I do not lay this blame at the feet of our witnesses today. I believe they are all great Americans who are in the difficult position of defending a lackluster budget developed—in part—by folks who never have to testify before this committee.

Again, I appreciate the Chairman for having this important hearing and I yield back the balance of my time.

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

STATEMENT OF

FREDERICK J. STEFANY
ACTING ASSISTANT SECRETARY OF THE NAVY FOR
RESEARCH, DEVELOPMENT AND ACQUISITION (ASN (RD&A))

AND

VICE ADMIRAL JAMES W. KILBY
DEPUTY CHIEF OF NAVAL OPERATIONS
WARFIGHTING REQUIREMENTS AND CAPABILITIES (OPNAV N9)

AND

LIEUTENANT GENERAL ERIC M. SMITH
DEPUTY COMMANDANT, COMBAT DEVELOPMENT AND INTEGRATION
COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

THE DEPARTMENT OF THE NAVY FISCAL YEAR 2022 BUDGET REQUEST FOR
SEAPOWER AND PROJECTION FORCES

JUNE 17, 2021

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Chairman Courtney, Ranking Member Wittman and distinguished members of the Subcommittee, thank you for the opportunity to appear before you today to address the Department of Navy's Fiscal Year (FY) 2022 budget request for Seapower and Projection forces capabilities. First, we would like to thank Congress and this Committee for your leadership and support of the Department of the Navy (DON) acquisition, sustainment, research and development programs. The FY 2021 Authorization and Appropriation Acts provided for 10 battle force ships, including the first *Columbia* Class submarine and the second *Constellation* Class frigate. These ships will provide advanced capabilities and survivability to support a full range of military operations, improve stability and predictability for our shipbuilding partners, and continue solidifying the foundation of our maritime service in support of our national security priorities.

In an increasingly interconnected and interdependent world, a dominant naval force and a strong maritime strategy are critical to the security of our Nation. The global security environment is increasingly influenced by our competitors, requiring the Navy and Marine Corps team to operate continually to provide credible combat power forward and a ready response force to global crises and disasters. Amidst these traditional challenges, our forces have adapted operations globally to the COVID-19 pandemic in ways that were unimaginable early 2020. As our national security posture evolves to confront new challenges, the DON continues to invest in key naval capabilities to maximize our naval power contribution to the Joint Force and ensure a proper balance of readiness, capability, and capacity within the limits of available resources. We continue to deliver relevant and effective capability to our Sailors and Marines, by focusing on industrial base partnerships and building supplier resiliency. Thousands of suppliers, and their dedicated workforce, are a key element to our national security.

To address the growing demands placed on our warfighters, the DON is making necessary investments in lethal capabilities across a broad spectrum of platforms and programs. Since the start of FY 2020 we have delivered 13 relevant and capable war ships to the Fleet including two *Arleigh Burke* class destroyers, two *Virginia* class submarines, four Littoral Combat Ships, two Expeditionary Fast Transport ships, one Amphibious Assault Ship, one Expeditionary Sea Base, and one *Zumwalt* class destroyer following its combat systems delivery. Today, the Navy has 74 ships under contract with 51 ships in construction. We expect to take delivery of an additional ship in FY 2021, and plan to award contracts for

three more ships this year. On the aviation side, we will take delivery of 54 new manned aircraft and four unmanned aircraft to Navy and Marine Corps units in FY 2021, improving capability and enabling the divestiture of less affordable and less capable legacy systems. Additionally, the Department achieved over 80 percent Mission Capable rates for the F/A-18E/F and EA-18G fleets and achieved an 80 percent Mission Capable rate for E-2Ds in FY 2020. These positive trends are continuing in FY 2021, and on-going efforts are focused on maintaining these advances by applying lessons learned across all type model series aircraft to reduce long-term sustainment costs.

Ship maintenance remains a priority for the Department, and we continue to use available data to provide better predictability and maintenance of our ships, improve performance, share lessons learned, and reduce costs. By taking a more forward-looking approach to maintenance and modernization, the DON can grow the operational capacity of the Navy in a healthier way over time. We will communicate future demand signals to our industrial partners, stabilizing our industrial base and ensuring sufficient capacity. The Navy is seeing positive early results from the pilot program established by Congress in FY 2020 to fund Pacific Fleet CNO Availabilities with multi-year Other Procurement, Navy (OPN) funding. The OPN Pilot allows the Navy to implement commercial best practices for ship maintenance and more efficiently use surface ship maintenance funding through the entirety of the fiscal year without the pressure of expiring funds. The FY 2022 budget requests expansion of the OPN pilot to include U.S. Fleet Forces CNO Availabilities. The Navy is demonstrating significant improvement in ship maintenance execution, and efforts such as OPN-funded availabilities are helping maintain the positive momentum to ensure ships are delivered to the Fleet on time with work completed in full.

In addition to our ship and aircraft focus, the Navy and Marine Corps have operational concepts that are foundational to retaining control of the seas against our adversaries. The Navy's Distributed Maritime Operations (DMO) and the Marine Corps Littoral Operations in a Contested Environment involve operating forces in a much more distributed manner within contested locations around the world. Mission success of these concepts depends on the Naval Operational Architecture (NOA) that will allow our forces to connect with each other more seamlessly in order to coordinate actions across a widely distributed force. The CNO has directed the establishment of Project Overmatch to focus NOA development and capability delivery necessary to enable these operational concepts. We are focused on digitally

connecting our current and future systems via delivery of modern networks, compute infrastructure, data strategies and warfighting tools and analytics. Project Overmatch will ultimately enable machine speed decision making across our Naval force and in conjunction with the Joint Force and our mission partners. The FY 2022 budget requests increased funding of our Digital Warfare efforts to enable Project Overmatch success. This effort is being done in complete alignment with Joint Staff-led Joint All Domain Command and Control (JADC2).

Unmanned systems will continue to play a key part in future DMO and Expeditionary Advanced Based Operations. There is a clear need to field affordable, lethal, scalable, and connected manned and unmanned capabilities. The *Unmanned Campaign* serves as a comprehensive strategy for developing, fielding and sustaining the DON's future unmanned capabilities into the fleet. The DON developed the *Unmanned Campaign Framework* to direct an enterprise-wide partnership along with industry and academia to coordinate efforts and resources and take advantage of innovation opportunities such as Commander Pacific Fleet's Integrated Battle Problem 21. The Department will take advantage of near-term opportunities for experimentation, while investing in enabling technologies and supporting infrastructure to include autonomy, land-based testing sites, high-reliability engineering systems, and secured networks. This strategy is aligned with Project Overmatch and we look forward to working with the Congress to advance our naval unmanned contribution to the joint force.

The disruptions related to the COVID-19 pandemic have underscored the need for agility and resilience within the Department, and challenged the relationships we have with our industry partners. However, the pandemic has also allowed us to strengthen how we work together, in new and innovative ways, to deliver the most capable, most survivable platforms and systems in the world. Since March 2020, the DON has infused hundreds of millions of dollars into the industrial base by accelerating contract awards, increasing progress and performance-based payments, and releasing retentions/withholds; creating a backlog of work. Increased cash flow allowed industry to work through the challenges of COVID-related workforce and supply chain disruptions. In FY 2020, the DON obligated \$148.4 billion, a \$28.16 billion or 23 percent increase from FY 2019, to approximately 20,000 industry partners. This work provided a direct cash infusion to the defense industrial base and was awarded using 21,430 fewer contract actions – reducing the contract modification workload by more than 15 percent. Over 37 percent of the work was awarded through competition, while exceeding small business goals and awarding \$17.8 billion direct to small businesses.

The DON accelerated the award of over \$49 billion in contracts across the entire acquisition portfolio as part of its COVID-19 response. Through close collaboration between the government team and our industry partners, the DON awarded the FFG 62 Detail Design & Construction, LPD 31 Detail Design & Construction, and P-8 Lot 11 earlier than planned, creating a predictable backlog of work for industry while maintaining adherence to federal contracting standards.

The DON has also worked across the Department of Defense (DoD) to support over \$280 million in Defense Production Act (DPA) Title III projects - \$230 million in shipbuilding and \$55 million in the aviation industrial base. Through DPA Title III projects, as well as the use of congressional supplier development funding, the Navy has taken measurable steps to shore up fragile market spaces and single sources of supply, address capacity constraints, and build resilient, sustainable workforce pipelines for critical trade skills to include welding, pipefitting, and specialized machining.

As we continue these efforts to increase transparency, improve alignment with our industry partners, and drive workload stability to reduce unplanned risk, the Department is also looking inward to our own workforce. Workforce development efforts, both in the public shipyards and targeted to our acquisition professionals, drive efficiencies in the system and improve execution of DON priorities. Navy shipyards have increased their workforce by approximately 10,000 people in the last 10 years, resulting in a current strength of just over 37,000 civilian employees. To train new hires more efficiently, the shipyards are using virtual and hands-on learning centers, reducing the time required to train new employees by more than 50 percent and enabling new workers to contribute productively to ship maintenance sooner.

For our acquisition professionals, the Department continued working to meet the training and development needs of its varied Acquisition Workforce. The DON provided expanded commercial online training opportunities, increased experiential learning through virtual rotations with industry, and held understanding industry courses at public universities for over 200 members of the acquisition workforce. The Navy has embraced the Talent Management process, continuing to evaluate and improve our capability to attract, develop, retain, and incentivize a talented and diverse workforce to meet current and future organizational needs. These efforts help ensure we have the right people, with the right skill set to deliver critical capabilities to the Fleet. We focused our Acquisition Workforce Funding to attract talent that will address critical skill gaps in the civilian and military workforce. We

also continued to leverage hiring authorities to bring on new talent with the Naval Acquisition Development Program.

The Fiscal Year 2022 President's Budget Request

The President's FY 2022 budget advances key DON priorities to defend the nation, innovate and modernize the Department, increase resilience and readiness, and build a workforce to compete and win. It balances the urgent readiness needs of our force today with investments in the future force, and reflects hard decisions to divest of less capable platforms and systems, freeing resources to invest in a future force that can deliver greater efficiency and effectiveness.

The FY 2022 request continues key investments in advanced technologies and modernization of our current Seapower and Projection forces, prioritizing the recapitalization of the strategic ballistic missile submarine, the *Columbia* class, which remains the Navy's highest acquisition priority. The FY 2022 budget supports the sustainment of our readiness recovery to deliver credible ready forces now by accelerating the Navy's Shipyard Infrastructure Optimization Program (SIOP) and fully funding two submarine overhauls in private shipyards; and the aggressive pursuit of increased lethality and modernization with the greatest potential to deliver non-linear warfighting advantages by beginning significant research and development investments for future platforms and increasing development and experimentation with unmanned surface and subsurface vessels. This includes prioritization of force design and delivery of Naval Expeditionary forces capable of imposing costs on competitors and adversaries with distributed, lethal power, and the delivery of capable capacity.

The FY 2022 budget prioritizes a capable and lethal force and balances resources and requirements to weigh the effects of program decisions on the industrial base. It maximizes efforts supporting President Biden's Executive Order on Ensuring the Future is Made in All of America by All of America's Workers, and the Build Back Better initiatives. The budget includes procurement of eight Battle Force Ships and 107 total aircraft, and shows a realistic and forward-thinking approach to planning the future force, while providing necessary capability within projected budgets. The budget takes into consideration the need to keep the shipbuilding industrial base loaded at an executable level that encourages industry investment in capital improvements, capital expansion, and a properly sized world-class

workforce.

On average, 70 cents on the dollar over the life cycle of a program is spent on sustainment and operations. Sustainment is essential to the operational availability of naval force structure required to maximize aviation and maritime dominance in the era of great power competition. The DON continues a sharp focus on improving weapon system sustainment to deliver the readiness required by the Fleet. Several key initiatives have been developed and integrated across the Department. Most notably, the DON is rolling out Sustainment Program Baselines to improve the accuracy of program requirements, funding, performance and governance of weapons systems sustainment. Additionally, newly-formed Sustainment System Working Groups (SSWGs) evaluated the current state of DON sustainment and identified more opportunities to improve and maintain readiness. To date teams from across the enterprise have developed recommendations for review and implementation throughout the SYSCOMs and warfare communities, and established DON Sustainment Communities of Practice to develop solutions, share best practices, and standardize sustainment activities. Sustainment is a critical capability and the Department is committed to doing it right.

Summary

Thank you for the strong support this Subcommittee continues to provide our Sailors and Marines. The Department of the Navy continues to deliver platforms with the requisite capability to address the maritime challenges of today with an eye to the evolving security environment of tomorrow. To do this successfully, we are instilling affordability, stability, technical rigor, and capacity into our programs in order to deliver these vital platforms to the warfighter faster within the resources you have provided. With Congress' continued support, we will ensure the DON's strategic deterrence, readiness, lethality, and capacity provide the Nation with the sustained maritime advantage required today and tomorrow.

Programmatic details regarding Navy and Marine Corps capabilities are summarized in the following section.

U.S. NAVY AND MARINE CORPS SEAPOWER CAPABILITIES

SHIP PROGRAMS

Submarines

Ballistic Missile Submarines, coupled with the TRIDENT II D-5 Strategic Weapons System (SWS), represent the most survivable leg of the Nation's strategic arsenal and provide the Nation's most assured nuclear response capability. The *Columbia* class program remains the Navy's number one acquisition priority. The lead ship started construction in October 2020 and is on track to deliver to pace the retirement of our current ballistic missile submarines, deploying for its first patrol by 2030.

The FY 2022 budget supports the continued incremental funding of the lead ship, advance procurement and advance construction of follow-on *Columbia* class submarines, and continued class design efforts. General Dynamics Electric Boat and Huntington Ingalls Industries-Newport News continue to procure component and commodity material to maintain and grow the submarine industrial base as the program builds to annual procurement beginning in FY 2026. Supporting overall program risk reduction and required schedule execution to minimize strategic deterrence coverage gaps, the FY 2022 budget request includes an increase of \$248 million as part of the Integrated Enterprise Plan to fund Continuous Production of Missile Tubes (and associated components) and Propulsors, and Multi-Program Material Procurement/Production Back-up Units. *Columbia*'s Missile Tube production is tightly coordinated with procurement of Common Missile Compartment material for the U.K. *Dreadnought* class submarines being executed under the Polaris Sales Agreement. Also included in the FY 2022 budget are development efforts to make submarines more capable.

The Navy delivered two *Virginia* class submarines in FY 2020, including the first Block IV ship, the USS *Vermont* (SSN 792). The Navy continues to build on past success with the Block V multi-year procurement (MYP) contract for the construction of nine ships, and the FY 2021 award of an option to add a tenth ship to the Block. This subcommittee's leadership and guidance played an integral role in ensuring funds were authorized and appropriated for the Navy to rapidly award the option for the 10th boat of the Block V. The second ship of Block V introduces the Virginia Payload Module, and all Block V ships will incorporate Acoustic Superiority program improvements.

The Navy, shipbuilders and related suppliers recognize that vigilance in execution and oversight of the *Virginia* and *Columbia* programs is critical. In FY 2021 the Navy is using the

\$130 million provided for industrial base support in the *Columbia* funding line to continue to execute supplier development efforts to improve the capability, capacity and stability of the industrial base. Additionally, the Navy is implementing Continuous Production for *Columbia* on selected shipyard-manufactured items to reduce cost and schedule risk, and help strengthen the industrial base with a focus on critical vendors. Advance Construction activities began June 2019 at General Dynamics Electric Boat and Huntington Ingalls Industries-Newport News to proactively manage schedule margin and reduce controlling path risks for *Columbia*.

The FY 2022 budget provides RDT&E funds to start the design of the next generation fast attack submarine (SSN(X)). SSN(X) will counter the growing threat posed by near peer adversary competition for undersea supremacy by providing increased speed, increased horizontal payload capacity, improved acoustic superiority, and higher availability as compared to the *Virginia* Class Submarines. The FY 2022 budget supports the Initial Capabilities Document and the Analysis of Alternatives, and allows design concept efforts to begin.

Aircraft Carriers

The Navy continues to focus on making USS *Gerald R Ford* (CVN 78) ready for operational use, and continues to see increased reliability on the new critical technologies. The Advanced Weapons Elevators (AWEs) have been cycled over 15,000 times, including 7,803 at sea, and are performing as designed. CVN 78 successfully completed 8,157 aircraft launches and recoveries. Ready for deployment is a Navy priority and the Department is working collectively with the Navy shipbuilding industry to transition *Ford* into Fleet operations.

John F Kennedy (CVN 79) is 79 percent construction complete. *Kennedy* transitioned to a single-phase delivery to achieve the most efficient path forward and deliver a more capable and lethal ship to the Fleet. CVN 79 is on schedule to deliver in 2024 with a complete combat systems suite and fully outfitted with F-35C ship modifications. *Enterprise* (CVN 80) construction is eight percent complete by construction man-hours and *Doris Miller* (CVN 81) has commenced material procurement. Additionally, CVN 80 is on schedule to meet its first major construction milestone, keel laying, in the second quarter of FY 2022.

The *Nimitz* class Refueling Complex Overhaul (RCOH) is key to both the maintenance and modernization of each carrier in support of the second half of its service life. The RCOH is refueling the ship's reactors, modernizing its capabilities, and repairing ship systems and infrastructure. USS *George Washington's* (CVN 73) RCOH is 89 percent complete with re-

delivery planned for August 2022. USS *John C. Stennis* (CVN 74) commenced RCOH in May 2021 and USS *Harry S Truman* (CVN 75) will begin RCOH in FY 2025.

Large Surface Combatants

The *Arleigh Burke* class (DDG 51) program remains one of the Navy's most successful shipbuilding programs with 69 ships delivered to the Fleet. Over the course of the FY 2018-2022 MYP, the Navy will procure a total of 11 Flight III DDGs, more than the planned 10 ship procurement. From a warfighting perspective, procuring one DDG-51 in FY 2022 will still provide the near-term capacity required. The shipbuilders have a total of 20 DDG-51s under contract, with 11 under construction. We assess that there is adequate near-term backlog of work at each shipyard. Navy intends to evaluate the benefits of DDG-51 FLT III follow-on MYP contracts in FY 2023-2027 to maintain the industrial base and continue to provide the latest capability to the Fleet while the DDG(X) design and risk reduction efforts are executed in parallel. These Flight III ships will provide enhanced Integrated Air and Missile Defense with the AN/SPY 6(V) 1 Air and Missile Defense Radar (AMDR) and AEGIS Baseline 10. AMDR meets the growing ballistic missile threat by improving radar sensitivity and enabling longer range detection of increasingly complex threats. The program demonstrated design maturity through its successful completion of all developmental testing. AMDR is in production for delivery to support Flight III ships and arrays have been installed in the lead ship (DDG 125) and are under test at Combat Systems Engineering Development Site in Moorestown, NJ. The first DDG 51 Flight III ship (DDG 125) is on track to deliver in FY 2023. Flight III leverages the proven Flight IIA platform with modifications for hull stability, cooling (350-ton AC plants) and power (4 MW generators / 4160 VAC) to accommodate AMDR. Aligned with Congressional intent, risk reduction integration testing of critical Flight III systems (AN/SPY-6(V) 1, Aegis Baseline 10, and power systems) will occur at land based test sites, to reduce risk prior to lead ship activation. The Land Based Engineering Site began electrical plant testing in FY 2021, and the Combat Systems Engineering Development Site achieved standalone activation of the SPY-6 array in April 2021.

Complementing the DDG 51, the DDG 1000 *Zumwalt* class guided missile destroyers provide multi-mission surface combatants designed to provide long-range, offensive surface strike capabilities. Further enhancing the offensive strike capabilities, the FY 2022 budget begins funding for integration of Advanced Payload Modules capable of launching Conventional

Prompt Strike missiles. This will provide a significant increase in offensive range with hypersonic weapons when fielded beginning in FY 2025. The DDG 1000 program continues to accomplish first-time integration of unique combat systems elements, complete PDT&T, train the crew on ship functions, and demonstrate operational performance. USS *Zumwalt* (DDG 1000) is scheduled to reach IOC in December 2021. *Michael Monsoor* (DDG 1001) final delivery is planned for March 2022. Completion of the planned construction and HM&E test and activation of *Lyndon B Johnson* (DDG 1002) at General Dynamics Bath Iron Works is 98 percent complete. Delivery of the ship is now planned for a single delivery approach following the completion of Combat Systems installation, test and activation follow-on work.

DDG 51 Flight III is highly capable, but after over 40 years in production and 30 years of upgrades, the hull form cannot accommodate the future capabilities identified by the Future Surface Combatant Force Analysis of Alternatives (AoA), including high power Directed Energy, larger missiles, increased magazine depth, sensor growth, and efficient integrated power. The future Large Surface Combatant, DDG(X), will provide the flexibility and margins necessary to succeed DDG 51 class as the Navy's next enduring large combatant. In its initial form, DDG(X) will combine the DDG 51 Flight III combat system elements with a new hull form, an efficient Integrated Power System and greater endurance reducing the Fleet logistics burden. DDG(X) will reduce combat system development risk by utilizing mature technologies that leverage the DDG 51 Flight III Navy standard program of record combat system elements and reduce engineering system development risk by land based testing of the propulsion and electrical system integration prior to detail design. Top Level Requirements were approved by the CNO in December 2020 as the basis for the Draft Capability Development Document. The Navy partnership with industry will include shipbuilder participation driving to a stable requirements baseline, concept design, and a ship designed for producibility as well as flexibility. The budget requests begins DDG(X) risk reduction through land based testing and Preliminary Design in FY 2022 leading to Detail Design in FY 2026 and start of construction in FY 2028.

Following the theme of divesting legacy capacity and force structure, the Navy plans to divest two additional cruisers (CGs) in FY 2022, beyond the five previously planned for FY 2022. Due to ongoing execution challenges, schedule delays, and resulting funding shortfalls, decommissioning these additional two ships and reallocating funds to achieve program wholeness enables completion of five remaining CGs in the 2-4-6 modernization program.

Small Surface Combatants

Strategic competition and the on-going focus on the Indo-Pacific requires a more capable Small Surface Combatant for operations in contested environments. The FFG 62 *Constellation* class is the evolution of a ship design with increased lethality, survivability, and improved capability to support the full range of military operations as part of a more lethal Joint Force. FFG 62 Capability Requirements are mature and have been refined through early engagement with industry in a collaborative Conceptual Design process that completed in June 2019. The FFG 62 program is managing development risk by combining proven ship designs with mature, best-of-breed Government Furnished Equipment designated combat system elements. The Navy will establish a FFG 62 Land Based Engineering Site to test power and propulsion systems prior to ship activation. The lead ship is under contract and is expected to start construction in FY 2022, and the second ship of the class, future USS *Congress*, was put on contract last month. The Navy is confident in the capability FFG 62 will deliver to the Fleet.

The Littoral Combat Ship (LCS) program has delivered 23 of the 35 total planned ships. By the end of calendar year 2021, 27 LCSs will have been delivered and 20 will be available to the Fleet commanders. The program plan for these ships is: four dedicated test ships; eight Surface Warfare (SUW) ships; eight Anti-Submarine Warfare (ASW) ships; and 15 Mine Countermeasure ships. The initial two test ships will decommission in FY 2021 and the third and fourth test ships will complete testing and decommission, along with LCS 7 and 9, by the end of FY 2022 to re-prioritize funding for modernization, capability upgrades, and sustainment.

The Navy has installed Naval Strike Missile (NSM) on four *Independence*-variant LCS platforms and continues to install NSM on LCS hulls this year and in the future, increasing the lethality and offensive capability of these ships. Additionally, eight NSM All Up Rounds (AURs) procured in FY 2019 began delivery in FY 2021. Procurement of material for Lethality and Survivability upgrades is on track for the first installations in FY 2023. Eleven LCS will have conducted their inaugural deployments to 7th or 4th Fleet by the end of FY 2022, providing a significant increase in Small Surface Combatant presence for Fleet Commanders which will continue to grow as the remaining ships are delivered to the Fleet. NSM is planned for installation on new construction FFG 62 Class ships as well.

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Survivability upgrades is on track for the first installations in FY 2023. Eleven LCS will have conducted their inaugural deployments to 7th or 4th Fleet by the end of FY 2022, providing a significant increase in contact layer assets for Fleet Commanders which will continue to grow as the remaining ships are delivered to the Fleet.

Amphibious Ships

Amphibious warfare ships remain a key component of the Nation's global forward presence, playing a pivotal role in responding to world crises and supporting a broad range of missions across the spectrum of conflict. Today, these ships are persistently forward deployed, operating within the range of enemy fires allowing the Naval Force to meet the Combatant Commander's missions in both the contact and blunt layers by building partner capacity, deterring enemy aggression, and providing a credible combat force ready to win should conflict occur. Partnered with industry, the DON is committed to delivering the most capable multi-mission amphibious warfare ships.

America class (LHA 6) will replace the decommissioned LHA 1 *Tarawa* and aging LHD 1 *Wasp* class ships. USS *America* (LHA 6) returned from deployment as the centerpiece of the *America* Amphibious Readiness Group/Marine Expeditionary Unit with the F-35B operating from the flight deck. USS *Tripoli* (LHA 7) delivered in February 2020 and is completing its post-delivery efforts to make the ship Joint Strike Fighter-capable and ready for its planned deployment in FY 2022. *Bougainville* (LHA 8) is 33 percent construction complete with 107 units erected to support a FY 2025 delivery. LHA 8 will include a well deck to increase operational flexibility and includes a reduced island structure that increases flight deck space to enhance aviation capability. LHA 9 has commenced long lead-time material procurement. All LHAs will be F-35B capable.

San Antonio class (LPD 17) provides the ability to embark, transport, and land elements of a landing force by helicopters, tilt rotor aircraft, landing craft, and amphibious vehicles. *Fort Lauderdale* (LPD 28) is 91 percent complete and planned for delivery in January 2022, while *Richard M. McCool Jr.* (LPD 29) is 53 percent complete and planned for delivery in the fourth quarter of FY 2023. LPD 28 and LPD 29 leveraged many design innovations and cost reduction initiatives, including the first install of the Enterprise Air Surveillance Radar (EASR) on LPD 29, as the class transitions to Flight II, integrating more high-level capabilities. The Navy awarded the first Flight II ship, *Harrisburg* (LPD 30), in March of 2019. It is eight

percent complete with a planned delivery in the second quarter of FY 2025. In addition, the Navy awarded the *Pittsburgh* (LPD 31) Detail Design and Construction contract in April 2020 with delivery planned in the second quarter of FY 2027.

Light Amphibious Warship

In support of the Commandant's Force Design, the Navy is developing a new class of medium intra theater amphibious warship, the Light Amphibious Warship (LAW). The Navy is conducting an AoA and will commence with Concept Studies and Preliminary Design this year. Upon completion of the AoA, the Navy will seek the approval of the requirements for the LAW with the Joint Requirements Oversight Council. The Concept Studies and Preliminary Design will primarily focus on commercial designs tailored for military application to enable maneuver and mobility for our integrated naval forces conducting DMO. The Department is driving towards a lead ship contract award as early as FY 2023 that will support the Marine Corps' future Marine Littoral Regiments in the Indo-Pacific region. The Light Amphibious Warship is complementary to traditional large amphibious ships; both types of ships are required to deliver Marine Corps forces to expeditionary locations.

Connectors

The Ship to Shore Connector (SSC) program provides the capability to rapidly project assault forces within the littoral operational environment to ensure the Joint Force Commander's ability to conduct amphibious operations maneuvering over-the-beach, over ice, mud, rivers, swamps and marshes. The Landing Craft, Air Cushion (LCAC) 100 class craft are the functional replacement for the legacy LCAC craft, which began reaching end of their service life extensions in 2015. The Department remains committed to maintaining this critical non-displacement craft capability with the procurement of the new LCAC 100 class and the LCAC extended service life extension program (E-SLEP) initiative for the current LCAC class. Technical issues have been resolved and production has stabilized, with craft deliveries proceeding in support of the program plan. The Navy is also replacing its aging Landing Craft Utility (LCU) fleet with the LCU 1700 program which will restore LCU's complementary heavy lift payload in a more rugged, reliable, and affordable independent operations capable platform.

Auxiliary Ships, Expeditionary, and Other Vessels

Expeditionary support vessels are highly flexible platforms used across a broad range of military operations supporting multiple operational phases. The Expeditionary Sea Base (ESB) is part of the critical access infrastructure that supports the deployment of forces and supplies to provide prepositioned equipment and sustainment with flexible distribution. The Navy commissioned USS *Miguel Keith* (ESB 5) on May 8, 2021. The ESB 6 and ESB 7 have planned deliveries in FY 2022 and FY 2024. Expeditionary Fast Transport (EPF) is a shallow draft, all aluminum, commercial-based catamaran capable of intra-theater personnel and cargo lift, providing combatant commanders high-speed sealift mobility with inherent cargo handling capability and agility to achieve positional advantage over operational distances. USNS *Newport* (T-EPF 12) was delivered in September 2020. *Apalachicola* (T-EPF 13) and *Cody* (T-EPF 14) are under construction with deliveries planned in FY 2022 and FY 2023, respectively. T-EPF 13 will include installation of evolutionary autonomy functions; serving as important point of learning as Navy advances its unmanned vessel efforts. T-EPF 14 and T-EPF 15 will incorporate fact-of-life and operational improvements that will enable an embarkable Role 2 Enhanced medical capability that allows naval forces to effectively deploy, survive, operate, maneuver, and regenerate in support of DMO.

The Combat Logistics Force (CLF) consists of T-AOE fast combat support ships, T-AKE dry cargo and ammunition ships, and T-AO fleet replenishment oilers. CLF ships fulfill the vital role of providing underway replenishment of fuel, food, repair parts, ammunition and equipment to forward-deployed ships and embarked aircraft, to enable them to operate for extended periods at sea. The *Kaiser* class (T-AO 187) fleet replenishment oilers will be replaced with the *John Lewis* class fleet replenishment oilers, designated T-AO 205 class. T-AO 205 is 91 percent complete and planned for delivery in March 2022. The two follow-on ships of the class, are 73 and 18 percent complete, respectively. Construction on the fourth ship, future USNS *Robert F Kennedy* (T-AO 208), began in May 2021. The FY 2022 budget requests funding for one T-AO.

Navajo, the first of a new class of combined towing, salvage, and rescue (T-ATS) ship is scheduled to deliver in August 2022. T-ATS is based on existing commercial towing offshore support vessel design, and will provide ocean-going tug, salvage, and rescue capabilities to support Fleet operations. The Navy expects to award two ships in FY 2021, and requests funding for two additional ships in FY 2022. The FY 2022 budget also requests funding for a T-AGOS(X)) to begin recapitalizing the Navy's Auxiliary General Ocean Surveillance ships.

The Navy's shipbuilding plan provides sustained demand for commercial shipbuilding with the aforementioned Fleet Replenishment Oiler Recapitalization (T-AO 205 Class) and Towing, Salvage, and Rescue Ships (T-ATS 6 Class), as well as Cable Ships (T-ARC(X)), Submarine Tenders (AS(X)) and Next Generation Logistics Ship (NGLS).

Strategic Sealift

The Navy continues execution of its sealift recapitalization plan, and has worked closely with USTRANSCOM to develop an effective acquisition plan to recapitalize the Department's aging strategic sealift capability at a level of moderate risk. This three-phased approach includes acquiring used commercial vessels for the surge sealift force, constructing new ships for the Maritime Prepositioning Force (MPF) to replace capacity that will begin to reach end of service life in 2029, and extending the service life of viable platforms. The FY 2022 budget continues the readiness and recapitalization commitments by providing additional used vessel procurements to replace surge sealift capability, increased material readiness of existing ships, retirement of the least ready vessels, and service life extensions. The Navy projects the newly procured used sealift vessels will require conversion and upgrade work to fully meet military requirements. This work will be performed in U.S. shipyards. We appreciate this Committee's support for the authority to procure additional used ships to recapitalize the surge sealift fleet and request that Congress remove remaining obstacles to used ship procurement. Additionally, Navy and U.S. Marine Corps are teaming to produce MPF Next Generation requirements and transition plans. Sealift new construction is most appropriate for the replacement of fully operational status ships in the MPF which support Marine Corps.

Sustainment, Modernization and Service Life Extensions

Sustaining the Navy's force structure through the maintenance and modernization of its naval vessels is key to ensuring they can meet operational demands over their design service lives and provide required capability to Fleet Commanders. The Navy has implemented targeted initiatives aimed to reduce maintenance backlogs and improve outcomes of maintenance availabilities covering the spectrum of work planning, contracting, and execution. In our public yards, the Navy is growing the capacity of the shipyards to meet the workload demand, improving the training and productivity of the workforce, and making the needed investments in our shipyards to ensure they are optimally sized, configured and modernized to best execute their

mission requirements. In the private shipyards, the Navy has focused on improving the completeness, accuracy, and timeliness of planning; working to ensure material availability; adjusting Fleet maintenance schedules to level load the ports; revising acquisition strategies to continue to promote competition, learning, stability and predictability; and streamlining Navy inspection points to improve efficiencies.

The fiscal realities facing the Navy make it imperative to maintain our in-service ships to achieve their expected service lives and maintain their relevant combat systems through modernization efforts. The FY 2022 budget requests funding for the modernization of three destroyers to sustain combat effectiveness, ensure mission relevancy, and achieve the full expected service lives of the AEGIS Fleet. Stand-alone and incremental modernization efforts and execution will continue to be assessed and aligned to defeat our adversaries throughout the life-cycle of the DDG 51 class. The Navy has evaluated the most effective balance between costs and capability by extending the service life of the most capable ships in the cruiser fleet while removing the cruisers that have the least effective ballistic missile defense capability to provide the Air and Missile Defense Commander coverage. Planning is in progress for the inactivation of the first *Nimitz* class aircraft carrier. Upholding prior commitments by the Navy to utilize the *Nimitz* class to the maximum benefit of the Nation, technical analysis of USS *Nimitz* (CVN 68), in conjunction with the latest maintenance and operational schedules, supports a limited service life extension of approximately one year past fifty years.

Shipyards Infrastructure Optimization Program (SIOP)

The Navy's four public shipyards are essential elements of our national defense. Government owned and operated, the public shipyards provide depot-level maintenance to ensure that the Navy's nuclear powered aircraft carriers and submarines are available to meet the nation's defense priorities. The Navy is in year three of the SIOP effort to transform the shipyards, positioning them to execute complex maintenance availabilities required to support a growing Navy. The plan focuses on three major areas for each of the Navy's public shipyards: dry dock recapitalization to support both current and future classes of ships; facility layout to optimize workflow within the shipyards; and capital equipment modernization to increase productivity and safety. The Navy plans to invest a total of \$830.4 million in SIOP in FY 2022 and is currently conducting a detailed analysis to support updated overall program cost estimates.

Phase II of the SIOP -- focused on executing enhanced industrial engineering analysis and the modeling and simulation of industrial processes -- is well underway. The Navy is building shipyard Digital Twins and Area Development Plans (ADPs) that will guide infrastructure modifications within the shipyard to enhance productivity. ADPs for the four public shipyards are scheduled to complete by FY 2025, with the program moving into the execution of the SIOP upon completion.

Concurrent with the ADP effort, SIOP is moving forward with dry dock recapitalization projects, facility restoration, and capital equipment investments required to meeting the demands of the Navy's Fleet Commanders. Examples of dry dock recapitalization investments include \$65 million for Planning and Design of Pearl Harbor Naval Shipyard Dry Dock #3 replacement (P-209) to support construction start in FY 2023; \$78 million for Planning and Design of Puget Sound Naval Shipyard Multi-Mission Dry Dock to support future years funding deliberations; \$250 million to support construction of Portsmouth Naval Shipyard Multi-Mission Dry Dock #1; and \$156 million for salt water system upgrades at Norfolk Naval Shipyard Dry Dock #8 to support the FORD class aircraft carrier. In addition, the Navy continues integrating SIOP efforts with ongoing shipyard focused initiatives including Industrial Process Innovation, Shipyard Performance to Plan and Naval Sustainment System Shipyards to meet projected maintenance demands. These efforts represent a substantial capital investment to deliver efficient and modernized shipyards to support the Navy fleet.

UNMANNED CAMPAIGN

The Department is moving with purpose to innovate and adapt new technologies to build a more lethal and distributed naval force. Unmanned Systems have and will continue to play a key part in future maritime operations, and there is a clear need to field affordable, scalable, and connected capabilities. The Department's *Unmanned Campaign Framework* serves as the comprehensive strategy for delivering trusted and integrated unmanned capabilities into the force.

Unmanned Surface and Undersea Vehicles

The DON is using a Family of Systems strategy to develop and employ unmanned surface and undersea capabilities that augment the manned force, and increase the cost imposed on our competitors. The Department is developing modular and capable force-multiplying

unmanned surface systems that significantly increase the standoff, reach, and protection of our manned platforms. These unmanned surface systems will be teamed with manned platforms to achieve surface dominance as outlined in the initial unmanned surface vehicle (USV) Concept of Operations (CONOPS) document completed by the Surface Development Squadron in January 2021.

As directed in the FY 2021 National Defense Authorization Act, the Navy is conducting a Distributed Offensive Surface Fires AoA to compare the currently planned large unmanned surface vessel (LUSV) with an integrated missile launcher payload against a broad range of alternative surface platforms and capabilities to determine the most appropriate vessel to deliver additional missile capability and capacity to the surface force. We expect to complete this analysis and report our findings to Congress before the end of this calendar year.

The Navy's LUSV builds upon work funded by DoD's Strategic Capabilities Office (SCO) and experimentation executed by the Navy USVs in Project Overlord. LUSV will be a high-endurance vessel based on commercial specifications, capable of weeks-long deployments and trans-oceanic transits initially in conjunction with manned surface combatants while under the positive control of a man-in-the-loop for employment of weapons systems. The Navy is taking an iterative, systems engineering approach to obtaining this technology and has designed an integration and experimentation plan that will validate high reliability mechanical and electrical systems, autonomous navigation and maneuvering, integration of combat system, and platform command and control capabilities prior to employment opportunities.

LUSV Design Studies contracts were awarded in September 2020 to six Industry teams to provide robust collaboration with government and industry to assist in maturation of platform specifications, and ensure achievable technical requirements are in place for a follow on development contract. Both Industry and the Navy are using these collaborative interactions to significantly advance the knowledge base that will feed into the LUSV program.

Medium unmanned surface vehicle (MUSV) is an unmanned sensor-ship, built to carry modular payloads, and standardized for easy integration with current Navy systems. Inexpensive compared to manned combatants, MUSVs can be built in numbers, quickly adding capacity to the Fleet. MUSV delivers a distributed sensor network that can navigate and operate with man in/on the loop oversight, and will be capable of weeks-long deployments and trans-oceanic transits. The Navy awarded a design and fabrication contract to develop the first MUSV prototype which is targeted for delivery in FY 2023.

The Navy's FY 2022 request supports continued investment in the Enabling Capabilities for MUSV and LUSV as well as comprehensive reliability and machinery plant land based testing, development efforts in combat systems, communications, command and control, machinery automation and platform autonomy, and prototype vessels operations, testing and experimentation plans.

The Navy has benefited through its prototyping and experimenting with Overlord, Sea Hunter and the recently delivered Seahawk USV prototypes accumulating over 4,200 hours of autonomous operations to include teaming with other manned ships. The Navy will continue experimentation with all prototype USVs and specific reliability demonstration efforts in FY 2021 and FY 2022 on the two SCO-funded Overlord vessels as ownership shifts to the Navy. The Navy is also building two additional Overlord prototypes that will deliver in FY 2022 to support continued experimentation, and future mission CONOPS. The Navy is evaluating other DMO applications to include logistics supply and refueling, Marine Corps expeditionary options, and enhancements to other surface platform missions. As part of this evaluation, the Navy is collaborating with Military Sealift Command and the Marine Corps to modify a T-EPF with autonomy to gain more autonomy knowledge and reliability on a class of ship equipped with V-22 landing capability, a large logistic and personnel size, weight and power capability, and the ability to operate at high speeds.

The Mine Countermeasures (MCM) USV program is development and production of MCM USV craft and Payload Delivery Systems to meet MCM Mission Package requirements. It leverages the mature craft and sweep payload developed for the Unmanned Influence Sweep System program that achieved Milestone C and Low Rate Production in FY 2020. Mine hunting payload integration (with the AN/AQS-20 towed sonar) is in progress and mine neutralizing payload integration is beginning development with the Barracuda program. Additionally, the Navy awarded a Multi Award Contract Indefinite Delivery/Indefinite Quantity in FY 2020 to provide the key enabling technologies for the unmanned surface Family of Systems.

In the undersea domain, the Navy has begun fabrication of Orca Extra Large Unmanned Undersea Vehicle (XLUUV). A competitive RFP was issued in FY 2020 for initial production of Snakehead, the Large Displacement UUV, and for production of a Medium UUV that supports both the submarine launched Razorback environmental sensing mission, as well as the Maritime Expeditionary MCM UUVs mission.

In support of these new capabilities, the Navy is also investing in enabling technologies,

such as autonomy, command and control, energy, and payloads, as well as establishing the interoperable standards and open architectures for ease of technology transition. These technologies and standards are the foundation necessary to ensure integration and transition to the fleet using a disciplined approach.

The Navy has undertaken an aggressive approach in Unmanned development through competitive prototyping in collaboration with industry to accelerate these new technologies utilizing the new authorities granted by Congress over the past few years, such as middle-tier acquisitions and acquisition agility legislation. This affords the Navy the ability to prudently prototype, experiment, and demonstrate new capabilities prior to commencing with Programs of Record. Unmanned vessels are key elements in the future naval force and the Navy fully intends to leverage the progress to inform new concepts of operation, new means of integrating unmanned and manned vessels, and new capabilities afforded by these advances.

Unmanned Aircraft Systems

As a key part of the Department's *Unmanned Campaign*, Naval Aviation fully supports the continued integration of unmanned systems into the Fleet to enable a fundamental shift in the way the DON conducts naval aviation operations. Advantages for continuing and broadening unmanned aviation efforts include decreased risk to personnel, greater persistence, longer ranges, improved data speed and accuracy, and a faster decision cycle. These capabilities offer the DON increased asymmetric operational opportunities and tactical advantages that provide the warfighters an edge to dominate and win in ongoing and future conflicts.

Naval Aviation has successfully deployed a variety of unmanned aircraft systems (UAS) to the Combatant Commanders. For example, MQ-4C and MQ-8B/C UASs are deployed and in operation with the Navy, and the Marine Corps is increasing operational requirements with the MQ-9A Reaper as the Marine Corps shifts focus to the INDOPACOM region. The DON continues to mature the concept of employment of these systems as we fly, integrate and increase quantities into the Navy/Marine Corps Fleet. Of note, reliability, maintainability and availability of UASs are comparable to manned platforms, and we continue to collaborate with our industry partners to increase readiness and lower overall sustainment costs.

Naval Aviation continues the development of new unmanned aviation capabilities. On

June 4th, MQ-25 successfully transferred fuel from its Aerial Refueling Store (ARS) to the F/A-18 using the Navy's standard probe-and-drogue method while in flight. The MQ-25 UAS demonstrated groundbreaking capabilities that will provide a critical organic aerial refueling capability to the Carrier Air Wing (CVW) and extend the CVW mission effectiveness range, increase the number of F/A-18E/Fs available for the strike fighter mission by relieving F/A-18E/Fs from the refueling mission, pioneer manned-unmanned teaming for the fleet, and provide greater range and operational flexibility to the CVW and Carrier Strike Group.

The Marine Corps will sundown the RQ-21 Blackjack (Group 3 UAS), and future operating concepts will focus on Group 2 and Group 5 operations. The Marine Corps has identified the MQ-9A UAS (Group 5) as the materiel solution for the Marine Air-Ground Task Force Unmanned Expeditionary – Medium Altitude Long Endurance (MUX MALE) capability. The Marine Corps seeks to procure six MQ-9A Extended Range systems in FY 2022, and a total of 18 systems over the next several years, to form three UAS squadrons. The Marine Corps will leverage prior existing Air Force and Marine Corps efforts to reduce risk, while providing advanced capabilities to the Marine Corps and overall joint warfighting enterprise. These squadrons will provide persistent airborne data relay in support of overall maritime domain awareness and command and control capabilities. The MQ-9A Extended Range is a critical enabler to the Naval force in building an alternate Precision, Navigation, and Timing network.

The Naval Special Warfare (NSW) command will continue to operate the RQ-21 Blackjack as their organic UAS with SOF specific payloads to avoid a capability gap until the next generation small tactical UAS (STUAS) is fielded in FY 2026. The NSW is coordinating with the Marine Corps to leverage the supply chain from the sundown of the Marine's RQ-21 program.

Manned/unmanned teaming development efforts currently underway include the development of CONOPS/Concepts of Employment for integrated operations and development of common control architectures and common standard interfaces and protocols. MQ-25 is currently leading many of our current manned/unmanned teaming efforts via the development and maturation of complex sea-based C4I UAS technologies and software algorithms that pave the way for future multi-mission UASs to keep pace with emerging threats. Towards that end, we also envision MQ-4C teaming with P-8A and MQ-8C teaming with MH-60S rotary-wing platforms.

DON unmanned programs are proceeding on a steady course and speed. The DON has

successfully developed/employed a number of new unmanned technologies and systems, observed the operational benefits of UxSs in not only combat but also drug interdiction, logistics, and day-to-day operations. We see a future where further investment and maturation in unmanned systems is not only practical – but essential to addressing the Nation’s current and future threats and needs.

Combat Systems

The Department continues to field the most capable and lethal surface and submarine combat systems in the world. AEGIS Combat System Baseline 9 delivers unprecedented offensive and defensive capabilities, including offensive strike and ASW, and simultaneous air and ballistic missile defense on destroyers and Air Defense Commander capability on cruisers. AEGIS Baseline 10 will incorporate the AN/SPY 6(V)1 AMDR for DDG 51 FLT III ships providing significant performance improvements over the AN/SPY 1D(V) radar and expanding the sensor coverage and enhancing the Navy’s ability to perform the Integrated Air and Missile Defense mission.

The DON uses open architecture that takes full advantage of evolving technology to rapidly deliver real-time, reliable, and actionable information to the warfighter and works towards breaking the paradigm of hardware-software dependent deliveries. Using virtualization technology, the AEGIS virtual twin system -- a prototype of the AEGIS Virtual Combat Management System -- is able to support the delivery of iterative updates to the AEGIS Weapon System. Navy is investing in accelerating upgrades to Integrated Combat Systems in order to ensure continuous combat superiority at sea. In addition, the Navy just stood up its first weapons system software factory (The Forge) which, in cooperation with industry, will enable rapid innovation and delivery of combat system improvements to the fleet.

The Department continues to aggressively pursue affordable systems that are employable from multiple platforms. By leveraging the investment in AMDR, the Navy plans to replace the AN/SPY-1 D (V) radar on select existing DDG 51 Flight IIA ships with scaled variants of the AN/SPY-6(V). Additionally, AN/SPY-6(V) EASR variants will become the primary Air Search Radar for aircraft carriers, amphibious ships, and the guided missile frigate. The use of a common core technology and support strategy enables significant life cycle efficiencies in maintenance support, training, and overall cost for the Navy’s primary surface ship radars.

Traditional AEGIS development has been aligned to a major new construction or

modernization effort. To meet new challenges to our maritime superiority the Navy is transforming the AEGIS development model. Baselines 9 and 10 enable regular updates, without significant modernization efforts and costs, maximizing return on investment. Future growth capacity advantages of the modern computing infrastructure in Baselines 9 and 10 will allow the Navy to continuously field capability across the AEGIS fleet via stable and continuous Capability Packages. The Capability Package model will allow Navy to bring stability to AEGIS development and outpace the threat; delivering capability at regular intervals with predictable cost, and providing the framework for the Integrated Combat System.

The Navy continued to equip its submarines with the ever-evolving undersea combat system utilizing bi-annual hardware Technology Insertions on even years and software Advanced Processing Builds on odd years. This process leverages commercial off-the-shelf (COTS) technologies via the Acoustic Rapid COTS Insertion program mitigating COTS obsolescence while providing more capability improvement at lower costs.

Weapons

Missile Programs

As the Navy carefully manages the approach to end of life of *Ohio* Class SSBNs, addressing the viability of the SWS throughout the life of the *Columbia* Class SSBNs remains a priority. The currently deployed TRIDENT II Life Extended (D5LE) missiles will support initial load-outs on *Columbia*, but production of additional D5LE missiles is not practical due to technological obsolescence and lack of an industrial base. The missiles cannot be extended due to the expiration of critical safety components. A modernization of the D5LE SWS, TRIDENT II D5 Life Extension 2 (D5LE2), is required to support later *Columbia* Class missile inventory and seamlessly sustain USSTRATCOM requirements. D5LE2 will ensure the SWS will be flexible and adaptable in order to maintain demonstrated performance and survivability despite facing a dynamic threat environment until *Columbia* end of life. The FY 2022 budget includes \$80.8 million for D5LE2 development efforts to modernize the Submarine Launched Ballistic Missile design and industrial base whose production lines were shut down over the last decade.

SM-6 missiles provide theater and high value target area defense for the Fleet, and with Integrated Fire Control, has more than doubled its range in the counter-air mission. The Navy awarded a five-year MYP contract for up to 625 SM-6 missiles in December 2019. The FY

2022 President's budget funds procurement of 125 SM-6 missiles as well as continues facilitization investments to increase production capacity. It also continues funding for the SM-2 Block IIC as a rapid prototyping project exercising middle tier acquisition authorities and funds 40 missiles for LRIP procurement. SM-2 Block IIC leverages investments made in SM-6 Block I and Evolved Sea Sparrow Missile (ESSM) Block 2 to enhance performance against numerous threats and to increase depth of fire. The SM-6 Block IB accelerated acquisition program is funded in PB22 to continue design, integration, test and transition to an MDAP program of record providing higher speed and longer-range as an offensive, multi-domain weapon.

ESSM provides another layer to the Navy's defensive battle-space. ESSM Block 2 is in Low Rate Production and plans to achieve IOC in early FY 2022. ESSM packs four missiles in each VLS cell increasing the density of defensive missiles while creating space for additional offensive missile strike capacity in VLS ships. The addition of an active seeker and numerous electronic upgrades in ESSM Block 2 provides VLS and non-VLS (Carrier and big-deck Amphibious ships) a more capable defensive missile against evolving threats. The inner layer of the Fleet's layered defense is the Rolling Airframe Missile designed to pace the evolving anti-ship cruise missile threat and improve performance against complex engagement scenarios.

Strike Weapons

The Department continues to support a wider, more systematic approach towards delivering offensive weapons balance. By preserving the readiness and capacity of our key strike weapons inventories, pursuing strike weapon capability enhancements, and developing next-generation strike missile capabilities to address emerging threats, the DON will increase overall force effectiveness to address emerging threats.

In the FY 2022 budget request, the Department sustains the Tomahawk as the nation's premier all-weather, long-range, survivable deep strike offensive weapon to include new production (60 rounds) and recertification of current inventory (156 rounds) into Block V missiles. For Block V (a) Maritime Strike Tomahawk (MST), the FY 2022 budget request procures 39 MST kits and provides continuation of initial shipboard and shore-side mission planning and funds software builds to support first test of all MST system segments at NSWC in the first quarter of FY 2022. FY 2022 MST Test and Evaluation (T&E) plans include

missile functional ground testing and missile test flights from a ground launcher apparatus to assess seeker performance, mature and refine seeker algorithms, and provide verification and validation data for Modeling and Simulation. MST IOC is planned for FY 2024. Additionally, the Department continues investment in Long Range Anti-Ship Missile (LRASM), which coupled with recent modernization efforts of Joint Air-to-Surface Standoff Missile (JASSM-ER), increases the stand-off range for Navy fighters to delivery lethal effects from relative sanctuary.

Hypersonic Program

The Navy Conventional Prompt Strike (CPS) Program Office is developing a hypersonic weapon system that will enable precise and timely strike capability against deep inland targets in contested environments. CPS and the Army Hypersonics Project Office are jointly leveraging a common missile design and test opportunities to field a non-nuclear hypersonic weapon system. The Navy plans to make USS *Zumwalt* the first Navy platform to field hypersonic capability, currently planned for the mid-2020s. In March 2020 the Services executed a highly successful flight test of the Common Hypersonic Glide Body (C-HGB), and in late May successfully conducted a test of the First Stage Solid Rocket Motor (SRM). All Up Round testing is scheduled for FY 2022. This rapid development and demonstration of hypersonic strike weapons systems supports the U.S. ability to deter, and if necessary, defeat potential adversaries.

Directed Energy

In FY 2020, the Navy provided Congress its path forward for shipboard integration of High Energy Laser systems and the risk reduction plan to continue to improve technology while growing the industrial base for these systems. Initial capabilities, such as Solid State Laser-Technology Maturation (SSL-TM) on USS *Portland* (LPD-27), continue to be valuable for shipboard experimentation and integration to inform the Navy's long term consideration of other ship classes as host platforms for laser weapons. In the FY 2022 budget, the Department is proposing \$46.3 million for continued development to further advance capabilities of laser weapons to meet ship defense missions and will install and field the first combat system integrated laser weapons system, HELIOS, onboard a DDG 51 Flight IIA destroyer. Additionally, the Department is proposing \$25.9 million to further test development for beam control, laser evolution, and combat system integration to conduct a detect to defeat

demonstration at San Nicholas Island against cruise missile surrogate targets in crossing engagements, and \$9.5 million to continue delivery of ODIN units. The Department is also collaborating and partnering with the DoD and other Services to continue to mature these advanced laser technologies to defeat more challenging threats to support and shape the future acquisition of these systems.

Manned Naval Aviation

With the support of Congress, the Navy and Marine Corps continue to implement our vision for Naval Aviation improvements. For FY 2022 the focus is to improve lethality through procurement, modernization, and divestment of legacy platforms. This will enable the DON to place the right capability in the hands of the warfighter in the most affordable manner possible.

Airborne Early Warning Aircraft

The E-2D Advanced Hawkeye (AHE) is the Navy's carrier-based Airborne Command and Control aircraft, equipped with advanced sensors and networking equipment enabling airborne multi-domain command & control, sensor awareness, combat identification, and network connectivity required by Naval and joint force commanders to provide air and sea superiority, and counter adversaries Anti-Access and Area Denial strategies. The E-2D provides unique Theater Air and Missile Defense capabilities, and is a cornerstone of the Naval Integrated Fire Control system of systems linking Navy and Marine Corps fighter aircraft, Navy surface combatants, and Marine Corps ground units.

This year the program will take delivery of five aircraft. In the fourth year of a five-year, 27 aircraft MYP contract, the FY 2022 budget requests \$884.9 million in APN for five aircraft and Advance Procurement for FY 2023 aircraft. The FY 2022 budget also requests \$386.9 million in RDT&E to continue development, integration, and test efforts to outpace the evolving threat. Modernization priorities include Hawkeye Cockpit Technical Refresh, Theater Combat ID and National Technical Means integration, Naval Integrated Fire Control development and test, ALQ-217 Electronic Support Measures updates, Cyber Protection, Counter Electronic Attack, Sensor Netting, Cooperative Engagement Capability (CEC) Signal Data Processor (SDP) and Data Fusion.

Maritime Patrol Aircraft

The P-8A Poseidon combines the proven reliability of commercial 737 airframes with modern avionics, military communications, and advanced sensors and weapons to provide a range of advanced warfighting capabilities. P-8A capabilities include full-spectrum, wide area, cue-to-kill Anti-Submarine Warfare; Anti-Surface Warfare; and networked Intelligence, Surveillance, and Reconnaissance (ISR). The P-8A program will complete the replacement of the legacy P-3C Orion, and P-8A squadrons now deploy continuously to all areas of the globe to maintain U.S. maritime dominance, freedom of maneuver, and access to sea-lanes supporting global commerce.

The warfighting requirement is 138 aircraft, including U.S. Naval Reserve squadrons and quick reaction capable aircraft, with 128 aircraft funded. Boeing intends to initiate P-8A production line shutdown activities in FY 2022 if no additional P-8A orders are received. As of April 30, 2021, 106 U.S. aircraft have been delivered.

Since inception, the P-8A has consisted of three Increments. Increments 1 and 2 have fielded and Increment 3 is scheduled to IOC in FY 2025. Increment 3, which consists of ECP 6 and ECP 7, increases ASW capabilities including ASW Signal Intelligence (SIGINT), Wideband SATCOM, Higher-Than-Secret (HTS) processing, enhanced track management and sensor fusion (Minotaur), and Enhanced Multi-Static Active Coherent (MAC-E). P-8A test aircraft began the ECP 6 modification in April 2021 to support developmental and operational testing beginning in FY 2022. ECP 7 encompasses advanced algorithms to the acoustic processors, software improvements, and MAC-E sonobuoy improvements. The FY 2022 request includes \$201.1 million in RDT&E for integration of ECP 6 and ECP 7 to complete baseline capability fielding, and rapid development efforts for evolving threats, and \$131 million in APN for fleet modification kits, deficiency corrections, safety upgrades, and production line shutdown activities. P-8A incremental upgrades ensure the Navy paces the undersea threat and supports distributed net-centric maritime operations.

TAKE CHARGE AND MOVE OUT (TACAMO)

The Navy's TACAMO nuclear command, control and communications (NC3) mission, flown today on the E-6B Mercury (Boeing 707) aircraft, provides communications to the nuclear triad through all phases of a nuclear conflict. In FY 2022, the Navy will accelerate recapitalization of this vital NC3 mission from the aging fleet of 16 E-6Bs onto

the C-130J-30 (stretched Super Hercules) aircraft. Funding in FY 2022 includes \$60.1 million of RDT&E for non-recurring engineering and long-lead procurement for three C-130J-30 test aircraft and \$58.7 million of RDT&E for mission systems design and development. Recapitalization of the TACAMO mission on the C-130J leverages a proven platform for integration of mature TACAMO capabilities, supporting U.S. nuclear deterrence and *Columbia's* assured second strike for decades to come.

KC-130J (USMC)

The KC-130J remains a force multiplier for deployed Marine Air-Ground Task Force (MAGTF) success, bringing increased capability, performance, and survivability with lower operating and sustainment costs. The KC-130J is in high demand as it provides tactical air-to-air refueling and organic lift capabilities to deployed Marine Expeditionary Units and future Marine Littoral Regiments. The FY 2022 budget requests \$588.9 million in APN to procure six KC-130Js through an Air Force contract. This request supports a fourth Marine Corps active-duty squadron that will be postured in the Indo-Pacific region.

Tilt-Rotor Aircraft (USMC MV-22 Osprey and Navy CMV-22B)

Marine Corps MV-22 Ospreys currently have a continuous presence in INDOPACOM, CENTCOM, and EUCOM. The Marine Corps has a requirement to procure 20 additional aircraft through the MYP (FY 2018-2022). The MV-22 Common Configuration-Readiness and Modernization (CC-RAM) is executing, and while still early in the program, yielding improved readiness rates. The FY 2022 budget requests \$90.0 million in RDT&E for continued MV-22B development and product improvements, including a revolutionary capability (Helmet Mounted Display/Degraded Visual Environment (HMD/DVE)) to improve pilot situation awareness and safety in degraded visual environments; \$458.7 million in APN for five MV-22s and long-lead materials; and \$300.1 million for modifications, of which \$150.6 million is for CC-RAM.

The Navy is continuing development of Carrier On-board Delivery mission aircraft, leveraging MV-22 investment to recapitalize the legacy C-2 fleet with CMV-22B tilt-rotor aircraft. CMV-22B's first flight occurred in December 2019 and the aircraft transitioned into developmental test in January 2020. The program is currently in operational test leading to IOC and its first deployment in the fourth quarter of FY 2021. The FY 2022 budget requests \$18.0 million in RDT&E for continued development, testing, and product improvements; \$293.0 million

in APN for three CMV-22Bs and long-lead materials; and \$12.7 million for readiness and interoperability improvements.

FY 2022 will be the last year of V-22 procurement and Bell Boeing intends to initiate V-22 production line shutdown activities if no additional V-22 orders are received. This will bring the Marine Corps' MV-22 procurement to 355 aircraft and Navy's CMV-22 procurement to 44 aircraft.

CH-53K

As the only fully marinized heavy lift helicopter in the DoD, the CH-53K supports both current and future warfighting concepts by providing agile maritime logistical connectors with greater payloads and speed than any current or emerging rotorcraft. The CH-53K contributes to a more lethal joint force by enabling forces to rapidly transition from contact to blunt layer activities -- and back again. In the past year, the CH-53K program has demonstrated significant progress in executing development and flight test activities, continued training of aircrew and maintainers at the Marine Corps' operational test and evaluation squadron, VMX-1, and continued Low Rate Initial Production. To date, the CH-53K has flown nearly 2,300 developmental flight test hours and is nearing completion of all test activities in support of operational testing. Notably, the fire suppression system uses a more ecologically friendly HFC-125 suppressant, a technical milestone only a few other Department of the Navy platforms have achieved. The program is well positioned to begin Initial Operational Test and Evaluation (IOT&E) this summer. During FY 2022, the program will complete IOT&E and Live Fire Testing, continue to expand the CH-53K's envelope through ground and flight testing and analysis, and procure the sixth Low Rate Initial Production Lot.

The FY 2022 President's Budget requests \$256.9 million in RDT&E to continue the CH-53K development and test, and \$1.5 billion in APN for procurement of nine low rate initial production aircraft, including advanced procurement and initial spares.

Counter Unmanned Aircraft Systems (C-UAS)

The Navy continues implementation of integrated C-UAS solutions designed to protect high value and critical naval assets afloat and ashore as well as provide basic defensive measures at priority shore installations against the threats posed by unmanned aircraft systems. Our efforts focus on maintaining commonality of current C-UAS solutions while rapidly

evaluating, improving and implementing an integrated family of systems to defeat evolving threats afloat and ashore. Afloat standalone detection and engagement solutions deliver near term capability while building long term C-UAS capability into integrated shipboard systems. Additionally, future sensors and weapon systems are designed to include capabilities to address the C-UAS mission.

We are rapidly pursuing refinement of material solutions, threat-based mission assessments, and development of advanced target discrimination and defeat capabilities while continuing installation, integration, improvement, and sustainment of C-UAS capabilities worldwide. We continue engaging with the Army in their role as Executive Agent (EA) for counter small unmanned aircraft systems (C-sUAS) to develop and execute a deliberate, repeatable process to identify prioritized areas for investment and focuses for development. Additionally, in partnership with the C-sUAS EA, we are refining an open architecture solution and interoperability standards as well as identifying or developing additional detect and deter capabilities to integrate into the C-UAS family of systems.

MARINE CORPS GROUND PROGRAMS

The Marine Corps' ground programs are a vital contribution to the integrated Naval and Joint force that can achieve success in both maritime gray zone competition and traditional conflict. The Marine Corps is developing ground-based, long-range precision fires as an anti-ship capability to contribute to Distributed Maritime Operations. Additionally, the Marine Corps will provide intelligence and communication capabilities on a daily basis, enabled through a system of sensors and communication networks, which will be employed by our Marine Littoral Regiments.

Long-Range Precision Fires

As the Nation's Stand-In force, the Marine Corps is uniquely suited to provide precision fires from land-to-sea in the prosecution of naval campaigns. While this is a significant change from the past two decades of land-based operations, we are implementing this change to maximize the Marine Corps' deterrent and combat capabilities in support of future naval campaigns. Simultaneously, we retain our national crisis response force capability.

Ground-Based Anti-Ship Missile (GBASM)

GBASM is the Marine Corps' top modernization priority and is the key lethality component for the Marine Corps to facilitate sea denial in support of naval and joint operations. The current materiel solution for GBASM is the Navy-Marine Expeditionary Ship Interdiction System (NMESIS) which consists of two Naval Strike Missiles mounted on a remotely operated JLTV-based chassis. The capability creates cost impositions for an adversary by introducing a new and highly credible threat into their decision-making, while providing us with a relatively low cost and highly effective capability.

By combining existing technologies in the missile and the platform, the Marine Corps has reduced programmatic risks through the use of proven capabilities, which enables us to move faster. The Marine Corps successfully tested this system in November 2020, and in our FY 2022 budget request, we are seeking funding for 10 test systems for further developmental and operational testing. With the ability to strike enemy ships at ranges of 100 nautical miles and beyond, we believe it will be a "game changer" for the Marine Corps, the Naval Fleet Commander, and combatant commanders.

Organic Precision Fires (OPF)

OPF is a family of loitering munition systems that will provide multiple echelons of the Fleet Marine Force with beyond-line-of-sight, precise fires capabilities. As a "hunter – killer" capability, OPF will provide continuous surveillance before, during, and after conducting lethal strikes against targets, while reducing potential for collateral damage. Furthermore, these systems will be capable of engaging targets at extended range with sufficient lethality to defeat armored, water-borne, and personnel threats.

Long-Range Unmanned Surface Vessel (LRUSV)

The Marine Corps envisions LRUSV as an uncrewed vessel, approximately 45 feet in length, capable of conducting semi-autonomous maneuver in the open ocean for extended periods of time. The vessel will serve as a platform for the launching of Organic Precision Fires, thus providing reconnaissance and surface-launched strike capabilities. Through extensive wargaming, the LRUSV has demonstrated the potential to generate significant operational impact, benefitting the Navy and Marine Corps' anti-surface warfare campaigns. The Marine Corps is taking a deliberate approach to capability development using prototyping and

experimentation to reduce technical and integration risk, validate designs, and better inform achievable and affordable requirements, with the ultimate goal of delivering capabilities to the Marine Corps and Joint Force in the mid- to late-2020s. The Marine Corps has already contracted for three prototypes, and with our FY 2022 budget request, we will seek to procure two additional prototype vessels to begin experimentation.

Resilient Sensors and Communication Networks

To enable naval and joint force commanders across the competition continuum, the Marine Corps must not only become lighter and more lethal, but also must enhance its ability to enable joint command and control, as well as reconnaissance and counter reconnaissance operations. Thus, the Marine Corps is working on more resilient and interoperable networks and data systems that will support Marines' sensing and communication capabilities, enabling the Navy Tactical Grid and Joint All-Domain Command and Control. This creates advantages for Marines across key maritime locations and provides the required information for uniformed and civilian leaders to make sound judgments.

Ground/Air Task Oriented Radar (G/ATOR)

G/ATOR is a state-of-the-art, ground-based, short-to-medium range, expeditionary radar system designed as a single materiel solution to satisfy air surveillance, air defense, ground counter-fire and counter-battery, with the ability to perform air traffic control mission sets. The radar is transportable by organic Marine Corps means. G/ATOR enables Marines to control designated airspace by way of detecting, tracking, classifying, and accurately determining the origin of enemy projectiles and air threats. Notably, G/ATOR will support forward-postured Marines by providing surveillance and detection of enemy air threats, not easily identified by other radar assets in congested littoral environments. The G/ATOR radar is already in service in the Pacific region, and the Marine Corps will continue to procure and field this highly capable radar system. In addition to G/ATOR, the Marine Corps is developing the Multi-Domain Radar for a Contested Environment (MuDRaCE). This advanced system is complementary to the G/ATOR and will enhance the Marine Corps and Joint Forces' situational awareness.

Marine Electronic warfare Ground Family of Systems (MEGFoS)

MEGFoS is an electronic warfare system that serves to counter improvised explosive

devices and unmanned aerial surveillance threats while also providing limited counter-communications capabilities. This family of systems, which includes mounted and dismounted variants, is in development. Through the use of the electro-magnetic spectrum, MEGFoS will have the ability to locate and identify adversary forces while simultaneously providing friendly forces feedback on their signature management operations. MEGFoS will enable the Marine Corps to maneuver, fight, and sustain itself through the exploitation of the electro-magnetic spectrum.

Network On The Move (NOTM)

NOTM is comprised of a robust communication system mounted on a ground combat vehicle or aviation platform. NOTM provides terrestrial line-of-sight and beyond line-of-sight satellite communications for Marines at-the-halt and while on-the-move. NOTM is purpose built to support our naval and joint concepts that require our forces to fight in a distributed manner by allowing dispersed commanders the ability to effectively command and control forces in a contested all-domain environment. The Marine Corps is currently fielding these systems that will allow for seamless command and control for maneuvering units in the future.

Next Generation Satellite Communications

Marine Corps Wideband Satellite Communications Family of Systems (MC-WSATCOM FoS) is a comprehensive, integrated, and sustainable solution designed to address current and future warfighting capability needs using military and commercial SATCOM systems in both contested and permissive electro-magnetic spectrum environments. The MC-WSATCOM FoS will replace legacy very-small-aperture terminal communications systems, enable command and control of forward postured Marines, and be fully interoperable with naval and joint wideband SATCOM systems.

Frederick J. Stefany**Assistant Secretary of the Navy for Research, Development and Acquisition (Acting)**

On January 20th 2021, Mr. Frederick J. (Jay) Stefany assumed the duties of Acting Assistant Secretary of the Navy for Research, Development and Acquisition. In October 2019, Mr. Stefany began serving as the Principal Civilian Deputy to the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RDA). His responsibilities include oversight and policy for Navy and Marine Corps research, development, and acquisition/sustainment programs for shipbuilding, aviation, space, weapon systems, and communication systems. His portfolio includes oversight of more than 100,000 people and an annual budget in excess of \$50 billion. Mr. Stefany also leads the Department's Senior Executive Acquisition Corps.

Prior to that he served as the Deputy Assistant Secretary of the Navy for Ship Programs from April 2018 through September 2019. In this role, he was responsible for executive oversight of all naval shipbuilding programs, major ship conversions, and the modernization and disposal of in-service ships. He was also responsible for executive oversight of cost, schedule and performance of surface ship, submarine, and Marine Corps combat systems, electronic warfare systems, shipboard radars, and Navy missile defense programs.

Previously Mr. Stefany served as Executive Director, Amphibious, Auxiliary and Sealift Office, Program Executive Office, Ships. He provided executive leadership to 200 personnel and oversaw one of the broadest acquisition portfolios in the Navy. His responsibilities spanned four major program offices where he oversaw several major shipbuilding programs including LHA 6, LPD 17, EPF, ESB, T-AKE, T-AO(X), and Heavy Icebreaker ship classes, as well as ship-to-shore connectors, landing craft, research ships, service craft & boats, and procurement of vessels for our Foreign Military Sales and other Federal Government partners.

Mr. Stefany entered the Senior Executive Service in March 2012, and has been in civil service for more than 37 years. Serving in a variety of key leadership positions throughout his career, including Program Manager and Deputy Program Manager for the LPD 17 Class Amphibious Transport Dock ship program (2004-2012). During his tenure, the first six ships of the San Antonio Class were delivered; and construction started on four additional hulls. He also assumed responsibilities for management of the initial concept work on a replacement for the Navy's Command & Control Ships and later, the replacement for the LSD 41 and 49 class ships.

Previous assignments include Director of Naval and Commercial Construction (2002-2004), responsible for oversight of the Navy's portfolio of Amphibious, Auxiliary and Special Mission ships and craft for the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RD&A); Assistant Program Manager in PMS 377 for LCAC and for Amphibious Ship Combat/C4I Systems; and Project Engineer for both the LHD 5-7 and LHD 1-4 ship acquisition programs as PMS 377 delivered LHD 1-6 and LSD 52 to the Fleet.

Mr. Stefany received his bachelor's of science in mechanical engineering from Lehigh University, Bethlehem, Pa., and his master's of science degree in management from the Florida Institute of Technology, Melbourne, Fla. He is also a 1996 graduate of the Defense Systems Management College, Advanced Program Management Course. During his distinguished federal career, Mr. Stefany has received the Presidential Rank Award for Meritorious Service, Navy Civilian Meritorious Service Award and two Navy Civilian Superior Service Awards.

11 Feb 2021

Vice Admiral James Kilby
Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities, N9
Office of the Chief of Naval Operations

Vice Adm. James Kilby is a native of Pound Ridge, New York, and a 1986 graduate of the United States Naval Academy.

Kilby's sea tours were on USS Sampson (DDG 10), USS Philippine Sea (CG 58) and two tours on USS San Jacinto (CG 56). He commanded USS Russell (DDG 59) where he received the Vice Adm. James B. Stockdale Award for inspirational leadership. His major command was on USS Monterey (CG 61) and included her maiden Ballistic Missile Defense (BMD) deployment in 2011.

His shore tours included the Naval Postgraduate School, two tours in Office of the Chief of Naval Operations' Surface Warfare Directorate (OPNAV N96), Navy Personnel Command's Surface Warfare Division (PERS-41) and the Aegis BMD Program Office in the Missile Defense Agency.

Kilby's first flag assignment was standing up Naval Surface and Mine Warfighting Development Center (SMWDC). Following this, he served as commander, Carl Vinson Strike Group and deployed to the western Pacific in 2017. His most recent assignment was as Director, Warfare Integration (OPNAV N9I).

He assumed his role as Deputy Chief of Naval Operations for Warfighting Requirements and Capabilities (OPNAV N9) in July 2019.

Lieutenant General Eric M. Smith
DC, CD&I

Lieutenant General Smith is from Plano, Texas and entered the Marine Corps in 1987 through the NROTC program at Texas A&M University. After completing The Basic School and Infantry Officer's Course, he was assigned to 2nd Battalion, 3rd Marines; participating in Operations Desert Shield / Desert Storm. Following a tour as an Officer Selection Officer, he attended the Amphibious Warfare School and then reported to 2nd Battalion, 2nd Marines for duty as Commanding Officer of Weapons and Echo Companies. During this tour he participated in Operation Assured Response in Monrovia, Liberia.

After a tour as a Marine Officer Instructor at Texas A&M University, he attended the United States Army Command and General Staff Course. His next assignment was as the Naval Section Chief at the U.S. Military Group in Caracas, Venezuela from 2001-2003.

From 2003 until 2006, he served in the 1st Marine Division as the Division Current Operations Officer; Executive Officer of Regimental Combat Team 1; Commanding Officer of 1st Battalion, 5th Marines; and Assistant Chief of Staff G3. During this period he completed two deployments to Iraq in support of Operation Iraqi Freedom. Subsequent assignments were as a student at the Marine Corps War College, Senior Aide to the Commandant of the Marine Corps, and Director of the Fires and Maneuver Integration Division at the Marine Corps Combat Development Command.

From 2009 until 2012 he served in the 2nd Marine Division as the Assistant Chief of Staff G3 and Commanding Officer of 8th Marine Regiment; completing a one-year deployment to Afghanistan in support of Operation Enduring Freedom.

In June of 2012 he reported for duty as the Director of Capability Development Directorate, and in May of 2013 he was assigned as the Senior Military Assistant to the Deputy Secretary of Defense.

From July through November of 2015 he commanded Marine Corps Forces Southem Command in Miami, Florida, and was then transferred to the Pentagon to serve as the Senior Military Assistant to the Secretary of Defense.

From February 2017 until June 2017, he served as the Assistant Deputy Commandant for Plans, Policies and Operations. From June 2017 until July 2018, he served as the Commanding General, 1st Marine Division. From August 2018 until June 2019, Lieutenant General Smith served as the Commanding General, III Marine Expeditionary Force.

On 13 June 2019, Lieutenant General Smith assumed responsibility as the Commanding General, Marine Corps Combat Development Command, and the Deputy Commandant for Combat Development and Integration, Headquarters, U.S. Marine Corps.

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

JUNE 17, 2021

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. I'm very happy with how enthusiastically the Navy has embraced directed energy in the future with the upcoming Directed Energy Campaign Plan and future ship classes getting designed to accommodate the technology. Looking at the current fleet, I saw the HELIOS on the unfunded priority list. What is the Navy doing to field directed energy systems today? When will we see a budget that prioritizes the fielding of high energy lasers in quantities that are relevant to the fight? Before my time runs out, Mr. Stefany, your written testimony mentions that the Navy is investing against cyber protection in this PB, but it looks like the major cyber accounts have relatively flat funding. Where are you making these investments?

Mr. STEFANY. [No answer was available at the time of printing.]

