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355–SHIP NAVY: DELIVERING THE RIGHT CAPABILITIES

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[There were no Questions submitted post hearing.]

355–SHIP NAVY: DELIVERING THE RIGHT CAPABILITIES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Thursday, April 12, 2018.

The subcommittee met, pursuant to call, at 3:38 p.m., in room 2118, Rayburn House Office Building, Hon. Robert J. Wittman (chairman of the subcommittee) presiding.

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

Mr. WITTMAN. I want to call to order the House Armed Services Subcommittee on Seapower and Projection Forces.

I want to thank our witnesses for joining us today. And we are here to discuss the 355-ship Navy and options that Congress may consider to deliver the required fleet.

Appearing before us today to discuss this important topic are three esteemed Navy witnesses. The Honorable James Geurts, Assistant Secretary of the Navy, Research, Development, and Acquisition; Vice Admiral William R. Merz, Deputy Chief of Naval Operations for Warfare Systems; and Vice Admiral Tom Moore, Commander, Naval Sea Systems Command [NAVSEA].

I want to thank you all for your service as well as for appearing before the subcommittee today to discuss the Navy's fleet requirements and various options for Congress to pursue to meet the Navy's needs.

In previous hearings, I have expressed my concern as to the 30-year shipbuilding plan's inability to reach the required 355-ship Navy. The Navy's plan only reaches 342 ships by 2039. Critical shortfalls in aircraft carriers, and large-deck amphibs [amphibious assault ships], and attack submarines will severely challenge future Navy operations. And I am particularly troubled by the administration officials who advocate as to obtaining the required 355-ship Navy without consideration of other concerns expressed by this subcommittee.

The 355-ship Navy is more than just a slogan. It is a requirement that was carefully considered by the Navy, enacted by Congress, and signed into law by the Commander in Chief. We need both quality and quantity to be successful in dissuading potential aggressors.

As to this hearing today, I look forward to our panel discussing options that Congress may consider to fulfill our constitutional duty to provide and maintain the Navy. I think Congress has a multitude of options that could be pursued to limit Navy shortfalls

and change the trajectory of our Navy's fleet. These options include expanding the Navy by building our way to meet the requirement. But I also believe that the Navy could pursue other options to improve maintenance as well as modernize and extend the fleet in service today.

As to aircraft carriers, I believe that it is imperative that we rapidly obtain the required 12 aircraft carriers and pursue a 2-ship block procurement that has the potential to save more than $2.5 billion. Furthermore, we need to examine options to extend the current fleet which should include a careful examination of the service life available with *Nimitz*-class aircraft carriers.

Finally, I am particularly concerned about administrative limitations associated with the Department's intent to shock trial CVN 78 [USS *Gerald R. Ford*]. I understand that such a decision will delay the introduction of the USS *Ford* by 9 months and delay significant learning that can only occur while this ship is underway.

I am also concerned about the submarine force structure. We currently have 51 attack submarines and are on a rapid path to reduce this force structure to 42 submarines by 2028. This is the exact opposite direction to meeting the fleet requirement of 66 submarines.

Fortunately, we have several options to alleviate this reduction, and I support an innovative effort by the Navy and Naval Reactors to extend the service life of five *Los Angeles*-class attack submarines and using existing unused reactor cores. I am also supportive of adding new construction submarines in accordance with the *Virginia*-class multiyear procurement authorized in fiscal year 2018 NDAA [National Defense Authorization Act].

With regards to our large surface combatants, this committee was instrumental in reversing a prior Navy course to decommission half of our existing cruisers. I am glad that we have been able to turn the tide on this budget proposal, but there is more work to be done. Many of our older destroyers have not been adequately modernized. The lack of budget authority has stranded many Flight I and Flight II destroyers and impaired our ability to meet their required service life.

While the Navy has done a very good job in preparing a plan for the service life extensions of cruisers, amphibs, and submarines, I think that we need to provide significant emphasis on the modernization of the older destroyer fleet.

Finally, our auxiliary fleet is in need of serious upgrades. And I don't think anyone would agree that a 42-year-old surge lift sea fleet is sufficient.

The Army indicated that they face an unacceptable risk in force production beginning in 2024 because of the deficient surge sealift fleet. The Navy's recapitalization proposal does not meet the Army timelines. It is a classic military service gap issue. We need to close this seam.

As this is our last hearing before the NDAA markup, I think it is appropriate to consider the words of our first President. And in the conversations with Marquis de Lafayette at the conclusion of the Revolutionary War, George Washington was attributed to saying, "Without a decisive naval force, we can do nothing definitive, and with it, everything honorable and glorious."

Our forefathers knew the power attributed to a standing Navy. As we prepare for the testimony of this esteemed panel, I hope that we can remember the importance of our naval forces, their deterrent value, a deterrent value to war.

I would now like to turn to our ranking member, Mr. Courtney, thank him for his leadership, and, Joe, for your remarks.

[The prepared statement of Mr. Wittman can be found in the Appendix on page 33.]

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

Mr. COURTNEY. Great. Thank you, Mr. Chairman, and thank you to our witnesses for once again coming over to testify before the subcommittee to discuss the future of the Navy size and force structure.

In 2016, the Department of the Navy produced a new Force Structure Assessment [FSA] which determined that the Navy our Nation needs is a 355-ship Navy, up from the prior 2014 FSA that set a target of 308 ships. This is not a number that the Navy came to simply because it believed it needed a larger force. It reviewed and validated the stated requirements and the real-world demands faced by our combatant commanders. And it looks to present challenges and those expected in the decades ahead.

Unfortunately, as the chairman said, the administration's last two budget requests have fallen short of a plan to achieve the goal of attaining the 355-ship level in a strategically meaningful amount of time. The latest long-term shipbuilding plans do not achieve that level at any time in the next three decades and likely will not under current estimates until the 2050s.

The good news is, is that the Navy itself has made clear in the new shipbuilding plan that there is room to grow our investments in ships and submarines above and beyond the plan laid out in the 2019 budget. Our subcommittee last year worked hard on a bipartisan basis to produce a defense bill that adding new ships provided strong multiyear authorizations that made clear that achieving a 355-ship Navy is the law of the land and feasible within a shorter timeframe.

All three of our witnesses have been before our panel in public testimony and private meetings regularly over the last few weeks and months. I hope that you have all come away from these sessions with a good understanding of how our subcommittee works well together to produce a solid bill in support of shipbuilding and our at-sea capabilities.

Above all, I hope you have gotten the message loud and clear that we are ready to move ahead in a constructive way to do all we can to achieve the 355-ship Navy. What we need from you as we begin our work in the 2019 defense bill is a commitment to work with us to utilize all the tools that we have available here in Congress and the Navy to get to that target.

At the same time, I think we all understand that achieving this higher force is not going to happen overnight, nor is it something that we can simply build our way into in the next 5 or 10 years. We need a comprehensive approach that includes not only building

new ships to making sure that we maximize the capability and availability of our existing fleet. A ship in extended dry dock, or worse sitting pier side waiting to be dry-docked, is of no use to our combatant commanders and only puts more strain on an overstretched fleet.

I have shared with our witnesses my ongoing concern about continued delays and shortfalls in maintaining our ships, particularly with our attack submarine fleet. I have seen promising testimony from the Navy this year about the recognition of the need for a more comprehensive approach that leverages available capacity in both our public and private shipyards. However, we have more work ahead to ensure that we are moving forward in the smartest way possible, and I look forward to discussing this issue further with our witnesses today.

Our job in Congress is to deliver the authority and resources. It is the Navy's job to execute those authorities and resources. I look forward to the discussion with our witnesses today to deliver the right mix of capabilities as we drive forward towards growing the fleet that the Nation needs.

And with that, I yield back, Mr. Chairman.

Mr. WITTMAN. Thank you, Joe. Thanks again for your leadership.

I want to now turn to our panel. And Assistant Secretary Geurts, I understand that you are going to be making the statement for the panel, so I will turn the floor to you.

STATEMENT OF JAMES F. GEURTS, ASSISTANT SECRETARY OF THE NAVY, RESEARCH, DEVELOPMENT, AND ACQUISITION; ACCOMPANIED BY VADM WILLIAM R. MERZ, USN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR WARFARE SYSTEMS; AND VADM THOMAS J. MOORE, USN, COMMANDER, NAVAL SEA SYSTEMS COMMAND

Secretary GEURTS. Thank you, sir.

Chairman Wittman, Ranking Member Courtney, distinguished members the subcommittee, thanks for the opportunity to appear before you today to address the Department of Navy's plans to deliver the right capabilities for the Navy's 355-ship plan.

I am joined here today by Vice Admiral Bill Merz, Deputy Chief of Naval Operations for Warfare Systems, and Vice Admiral Tom Moore, Commander of the Naval Sea Systems Command.

With your permission, I intend to provide brief opening remarks for the three of us, and submit our statement for the record.

Mr. WITTMAN. Without objection.

Secretary GEURTS. As detailed in the 2018 National Security Strategy and the 2018 National Defense Strategy, in order to retain and expand our competitive advantage, it is imperative we continuously adapt to the emerging security environment and do so with a sense of the urgency. This requires the right balance of naval readiness, capability, and capacity as well as budget stability and predictability. It requires a Navy of at least 355 ships.

The fiscal year 2018 Bipartisan Budget Act and the fiscal year 2019 President's budget request chart a course to begin building this larger, more capable battle force our Nation needs. Strong congressional support in 2018 Bipartisan Budget Act funded 14 ships in 2018, an increase of 5 ships including the lead Flight II LPD

[amphibious transport dock] 17 class amphibious ship. It also includes strong support for the critical industrial base, a key element of our national security. Thank you for that unwavering support.

The 2019 budget request builds towards this larger, more capable force and reflects the continuous commitment to produce a 355-ship Navy. When compared to the 2018 budget request, 2018 adds 11 more ships over the FYDP [Future Years Defense Program] for a total of 54 ships, with 3 additional ships in fiscal year 2019 as well as advanced procurement for the *Columbia* SSBN [ballistic missile submarine].

As stated upfront in our fiscal year 2019 shipbuilding plan, the Navy continues to aggressively pursue options to accelerate the achievement of a 355-ship Navy. Executing the ship construction profiles in the shipbuilding plan, coupled with extending the service life of the DDG 51 class [*Arleigh Burke*-class guided missile destroyer] and targeted service extensions of up to five SSNs [attack submarines], this provides an achievable strategy to accelerate reaching our goal of 355 ships from the 2050s to the 2030s.

As this service life analysis work continues across all classes of ships, you will see adjustments to our timelines in subsequent shipbuilding plans. As we accelerate growing our Navy to meet the 355-ship Navy requirement, we will also be working to ensure we deliver overall best mix of naval capabilities to meet the National Defense Strategy including focus on our logistics fleet and our hospital ships.

We look forward to continuing to work closely with this subcommittee on the options and opportunities to achieve this Navy the Nation needs and do so urgently and affordably. We thank you for the strong support of the committee that has provided the Department of the Navy the opportunity to deliver on our 355-ship requirement, and we look forward to answering your questions.

[The joint prepared statement of Secretary Geurts, Admiral Merz, and Admiral Moore can be found in the Appendix on page 35.]

Mr. WITTMAN. Very good. Thank you, Secretary Geurts. Appreciate all of your efforts. And both Vice Admiral Merz and Vice Admiral Moore, thank you all so much for being here with us today.

Let me begin quickly, and then I am going to go to my colleagues here.

To you Vice Admiral Merz, in looking at the existing destroyer fleet and looking at the modernization plans, it does appear as though there is a significant gap in modernizing Flight I destroyers and Flight II destroyers. And there is significant gaps there. And it seems like a lot of those ships are not going to make it to their expected service life because we are essentially front-loading much of the modernization on later generation Flight IIs and Flight IIAs. And I understand that with upgrading radars and baseline 9 improvements through the Aegis programs.

But I wanted to get your perspective on how do we take advantage of those existing ships to get the full service life expectations out of those ships, especially with a lot of the technology that is there today? Mr. Norcross and I had an opportunity to travel to the Aegis operational center there where they are bringing in some of

the new radars to test up in Morristown, New Jersey, as well as Lockheed. And we have had conversations with Raytheon.

There is a lot of technology out there that seems to me that could be put into these Flight I destroyers and Flight II destroyers that would give us capability that extends well into the years, gets us more quickly to the 355-ship number, and really modernizes these systems as the Navy envisions this multi-ship platform increased lethality into the future battle space.

So give me your perspective on how the Navy envisions that going in the future.

Admiral MERZ. Yes, sir, Mr. Chairman. And thanks for that question, because it really does tee up a little bit larger conversation on how we are approaching the DDG 51 class.

So as promised and as stated in the shipbuilding plan, you know, we saw a path to accelerate this 355 achievement as quickly as to the 2030s. And recently, NAVSEA completed the analysis of that class. So we will, in fact, be extending the entire class out to 45 years.

And this gets directly to your question. Okay. Now what? What are we going to do with the ships along the way?

So there is a couple types of service life extensions. There is the individual hull platforms. A little bit laborious, ship by ship, got to figure out how to do it, when to do it, and kind of cram it into the plan.

Mr. WITTMAN. Now, that part of it, let me just jump in real quick. That part of the plan is the what the Navy terms HM&E, hull, mechanic, electrical, and the upgrades there, aside from the ship systems upgrades?

Admiral MERZ. It is typically both. We will have to look at the whole envelope of the ship. And that is how we go through the lens of can we, should we. The opportunity cost versus buying new. And it is a pretty structured approach.

The much more productive and helpful extension is when we extend the entire class. And due to the terrific work of the NAVSEA engineers, we have come through that, I would say pretty quickly. Unfortunately, it was not completed in time for the current shipbuilding plan, but it will certainly be reflected in subsequent plans.

So with that, now we know the life expectancy of the entire class, and then we can roll in the right maintenance and modernizations much more efficiently, much more affordably for the entire duration of the class.

The good news is—I mean, there is no destroyer left behind under the old plan. Every destroyer will be modernized. And there is two—we talk in terms of baselines. There is three fundamental baselines the entire class will end up with. You will either be a 5.4, 9, or 10. All of them provide a ballistic missile defense capability, which is fundamentally the requirement we have to have.

So whether that carries these through the life of the ship with the extension, we have time to work through that on what it will take. And the threat will get a big vote in how we do that.

So how does this affect the 355-ship number is it does, as—you know, as we stated in the shipbuilding plan, the 355 will now be arriving in the mid 2030s. And that is only with the DDG [guided missile destroyer] extensions. That does not include candidate op-

tions for three SSNs per year or any other service life extensions in and around the time period.

Typically the individual hull life extensions will only help you smooth the ramp. They don't really affect the overall number in the end on when you achieve it. But a class-wide extension does, and that is what you are seeing.

So with the extension of that class, with the modernization efforts with that class, we don't get the correct mix in the 2030s, but it is not a bad mix. If you have to have extra ships, destroyers are good ones to have. And then we will work with Congress on how we manage that inventory, because we don't want them to come at the expense of the new construction, especially the overall driver of the correct mix, which is the SSN. So we will have to manage that very, very quickly.

And right now under the current plan, that is still at the 2048 timeline. But like I said, we have done—that does not include any extra submarines in any particular years. And of course the CVN plan also is one of the lengthier ones, sir.

Mr. WITTMAN. Very good. Thank you, Admiral Merz.

I will now go to Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman.

Well, it looks like you guys made a little news already today by moving the needle from 2050s to 2030s. So we are on a roll. Maybe we can keep going.

That is right. Well, that is going to be my next question.

Secretary Geurts, you know, as I mentioned in the opening statement, you know, we in Congress want to help you by maximizing tools to boost shipbuilding. And in the last NDAA in the omnibus, we provided the Navy with authority to add more submarines into the block contract that you are negotiating right now.

Last year, actually, Acting Assistant Secretary Stiller testified that the Navy, quote, "has the ability in a multiyear contract to also ask for option pricing for additional ships." And then yourself in testimony last month, when we asked about the most efficient way to procure extra submarines in fiscal year 2022 and 2023 stated that the most efficient way would be able to try to get those into the multiyear.

So I guess my question is, you know, can you provide an update to the subcommittee on your efforts to take advantage of those options that Ms. Stiller and you testified before the committee over the last year or so?

Secretary GEURTS. Yes, sir. I appreciate it.

And as Admiral Merz said, great news working with Admiral Moore's team. Getting 355 sooner, that doesn't alleviate the challenges we have on the submarine side but gives us something to look at.

So, again, we are taking a twofold approach. One is, as we spoke about in the last hearing on submarines, looking at service life extension for about five SSNs. Very targeted. That is a very specific hull analysis. And we think we are in a pretty good shape there. We will prove it with the first one this year. And then that will give us a little benefit. And then the second is where can we accelerate production should that be affordable and in the budget.

We are looking at adding those two submarines into the contracting process. We are working through the mechanics of exactly how to do that. We have spoken with your staff of what that looks like in terms of budget impact, and we are continuing to refine those numbers.

So, yes, I am still committed to having options in that contract for additional submarines in 2022 and 2023 should that be something we jointly decide to do and can afford.

Mr. COURTNEY. Great.

Well, as you said, our staff and your team are talking about ways that, with the mark, you know, we can help facilitate that, because it is the smartest way to stretch dollars and get us again closer to the target.

And one other question. You know, Admiral Moore, in your written testimony in the Senate yesterday, which we actually do follow the House of Lords a little bit over here, you painted two different pictures for how the Navy manages private sector ship repair. When you discussed the non-nuclear fleet, you stated that the Navy is committed to working collaboratively with industry to provide them a stable and predictable workload in a competitive environment moving forward so that they can hire the workforce and make the investments necessary to maintain and modernize a growing non-nuclear fleet. But then when you discussed the nuclear fleet, you stated only that the Navy would consider private sector maintenance work during peak periods to ensure the health of the private sector nuclear base.

I mean, you have heard me before, and, you know, we have had this discussion with Secretary Geurts. I mean, it seems that the picture that you painted for the non-nuclear fleet about, you know, again maximizing speed in terms of getting the work done as well as leveling off workload, I mean, really does apply for the nuclear side as well. And, again, I just wonder if you could sort of, you know, describe whether I am reading too much into, you know, there being a disparity there in terms of your approach or not.

Admiral MOORE. Thanks for the question, Congressman.

You may be reading a little bit into it. You know, on the private sector side for the non-nuclear ships, it is all done by the private sector, and it is in a competitive base. So I have got one sector I have to focus on. On the nuclear industrial base, I have both the—I have both Electric Boat and Newport News Shipbuilding who have the capacity to do repair work in addition to the new construction. And then I have the naval shipyards.

And so I have a responsibility also to maintain an organic capability to do nuclear repair. So my comments were really—were relative to the fact that I have a responsibility to maintain both. I have got to maintain a strong healthy industrial base, a nuclear repair base organically in the naval shipyards. That is by law.

But I also have to provide—recognize that it is also very important for us to maintain the health of the overall nuclear industrial base at Newport News Shipbuilding and Electric Boat. And so, you know, where we have fallen short in the past couple of years is we have at the last second decided, hey, I don't have the capacity in the naval shipyards, and so, here, could you do this submarine work for me.

I think my comments were relative. We have got to get out in front of that, and we have got to maintain a stable workload in the naval shipyards for very good reason, because they are the principal—they do the principal work on both our carriers and our submarines. But you also have to factor in the fact that, when I got workload that I am going to be challenged on, I need to give Electric Boat and Newport News Shipbuilding enough heads-up so they can be successful as well. And if they have periods where they are significantly—where they don't have a lot of work, it would make sense for us to make sure that we consider them in the decisions on what we are going to do for, in particular, for submarine maintenance, because it is—you know, their health is important to us.

It is hard to expect them to be successful on the new construction side of the house if they are in this boom-and-bust cycle as well. So it really was meant to—the fact that I have got to balance two pieces on the nuclear repair side where on the industrial non-nuclear side I am really looking at one component.

Mr. COURTNEY. Well, I appreciate that. And, again, as you know, we want to work with you on that.

You know, again, given the history with the SSN in sort of the poor cousin at the public yards, you know, again we think there really is a sweet spot here where we can find a solution.

With that I yield back.

Mr. WITTMAN. Thank you, Mr. Courtney.

We will now go to Mr. Conaway.

Mr. CONAWAY. Thank you, Mr. Chairman.

Mr. Geurts, Admiral Richardson had a white paper talking about carriers that, if we bought them on a 3- or 4-year cycle instead of 5 or more that we could catch up on the 12-carrier issue, but yet the budget doesn't do that. And then also can you talk to us about why that is the case. And then on the block buy for the CVN 80 and 81 [*Ford*-class aircraft carriers], if we did that, it would save 2½-plus billion dollars.

Is that analysis on that savings right, been done? And what are the plans on our trying to avoid the carrier gaps?

Secretary GEURTS. Yes, sir. And obviously carriers are a key component of our national security. We are watching those closely.

On the timeline, you know, that can be an affordability issue of, you know, how quickly can we move those centers together and how do we balance that amongst all the other requirements. Admiral Merz may want to comment a little bit more on that from an overall requirement standpoint.

But, yes, the number of years in those centers drives our ability to get to the full FSA requirement for the CVNs.

On the two-carrier buy, I think as we spoke in the last, we are asking the shipyard to sharpen the pencil. We have asked them formally for the cost. In looking at, you know, all the technology available, all the new ways of building, and then what cost savings could we get by putting those two ships together on a block buy, they are working on that. As we speak, we have already released a formal request for quotes. We should have that coming in the early summer, both their response and our analysis of that response.

It is not quite the same as when we did it in the *Nimitz* class, because we have already started construction of CVN 80, so the savings are a little bit dependent on exactly when should we go into such an agreement that would occur. But I believe there are substantial savings available. We will get that refined down to a number we can go work and work with the Congress to understand if that is something we jointly want to pursue further.

So I will have, bottom line, some better numbers coming here in the next month, month and a half, and work closely with the committee on those in a way forward.

Mr. CONAWAY. Okay. On the—I met with General McDew on the Ready Reserve Fleet that is 40-plus years old.

Any consideration to buying foreign ships and/or used ships to shorten our—shorten the overall life of the Ready Reserve Fleet?

Secretary GEURTS. Yes, sir. I think there is a number of options that are available to us, some that you have, you know, already authorized for a small number. I think there is probably a larger number where we could buy used, could be foreign built but U.S. flag ships.

There is opportunities there, and then there is opportunities to accelerate design of a new ship should we want to do a new construction. So I think there is a couple different levers we can pull. One is extend the ships we have until the end of their service life. Another is buy used to give us some room. And then the third would be new construction, potentially in the modular way where we are not—we can get shared use of a common hull across many missions.

Mr. CONAWAY. It always makes me a little nervous when you decide to redesign a new ship for—that is basically a commercial vessel already that, you know, that the commercial side has tried to find out ways to do that better, quicker.

Secretary GEURTS. Yes, sir. The new piece would be how do we take what is probably a common hull and be able to use it in multiple missions.

Mr. CONAWAY. I gotcha. All right.

Thank you, Mr. Chairman. I yield back.

Mr. WITTMAN. Thank you, Mr. Conaway.

We will now go to Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman. I want to thank or witnesses for your testimony today, and thank you for your service to the country.

Admiral Merz, if I could start with you. Earlier this week at the Sea, Air, and Space Exposition, you stated, and I quote, capability is where we would like to really—we would really like to put most of our energy, and we can make, as I quote, make our fleet more lethal much more quickly than just building capacity.

So I agree with enhancing our capabilities is critical. But more capacity, of course, is also required to meet operational demand. So can you please describe how you think about the tradeoffs between adding capabilities quickly versus building out the required capacity? What is the right mix?

Admiral MERZ. Yes, sir.

So the fundamental point of my comments was that balance that you are alluding to. We have essentially been surrendering the ca-

pability to keep whatever ships construction going that we could in the past. We really need to do both. As we explain it, if you just buy ships, you get what we call linear improvement in capability. You are just buying more of the same without a capability on top of it. Buying more ships and adding the advanced capability, you start getting a non-linear improvement. And then if you start connecting those ships together, you can maybe even get an exponential improvement.

We can turn capability typically faster than we can turn the size of the Navy. So some of the advanced development efforts, such as hypersonics, directed energy, unmanned vehicles, you know, we think we have a pretty aggressive and positive technology vector to field this capability. And now we are just moving as aggressively as we can to resource it to bring it in as quickly as we can.

I can do a lot more with the existing fleet using advanced capability than I can just by capacity alone. So that is fundamentally what I was referring to. That got interpreted that we are coming off the 355. Clearly, we are accelerating 355 to the 2030s now. We are laser-focused on that number. And if anything, that number will probably grow in the future.

Mr. LANGEVIN. All right. Let me—as a follow-up. Our competitors continue, obviously, to pursue advanced capabilities as well. So what advanced technologies or capabilities are you most interested in investing in today as well as over the long term to increase both survivability and the lethality that you described?

Admiral MERZ. So, yes, sir, the—actually, the ones I just mentioned, the hypersonics and the directed energy, are probably the one that have the most interest. There is also enabling technologies that we are partnering with industry. Artificial intelligence is probably the most important. And we also have the—you know, our whole Accelerated Acquisition Board of Directors which is chaired by Secretary Geurts and the Chief of Naval Operations; it shepherds, identifies these technologies, and we will work closely with the committees to actually get them funded.

I turn it over to Secretary Geurts. He has got a few more on these.

Secretary GEURTS. The only one I would add, and Admiral Merz has been outspoken about this before, is networking and network fires. So there is individual lethality on each of the ships, hypersonic, directed energy, some of those. And then there is how do we get the collective strength of the fleet by network fires and network-enabled operations and whatnot. And so we look at capability growth in kind of both of those dimensions.

Mr. LANGEVIN. Thank you, Secretary. Thank you, Admiral.

So increasing the capability and capacity of our Navy obviously will require nurturing a more robust industrial base, and obviously this takes time as you can't develop journeymen, for example, shipbuilders overnight. How are you currently working to support the development and growth of the industrial base and is it sufficient to meet your specific requirements for an increase in production today, in 5 years, in a decade, you know, as we look out in the outyears.

Secretary GEURTS. Yes, sir, Congressman.

I think there is, you know, some interesting intersections of that. Technology actually, in some of the shipyards, is enabling us to more quickly grow experience in the industrial base. That is not a panacea. That is not going to fix things overnight. But that does help us where we have both a mature workforce and then a growing workforce. And then the other piece is how do we try and get out of these boom-and-bust cycles so we don't train up an expert workforce to let them go, then come back 5 years or 10 years later and then try and train them up again. That is not a cycle of success for us.

And so then to Representative Courtney's questions, how do we then link in maintenance and availability as another enabler to help balance workforce, to preserve that workforce. How do we bring in new technology to that workforce to enable them to be more effective, how both of those, I think, are opportunities for us to improve the way we have looked at this versus how we have done it in the past.

Mr. LANGEVIN. Very good.

Thank you all. My time is expired. I have a couple other questions I will submit for the record. And if you could respond to those, I would appreciate it.

Thank you, and I yield back.

Mr. WITTMAN. Thank you, Mr. Langevin.

We will now go to Mr. Byrne.

Mr. BYRNE. Good afternoon, gentlemen. For once I am not going to talk to you about LCS [littoral combat ship].

I do want to talk to you about the follow-on frigate. And obviously—moving on to more important things.

Obviously, the concept there is the last 20 small surface combatants are going to be frigates. And this is part of our distributed lethality concept. But unlike other navies, the frigate is not going to be our top-line surface combatant. It is at the lower end. And so a part of that mix also is we have got the bigger ships that can have greater lethality. This is at the lower end, so we get more of that distribution. So you got a tradeoff there between what they can do and what you are going to put on them and what they cost.

So having said all of that, Mr. Geurts, what is the right target price for the new frigate.

Secretary GEURTS. So, sir, our current target, or, you know, for the first one is on the order of $1.2 billion, and the follow-on, $850 million is what we set. That was set prior to our award of down-selecting the five competitors. That dialogue is going on right now. That price may shift depending on what we get out of those studies.

Mr. BYRNE. Shift up or down?

Secretary GEURTS. That may shift. I would expect it to shift down both from the studies, and I would also expect it to shift down because of competition.

So I would not take the numbers as a given. That was, as we set the program up, where we kind of looked at kind of capability versus cost. That is going to be a tradeoff of capability versus cost. It is not a budget, you know, get the capability at any cost. And we will be better informed this year through those studies. That

will result in our fee for our final down-select to the final target numbers.

Mr. BYRNE. Well, the figure we had heard for a while, and I know things shift around, was 800. So obviously if you can get through this competition, get that number down, that is important to us as we try to balance things out.

So, Admiral, with that in mind, from what I am hearing, it sounds like the piece here where you can move things around and perhaps get the lower price is the number VLS [vertical launch system] cells. And my understanding, the Navy is looking at between 16 and 32. So being a simpleton, it would just look to me you strike it down the middle, and 24 VLS cells seems to be about the right number.

Do you have any comment on that?

Admiral MERZ. Yes, sir. I want as many as I can get. I mean——

Mr. BYRNE. Remember, we have to take into account cost.

Admiral MERZ. Yes, sir.

So, you know, in the requirements RFP [request for proposal], lethality is a piece of that. It is cost. It is lethality. And all of those will compete to the final selection.

Mr. BYRNE. But do you have any thoughts about what the right number of VLS cells it would be?

Admiral MERZ. The right number is 32 or more. But we are willing to have that as part of the trade space when we make the final selection.

And when you compare a frigate to a destroyer which has over 100 cells, you can see the mismatch we are trying to balance here as we balance distributed lethality and massed lethality. And we have to bring both to the fight. And this is very fundamental to an away-game Navy, that we pretty much bring what we have. So how you bring it and how you distribute it is very much as important to lethality per ship.

Mr. BYRNE. Well, I just will never forget the testimony we have from Admiral Harris about his early career in the Navy when he was looking at the Soviet Union's corvettes. And they were much smaller ships that had not a very large number of missiles on them, but they—he had to be worried about every one of them. And I know that is part of what the Navy is thinking. Does this have more platforms out there so our adversaries have to be worried about more of those platforms and what they are doing.

So I just encourage you, as we try to figure out how to pay for submarines and aircraft carriers and destroyers and amphibs and maybe a new type of cruiser, I just heard that today, we have got to remember we can't spend too much on this lower-end ship so that we balanced everything out.

With that, Mr. Chairman, I yield back.

Mr. WITTMAN. Thank you, Mr. Byrne.

We will now go to Ms. Bordallo.

Ms. BORDALLO. Thank you, Mr. Chairman, and to our witnesses.

I remain a strong advocate for the Navy to include the modernization and the growth of its fleet. And I cannot, however, in good conscience watch the Navy grow irresponsibly without the backbone of critical ship repair and maintenance capabilities required to support the current fleet, let alone a larger one.

So Assistant Secretary Geurts, last month, Vice Admiral Lescher told this committee that the Navy needs to assertively get after a growing public shipyard nuclear maintenance capability—or capacity. I also appreciated your personal commitment before this committee to ensure the Navy conducts a balanced report on ship repair capability in the Western Pacific.

Notwithstanding the soon-to-be-finalized report on depot-level ship repair, can you please speak to how the Navy is planning for the increased depot-level ship repair requirement that will go hand in hand with the modernization and the construction of a 355-ship Navy?

Secretary GEURTS. Yes, ma'am.

As you indicate, our naval power comes to me from three elements. That is capacity, that is capability, and that is readiness. And we have got to make sure we are looking at all three elements of those so that we don't rapidly build a fleet that we can't support and can support both in peacetime and war.

And so we are looking at both elements. Admiral Moore can talk specifically to the public yards and our growth plan there. But again, we have a 20-year growth optimization plan to get those public yards in the shape that they need to be. We need to be looking at the private yards, because that will likely be the next real challenge for us in the next 5 to 10 years as availabilities grow, do we have a capacity on the capability we need in our private yard fleets to be able to take care of that? That is certainly an element we are looking at very closely.

Ms. BORDALLO. So you are satisfied, then, with the way it is going at this point?

Secretary GEURTS. I think we have work to go, ma'am. I think we are getting our arms around our immediate. And so I am more comfortable with our—that we have taken care of our immediate and had less loss availability than we had 2, 3 years ago, thanks to the hard work of a lot of folks across the system.

My eye is really in the future. Now that we have kind of caught up to today, how do we make sure, as we build ships, we are building repair capacity both in the distributed fashion and in the depth we need to be able to handle that so we don't build our way into a crisis 5 years or 10 years from now. And that is where I think my focus will be. And I don't know if Admiral Moore wants to add a little bit more on the public yard.

Ms. BORDALLO. Okay. Thank you. Admiral.

Admiral MOORE. Thank you, ma'am, for the question.

So the naval shipyards right now, we have had a concerted effort over the last couple years to grow the size. And we are ultimately, by the end of this fiscal year, we will be at 36,100 personnel in the 4 naval shipyards. That is where we need to be from an end strength. That 36,100, it will be sufficient to maintain the 71 nuclear powered vessels we have today and eventually the 80 nuclear powered vessels we would have as part of the 355-ship Navy.

An important component of that, though, as the Secretary alluded to, is also to make the investments in the naval shipyards themselves so that we can optimize the work going forward. So there—in addition to hiring the people, we need to upgrade dry docks, make sure they are available to support the future ships,

CVN 78 and Block V *Virginia*-class submarines, and we need to recapitalize the equipment in our shipyards.

And then we really need to make a concerted effort to optimize the layout of the shipyards so that the workforce in the future can be more productive than they are today. And that gets to an earlier question about the workforce and how do we maintain them.

Ms. BORDALLO. Yes. Thank you, Admiral. I have one quick question here, and it is for you.

I understand that your number one priority for NAVSEA is the on-time delivery of ships and submarines. I admire your focus on the people and the talent management required to make this happen.

Can you provide examples of how you intend to achieve that priority across a worldwide repair enterprise and how the strategic placement of ship repair facilities can help realize your number two command priority, a culture of affordability.

Admiral MOORE. Well, thank you for the question, ma'am. I would go back to some of what I just talked about.

So I think growing the capacity of the 4 naval shipyards to 36,100 will achieve the first point, on-time delivery of ships and submarine. And then it is absolutely critical that we get to the culture of affordability piece as well. And we have got to—not only do we have to deliver them on time, which, by itself, will start to drive cost down, then we have got to start driving the cost down as well.

And the only way we are going to be able to do that is to provide an industrial repair base across 21st century naval shipyards that have new technology, new layouts, and is a place that we are going to be able to hire and retain the workforce in the future.

Ms. BORDALLO. Thank you.

Thank you very much, and I yield back my time.

Mr. WITTMAN. Thanks, Ms. Bordallo.

I will now go to Mr. Gallagher.

Mr. GALLAGHER. Thank you, Mr. Chairman.

I am quite pleased to hear the talk about accelerating the move to 355. I just would like to emphasize, as we grow, I think we need to be making key investments in newer classes in addition to extending service lives. And it sounds like you gentlemen have indicated a similar world view today. And I appreciate, Admiral Merz, your clarifying point on your remarks from the conference earlier this week. And, you know, to paraphrase Mr. Byrne, I am not going to ask you about LCS. I am just going to talk about small surface combatants.

But I do think we have an opportunity there, and we certainly have a lot of outside analyses that are telling us about the importance of ships like this. We have had the 2017 CSBA [Center for Strategic and Budgetary Assessments] fleet architecture study which called for actually more than 70 small surface combatants rather than the Navy's current requirement for 52.

So I just would ask if we wound up in a world in which Congress was providing additional small surface combatants beyond the required 52, would the Navy be able to successfully employ them in service of the combatant commander requirements, particularly just sort of as you look at the threats and the needs out there?

Admiral MERZ. Yes, sir. This is actually a very healthy discussion in the Pentagon. And the short answer is, you know, certainly, we can use all the ships. We are low to our 355. But, again, I always caution that that 355 is not a number in isolation. It is a derived number based on the numbers and lethality of each class of ship. Add them up and you get to 355. And you and I have spoken about that.

You know, that number, I think, is likely to, you know, change over time. I don't think it will go down. We just went through our series of studies to, you know, evaluate the components of the 355. There is variance in those numbers. They all said we needed to grow. And then—and the 355 was the most lethal mix to get there.

The real point of your question of can we operate them. Therein lies the challenge. When we buy ships outside the battle force that don't make up the composite, that puts a stress on the readiness in the place of the ships that we do need.

So if we choose to go down that route with Congress, I would only ask that we continue that discussion with Congress on sustainability of those ships as they come online, because they do have to be manned. Typically, we use a 70/30 split for the lifetime cost of a ship. It is about 30 percent to procure it, 70 percent to sustain it over the life of the ship. It is a little lower for the smaller ones because their lives are a little bit shorter. But the reality, there is a sustainment cost.

And you can see in the shipbuilding plan, we are absolutely committed to the small surface combatant. We have—we like to talk in terms of the chicklets. Those chicklets go all the way across the chart. And there is a sustainment level that indicates that we see no future where we will not include a small surface combatant.

Mr. GALLAGHER. On that point too, and following up on Mr. Byrne's line of questioning. I mean, obviously, you are going to have to make difficult decisions and tradeoffs between cost and capability. But without, you know, getting too far into a hypothetical, would it be fair to say you wouldn't want us to do anything that would—how can I put this—reduce the robustness of that competition, right? In other words, we all want a very open competition among different designs that will come in at different levels of cost and capability.

Obviously, we all have different opinions on what the selection should be. But would it be fair to say you wouldn't want us to do anything to sort of, you know, preclude that competition?

Secretary GEURTS. Yes, sir, I think it would be—it is fair to say that. We all have a set of requirements. We have been transparent on those. And then we will run a competition that is fair and equitable. The more we can keep that a fair and equitable one without trying to intercede as we are working through that, I think the better we will all be.

Mr. GALLAGHER. And then is the Navy thinking through—I mean, obviously the plan is ultimately to down-select and yet the SECNAV [Secretary of the Navy] has stated on multiple occasions, you have all stated on multiple occasions, given the importance of maintaining a healthy industrial base, we don't want to see any yards closing.

Have you guys had the discussions about how to achieve that in a down-select environment?

Secretary GEURTS. Sir, I think that is something we are going to continue to have the dialogue about. I mean, there is a lot of variables that go into play there. But I think that is something where we have got to continue to work with you. It is a multivariant kind of equation, and it is something we need to look at closely to include how do we—how do we work repair, how do we work modernization, how do we look at the entirety of the requirement, not solely just new construction and, quite frankly, not just solely U.S. domestic construction.

Mr. GALLAGHER. Sure.

Thank you, gentlemen.

Mr. WITTMAN. Thank you, Mr. Gallagher.

We will now go to Mr. Garamendi.

Mr. GARAMENDI. I am going to go to my favorite subject, which is make it in America. And we have had discussions, increasing discussions, about the sealift capacity. And in doing that, the question arises from TRANSCOM [U.S. Transportation Command] that, oh my God, we have got to have ships right now.

We have not yet seen the proof of that. But if that is the case, then they have determined the only solution is to buy a foreign ship and then bring it back and then repurpose it here in the United States.

If, in fact, that is the case, and if that is absolutely essential, and we have to have the ship sooner than you could build from start here in the United States, maybe we can work with that. But we must require that all of that repurposing, reconstruction be done in an American shipyard with American products. So just put that out there.

The follow-on, you mentioned the common hull. Makes sense. Roll on, roll off, different configurations. All well and good, American built in American shipyards, with using the national defense sealift requirements. In other words, engines, anchors, all the rest of it American made. Many of the foreign engines, for example, in the LSCs, are foreign-made engines with companies that actually could make those engines in the United States if we were to require that.

So as we move forward with this, I want to make it clear that we are—at least for this person, and I think I am in synchronization with the President's make it in America program, that we actually do that.

And this brings us to the frigate. One of the designs for the frigate is to use the Coast Guard, national defense—excuse me—design. All well and good. However, that design was a foreign design and presently has foreign engines and a lot of foreign equipment in it. Not an acceptable transition from a Coast Guard national security cutter to a frigate. In other words, where is the buy America provision in it? Again, the language in the national sealift defense fund is restrictive. It is—I should say proscriptive for American-made ships.

So I want to just put that out there. It is something that I am not going to let go of just—I am going to stay with it until we actually succeed. I do have problems with what the Coast Guard was

able to do, and we are having discussions with them about their future ships.

So having said that—I think I have said what I needed to say. I would like to have your response.

Secretary GEURTS. Certainly, sir.

Mr. GARAMENDI. Just tell me you agree totally and let us write it into law.

Secretary GEURTS. Again, absolutely. Our industrial base, we have talked about it, and this committee has been very focused on it, and for all the right reasons. Our American industrial base is an element of our national security.

So as we did the frigate competition, as we have got it set up, you could use a foreign parent design. But it had to be built here in America. And I don't have any issue with the premise that, you know, where we have got American products we can use them, that will be something we focus on.

Happy to continue to have dialogue with you to get through all the different details both with the Ready Reserve and——

Mr. GARAMENDI. Well, I am kind of past the dialogue into writing law.

Secretary GEURTS. Yes, sir.

Mr. GARAMENDI. And then we can dialogue about how to get it done.

The reality is that the engines that are being—in some of these ships, are made overseas. But the same company has a domestic manufacturing base. They just decide to do it overseas rather than do it here. That is not an acceptable situation. And it is the engines. It is the compressors and the pumps and the electronic gear, and on and on and on. Not just the hull.

Secretary GEURTS. I understand.

Mr. GARAMENDI. So in some laws you could just do the hull and everything else could be made somewhere else. Not acceptable.

Secretary GEURTS. I understand.

Mr. GARAMENDI. Enough said.

Thank you very much.

Mr. WITTMAN. Thank you, Mr. Garamendi.

We now go to Dr. Abraham.

Dr. ABRAHAM. Thank you, Mr. Chairman.

Just for clarification, Secretary Geurts, follow-up on Mr. Gallagher's question. I have listened to your testimony, I read your testimony. And we have seen a couple of reports, and that is all they were, is that maybe that the Navy was not committed to the 355 number, that maybe 342, 343. But you are telling me we are committed to 355.

Secretary GEURTS. Sir, we are committed to 355 at least.

Dr. ABRAHAM. Good to know.

One quick question. You were talking about the pencil sharpening, watching the cost, which is certainly what we ask you to do in your job. There is an issue right now with the F–35s with the DOD [Department of the Defense] maybe delaying some deliveries because there is a corrosion with the fasteners. Lockheed said, well, it is not our baby. DOD said, it is not ours.

Is there something in your documents—and I know I am simplifying this on a very elemental basis, because I understand the com-

plexity of these ships, but—that says like a warranty? First 12 years, anything breaks, you fix it?

I mean, it seems like it would save so much back and forth and save money.

Secretary GEURTS. Yes, sir. And I will answer that quickly and ask Admiral Moore if he wants to add some more of the details.

So we do both warranty, so there are pieces of the ship that were warranty components and whatnot for set periods of time depending on the contract.

The other thing is we go through a very detailed, both builders trials and acceptance trials where builders trials, the builders got to prove the ship works and we write up, you know, anything that doesn't work. And then acceptance trials where we formally test out the ship. And if there is something that isn't right or isn't working, then we have got those that we work off before we take formal acceptance of the ship.

Dr. ABRAHAM. Okay. My concern is that even though you test all these things, it is manmade. Something is going to break eventually. And I just want to make sure that something is in place, that we don't have this tit for tat, you know, who is going to pay, who is going to pay. It seems like that would be simple to take in the front side instead of worrying on the back side.

Secretary GEURTS. It is in all our contracts, sir.

Dr. ABRAHAM. Thank you.

That is all I got, Mr. Chairman.

Mr. WITTMAN. Very good. Thank you, Dr. Abraham.

We will now go to Mr. McEachin.

Mr. MCEACHIN. Thank you, Mr. Chairman.

Mr. Geurts, I guess this question is for you, but you can pass it off if that is appropriate.

To the extent that we reach a 355-ship battle force through service life extensions as opposed to new construction, are those ships going to have the full range of capabilities the planners assumed when they concluded that 355 ships would be sufficient to meet our needs?

Secretary GEURTS. Sure. I will start and then ask either of my compatriots here to jump in.

So, again, when we extend either through a service life extension or class extension of a ship, that gives us some more time but doesn't necessarily change the capability of the ship nor fix things for the long term. So, again, as Admiral Merz said, when we do a class extension, that is good, because then we can plan for every ship in that. But that assumes we both maintain the ship and keep it modernized.

I think as we look at the FSA in the future, we will look to make sure the capability we extend provides the capability we were looking for in that class requirement. And if not, then that would be factored into analysis. But, Bill, I will turn it to you.

Admiral MERZ. Yes, sir. Thanks for that question.

Again, I guess to—a lot of dynamics in the shipbuilding plan. You know, how we determine the rate of build to 355 when we combined all the classes together, we assumed we were already at 355. And then how many ships do we have to build per year to sustain that. So as long as you are below that number, that will grow

you over time. That was to ensure do we set the floor that we can no longer ever go below if we want to sustain a 355-ship Navy.

I give you that explanation because that is absolutely fundamental as you bring in the service life extensions. The assumption is you are doing both. You cannot do one in place of the other. Or when the service lifes tap out, you are going to be in a worse spot than when you started.

So it is a combined effort. We think we make that very clear. We are very committed to that new construction plan. If we can accelerate to our goal using service life extensions, as we advertise in the plan, we had work to do on that. We have done that work. We have shown we are able to do it. But the premise is that we continue to build new underneath as the foundation.

Mr. MCEACHIN. Thank you, Mr. Chairman.

I yield back.

Mr. WITTMAN. Thank you, Mr. McEachin.

We will now go to Mr. Norcross.

Mr. NORCROSS. Thank you, Chairman, and the witnesses for being here today and addressing some of the questions.

You know, how can we not talk about capacity at this point except I don't have the base that I have to take care of. I have the entire world, so to speak, to take care of.

When we start talking about some of the conversation we had here today, critical industrial base, stable predictable workforce and base, when we look at the way that we are trying to anticipate the capacity of our shipbuilding industry here in the United States, many factors go into that. Certainly, you talked about the capacity, capabilities, and readiness can be talked about from the sense of us being ready. You have the physical structures, the yards, the workforce, the experience of that, the suppliers, materials. Those are things that you normally would take into account.

When you are trying to determine whether or not there is capacity in the future, do you look at acquisition reform and some of the things we can do, the mistakes we made in the past? How do we make that better?

Secretary GEURTS. Yes, sir. And, again, I think it is incumbent that the—we are always looking at that and that the solution to this isn't just more money or just doing more of the things we have always done. And so my job within the Navy is to continue to drive affordability. Some of that is through tool mechanisms like block buys or multiyear programs, as we are talking about doing in the carrier.

Some of that is properly setting up incentives so we can work directly with the shipyards to drive cost out of programs like you are seeing us drive cost out of the carrier programs, some of these other programs. Because ultimately my goal is how can I deliver the most for the dollar that the taxpayer puts towards this problem. And we have got to continually work on that.

Another opportunity space I would say just, sir, is on the readiness side. How do we drive the cost to keep these ships ready and available is another key component that we are going to focus on.

Mr. NORCROSS. So that combines when you are looking at are we going to make it in a reasonable amount of years, technology, innovation drives that, but also supplier base. And there are many

other parts of the military that is going to the same possible well for that. Do you take that into consideration, because they are building up just like we are in a different way, but the suppliers are common.

Secretary GEURTS. Yes, sir. And I would say that, you know, the suppliers are the golden, kind of pivot point with which we are really going to get speed and drive affordability down.

Mr. NORCROSS. I would like to think it is the workforce that is that key, because that is the one that takes so long to develop, which brings me to one of the points. If you ever lost faith in America in this industrial base, go up to Electric Boat [EB] where we were. It gives you the faith that when we set our minds to it, we can do anything. The problem is trying to maintain that facility at a common pace that you are not going to lose that workforce or get taken by another.

What mechanism do you have in place to continue that? We have tried to fit in some programs, keep a stable work base, but it is coming from somebody else's workforce. How do you address that?

Secretary GEURTS. Sir, a couple different areas. One is like the 10-ship multiyear buy, so now that workforce knows they have got both at Newport and at EB, they know they got a stable set of work coming through there. Another opportunity is looking at where we have common suppliers between *Ford* class, *Columbia*, and *Virginia*, and treating those suppliers outside of just their individual program, looking at them as a supply base that is supporting all three. That is another area.

And then, again, how do we leverage technology to enable us to bring in large—you know, continue to rejuvenate that workforce and get them trained up as quickly as we can, especially where we are growing the workforce.

Mr. NORCROSS. Is there a number you would put on it that we are going to increase capacity by 20 percent, 15, 5? What number do you have right now?

Secretary GEURTS. I would say it depends on which segment, but you know, our biggest probably challenge area is going to be in the submarine force, specifically at EB with *Columbia* and us maintaining at least two new *Virginia*s per year. That is probably the largest looming workforce growth that we are going to see, but it kind of depends on each individual yard and program.

Mr. NORCROSS. Thank you. I yield back.

Mr. WITTMAN. Thank you, Mr. Norcross. Secretary Geurts, I wanted to get your viewpoint on hospital ships. You know, we talk about support ships, we talk about lift, but I think looking at the future and what the Navy needs to do, those hospital ships are key, and we see what they do, not only for our services, but also what it allows us to do during times of humanitarian need.

And the Navy's plan to essentially do a service life extension on the *Comfort,* I think, becomes more of a challenge than what I think this Nation is willing to accept as far as the risk that it poses to us.

Can you give us your perspective? Has the Navy relooked at how they are going to recapitalize our hospital ships and what do you think the future is for that capacity, which is maybe not a direct strategic capacity, but I think it is a very, very necessary support

capacity for this Navy and the humanitarian capacity for this Nation.

Secretary GEURTS. Yes, sir. And I will turn over to Admiral Merz on the requirements—how we are thinking about the requirement in the future.

My first point was, you know, in the shipbuilding plan we are showing one of those ships right now doing—you know, without any other thing will go away. We are not going to let that go away. So I want to assure the committee there is no plan to erode any of the hospital ship capacity we have.

We are relooking, though, into the future, is that adequate, and is there perhaps a different way to look at that? And, again, a hospital ship has different roles and different levels of care. And I would pass to Admiral Merz a little bit to talk about how we are thinking from a requirement standpoint, and what is our look at that requirement for the future.

Admiral MERZ. Yes, sir, Mr. Chairman. So, you know, clearly how we handle our casualties has been a hallmark of the entire U.S. military, not specific to the Marines, Army, Navy, or Air Force or even the Coast Guard. So we have made plans to do a service life extension of both ships, that is a Role 3-level capability, those are floating hospitals.

The problem with those ships is there is only two of them and they are big. And we are moving to a more distributed maritime operation construct. So we have recently commissioned what we call a requirements evaluation team to look at intra-theater missions, and there is a whole collection of missions that we are trying to get our arms around. One of them is a distributed hospital capability.

And these are going to be fairly challenging requirements. It is going to have to be able to support V–22, for instance, so how you manage the size of that and the speed and how it is going to go. So there is no lack of commitment. As a matter of fact, we are taking a broader look at the capabilities on whether or not they are aligned with the way we plan to fight our—fight our future battles.

So you are going to see our requirement probably surface here this year, and then we will start the process on how we are going to fill that requirement.

Mr. WITTMAN. Thank you. I know there has been a lot of discussion about, as you said, one large ship, multiple smaller ships, as you said, with capability of landing aircraft that could be bringing in the wounded. Have you all looked at some of the existing platforms, maybe something like JHSF, or joint high speed vessel, JHSV, I should say, or EPF as it is termed now, expeditionary fast transport, as a potential within that realm?

Admiral MERZ. So, yes, sir. Everything is a potential. So when we—when we levy the requirements on—actually that is not even a good word because we are probably going to follow the model used with the frigate where industry was actually part of the requirements discussion, which we think is already bearing fruit with the spectrum of designs that we get to work through.

So whether a shipbuilder wants to attack these requirements from a new platform perspective or modifications to an existing, that is really up to them, and we will compete that accordingly.

Mr. WITTMAN. Very good, thanks.

Admiral Moore, I wanted to pick your brain about how we address the drop in SSNs that is going to occur in 2029 down to 42. Obviously, we on the committee, have addressed going to three submarines per year starting in 2020, but that only brings us an additional three ships before we get into *Virginia* Payload Module construction. So we go then from 42 to 45, which while good is not the significant increase that we need.

There has been a proposal laid out there to take five existing nuclear plants that are right now in reserve and putting them into *Los Angeles*-class submarines to give them significant service life extension.

Can you give us perspective on where the Navy is with that? Is that just a concept? Is it at the point where you-all are pursuing that? I know we had some conversations with Admiral Caldwell from Naval Reactors, but I wanted to get your perspective on how you see it at NAVSEA, and where you are in the process. Is it just a concept that is being floated? Are you pursuing this as an operational effort? Give us perspective on where things are.

Admiral MOORE. Yeah, thanks for the question, sir. No, it is not just a concept. We are actively pursuing that. I think it is in the budget. We have done the technical work on these five submarines to allow us to get the additional service life out of them.

Submarines pose a little bit more of a challenge in terms of a class extension because of the fact that they submerge and there are some technical issues associated with them that we don't have on surface ships. So, I don't know that we are going to get beyond—from a class extension standpoint beyond about the 35 years that the *Virginia* class and the *Los Angeles* class are at today. We will continue to look at this hull by hull.

In this particular case, we had five additional cores available, presented us with an opportunity to get some SSN accelerated back into the fleet. And so between Naval Reactors and NAVSEA we found some hulls that we could sharpen our pencils on, and we are confident, technically, that they can get to the extended service life that they have been asked to get to.

Mr. WITTMAN. Very good, thank you.

Secretary Geurts, I wanted to follow up on a visit we had earlier in the week at Bath Iron Works. We talked to them about the multiyear procurement for destroyers. And it seems like the Navy is still in the paradigm that they pursued with the previous acquisition and have not really followed up on the additional authorities that were given in the fiscal year 2018 NDAA.

And I wanted to get your perspective because from what we are seeing is that the layout is a 10-ship purchase combination between HII [Huntington Ingalls Industries] and Bath, 5/5, 6/4, 4/6, and all those different scenarios. And then the additional five that are authorized would essentially be one-offs.

And we understand that when you do multi-ship procurement, I think it is everybody's intention, it is certainly our intention, is to do the full 15 rather than 10 and then one-off, because we think the 10 and one-off actually adds additional cost. We know the greater certainty you have there the better it is for the yards, and we all know the sand charts that you talked about, the roller-coast-

er ride that they go through, and the uncertainty it creates for both yards.

So give me a perspective. Is there any additional work the Navy is going to do in looking at the 15 authorization that we gave in last year's NDAA and reflect that in the acquisition strategy?

Secretary GEURTS. Yes, sir. I would say, you know, generically, the more you can put the requirements upfront into the multiyear the better. I would say this is unique because it is a competitive situation. And so to put options in, that would just—if we are not careful, that would greatly—you could have so many different options, it would be hard to get a good competition. So we felt the best balance was compete the 10 in the multiyear, and then put in price options for those ships so that that gives us some flexibility, and then compete each of those as individual options.

We felt that was the best balance to strike with the two since we ran a competitive—kind of rolling competitive multiyear, a little bit different than, say, when we are doing a multiyear with a sole source provider. So I would say that the inequities of that competition drove a little different thinking than the way we traditionally approached adding more ships as a potential option in multiyear.

Mr. WITTMAN. Would that decision have anything to do with the different elements on the platform? I know we had talked about different radars, the upgraded AMDR [air and missile defense radar] SPY–6 radar, and the things that go in with the design on Flight IIAs versus Flight IIIs. Is that any element of that decision——

Secretary GEURTS. No, sir, because these are all Flight IIIs. So they are all constant ships. And I think we will—again, we have got a little unique situation trying to do this in a competitive situation. Well, we will look at it closely. We are getting feedback from the shipbuilders and we will take lessons learned and apply those as we look at future situations.

Mr. WITTMAN. I just want to make sure we were firm in knowing that it is 15 Flight IIIs. So, very good. Thanks.

Mr. GEURTS. Yes, sir.

Mr. WITTMAN. Now I go to Mr. Moulton.

Mr. MOULTON. Mr. Chairman, thank you very much. Gentlemen, my questions are a bit more high level, just about how you came up with this requirement for a 355-ship Navy. We are fond of saying here in Congress that we are trying to go back to the Reagan days when that was the number that was out there. That strikes me as an interesting comparison given that technology has changed quite a bit.

So can you give me just a very quick insight into why that number makes sense?

Admiral MERZ. Yes, sir. So there is a pretty rigorous process that we go through when we do a force structure assessment. Typically it starts with the combatant commanders and what their needs are, and that is balanced against the war plans that they have to execute. Then we apply a broad range of risk factors. I mean, we can't fight everyplace in the world at the same time, so we start shrinking it down to an acceptable risk level. Then we study it.

In this particular case there were three independent studies that went against the 355, and then we red-teamed it. And in the end

that is the number that held. There were other numbers in the mix, they were all right around that level. But it is important to understand that the 355 is a derived number. We look at each type of ship, the lethality needed to bring, the numbers it needs to bring. We add those all up and that is how you get——

Mr. MOULTON. So how many—in that analysis, how many autonomous ships do you calculate that we need?

Admiral MERZ. So currently we do not count autonomous ships against the ship count, the 355 ships.

Mr. MOULTON. But all the experts say that that is the kind of warfare that we will be fighting in a few years, so why would you not include those in the count?

Admiral MERZ. So we likely will in the future. We actually stayed in the shipbuilding plan that we are studying closely. We do account for them in the sensors and weapons arenas, but we do not account for them yet in ship count.

Mr. MOULTON. How soon do you think we will have autonomous ships in our Navy?

Admiral MERZ. Well, there is a——

Mr. MOULTON. Autonomous ships, autonomous vehicles, whatever you want to call them. How soon do you think we will have them?

Admiral MERZ. Exactly. You finished my sentence for me. That is exactly what I was moving towards. So how—it really just depends on when we start fielding them. We have three pretty solid candidates for the autonomous surface fleet. We have a family of four different size on undersea vehicles. All these are still yet to be employed in the fleet. As a matter of fact, we are looking at moving the most mature surface vehicle from San Diego out to what we call the RIMPAC [Rim of the Pacific] exercise this year to see how it does——

Mr. MOULTON. Would you say the next 5 years, the next 10 years? My understanding is that China and Russia are every bit on par with us in terms of fielding these types of vehicles or ships.

Admiral MERZ. So 5 to 10 years, I think, is definitely in the target range of what we are——

Mr. MOULTON. Right. So we are building a 355-ship Navy that doesn't include these autonomous ships, which will be a clear component of our Navy warfighting machine in the next 5 to 10 years. It is not like these 355 ships have a 5- to 10-year lifespan.

Admiral MERZ. So to be clear, they are included in the Navy capability envelope, they are just not accountable 355 battle force ships. So you got to remember, we have 355 battle force ships. We have 15 MSC [Military Sealift Command] ships. We have our unmanned vehicles. We have a lot of ships that fall outside the accountable 355 battle force. It doesn't mean we are not interested in it, it doesn't mean we are not investing in them, it is just that they don't count against the numbers of lethality that we have set to that——

Mr. MOULTON. But how can it not count against those numbers when they are going to be a clear component of our lethality? I mean, there is a big difference——

Admiral MERZ. They are going to be. They are not yet——

Mr. MOULTON. Okay. So the disconnect here, to me, is we are building a 355-ship Navy today. Those 355 ships are going to last us much longer than the next 5 or 10 years. I don't understand how you cannot account for these advances in technology, which will necessarily replace some of these ships.

And it strikes me that it is like saying, oh, the Reagan years, the glory years in our defense, we had X number of computers, so therefore, we should have the same number of computers today, when we all know computers do vastly different jobs and we need vastly different numbers of computers to compete in today's world.

Sir.

Mr. WITTMAN. If I can interject here. Actually, the three studies that were done, the MITRE study, the CSBA study, and the Navy study included in-depth analysis of all these unmanned platforms. So the Navy plan and the 355 do include that as a total Navy force structure. So the element of what you count as the warship and what you count as an unmanned platform, and how those are deployed from those other manned platforms is how you integrate that particular force.

So we can make sure we get you a brief on these other three independent studies that went into length about how you integrate these unmanned systems into the existing force structure. And, again, it is tangential to the 355-ship Navy, that is a support element of what would happen with these unmanned platforms.

Mr. MOULTON. Mr. Chairman, I would be very interested in seeing that. Because my understanding is that China and Russia are not just looking at integrating these new technologies into their old-fashion Navy, but rather they are looking at the ability of these technologies to replace them, to make them more lethal and effective at a lower cost.

Mr. WITTMAN. And we already have one at sea right now. Sea Hunter right now is at sea. It is surface ship, it is an unmanned surface ship, it is operating autonomously in the Pacific as we speak today.

Mr. MOULTON. And that is my point. This stuff is happening quickly.

Mr. WITTMAN. Yeah.

Mr. MOULTON. So to be looking at—you know, our goal is to have a Navy that looks like the 1980s, when already our Navy is looking very different than that, strikes me as a little bit of a disconnect in our research. Thank you, Mr. Chairman.

Mr. WITTMAN. Thank you. Thank you. Thank you. And we will make sure we get that to you. I think there is some great information out on there how this is integrated. And I would ask, too, for Admiral Merz, if you would make sure, too, that we can get Mr. Moulton a brief, because I think you will be interested. Especially, the real details, we need to get you in the SCIF [sensitive compartmented information facility], and get the classified brief. There is a lot of really good stuff that is going on out there.

Mr. MOULTON. Thank you, Mr. Chairman. And, look, the message—I have not been at every classified brief, I have at many of them.

Mr. WITTMAN. Yes.

Mr. MOULTON. The message I have taken away from them is that this technology is advancing very, very rapidly. And in order to be competitive with our peer adversaries, we have to be on the cutting edge of that, and sometimes it might take sacrificing the money that would go to a traditional ship in order to give us the capability in the numbers required to compete in this new battlefield. But I would be very interested to see the studies and I appreciate your leadership, Mr. Chairman.

Mr. WITTMAN. Admiral Merz, I think you wanted to add something?

Admiral MERZ. Yes, sir. I was just going to follow up on that remark. We actually have significant investment across all the unmanned vehicles, and we are happy to bring you a brief on all of those capabilities that we are bringing forward.

Mr. MOULTON. I appreciate it. Ultimately, as with all of this, it is a tradeoff. I mean, I was very, very low-tech military, just ground pounding in the infantry, but it is like—just like we had to think about every piece of gear that we would have liked to have, you know, how much did it cost to get it? How much did it cost in weight to carry it? We had to be very careful about which pieces of gear we actually chose to get.

Admiral MERZ. Sir, I think we will show you, we share your enthusiasm. And even the infantry guys have unmanned systems now, so we are moving out on it.

Mr. MOULTON. I know you share my enthusiasm. I also know that there is not a combatant commander in history that when told he could have more ships or fewer ships would ever say fewer ships off the bat. But if really given the big budgetary picture, you know, might make a different decision.

Thank you for this discussion, I appreciate it. And thanks, Mr. Chairman.

Mr. WITTMAN. Thanks. And thanks, Mr. Moulton, appreciate it. Any further questions from the panel? Well, gentlemen, thanks again. Thanks for joining us today.

Thanks for your input and your thoughts. We will make sure we continue this dialogue as we are on the path to a 355-ship Navy, which includes a very robust element of unmanned systems also. And we appreciate all that you provide to us, your thoughts, your guidance, and the cooperation that it is going to take for us to get there as quickly as we can.

With that, if there are no further questions, we stand adjourned.

[Whereupon, at 4:57 p.m., the subcommittee was adjourned.]

A P P E N D I X

APRIL 12, 2018

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

APRIL 12, 2018

Opening Remarks of the Honorable Robert J. Wittman
for
355-ship Navy: Delivering the Right Capabilities
April 12, 2018

Today, we meet to discuss the 355 ship Navy and options that Congress may consider to deliver the required fleet. Appearing before us to discuss this important topic are three esteemed Navy witnesses:

Honorable James Guerts
Assistant Secretary of the Navy, Research, Development & Acquisition;

Vice Admiral William R. Merz
Deputy Chief of Naval Operations for Warfare Systems; and

Vice Admiral Tom Moore
Commander, Naval Sea Systems Command

I want to thank you all for your service as well as for appearing before this subcommittee to discuss Navy's fleet requirements and various options for Congress to pursue to meet the Navy the nation needs.

In previous hearings, I expressed my concern as to the 30 year shipbuilding plan's inability to reach the required 355-ship Navy. Navy's plan only reaches 342 ships by 2039. Critical shortfalls in aircraft carriers, large deck amphibs, and attack submarines will severely challenge future Navy operations.

I am particularly troubled by administration officials who equivocate as to obtaining the required 355-ship Navy. The 355-ship Navy is more than just a slogan, it is a requirement that was carefully considered by the Navy, enacted by Congress and signed into law by the Commander in Chief. We need both quality and quantity to be successful in dissuading potential aggressors.

As to this hearing, I look forward to our panel discussing options that Congress may consider to fulfill our constitutional duty "to provide and maintain a Navy." I think Congress has a multitude of options that could be pursued to limit navy shortfalls and change the trajectory of our Navy's fleet. These options include expanding the Navy by building our way to meet the requirement. But I also believe that the Navy could pursue other options to improve maintenance as well as modernize and extend the fleet in service today.

As to aircraft carriers, I believe it is imperative that we rapidly obtain the required 12 aircraft carriers and pursue a two-ship block procurement that has the potential to save almost $2.5 billion. Furthermore, we need to examine options to extend the current fleet which should include a careful examination of the service life available with Nimitz-class aircraft carriers. Finally, I am particularly concerned about administrative limitations associated with the Department's intent to shock trial CVN78. I understand that such a decision will delay the introduction

of the USS Ford by nine months and delays significant learning that can only occur while underway.

I am also concerned about the submarine force structure. We currently have 51 attack submarines and are on a rapid path to reduce this force structure to 42 submarines by 2028. This is in the exact opposite direction to meeting the fleet requirement of 66 submarines. Fortunately, we have several options to alleviate this reduction. I support an innovative effort by the Navy and Naval Reactors to extend the service life of five Los Angeles-class attack submarines and using existing unused reactor cores. I am also supportive of adding new construction submarines in accordance with the Virginia-class multiyear procurement authorized in the fiscal year 2018 NDAA.

With regards to our large surface combatants, this committee was instrumental in reversing a prior Navy course to decommission half of our existing cruisers. I am glad that we have been able to turn the tide on this budget proposal but there is more work to do. Many of our older destroyers have not been adequately modernized. The lack of budget authority has stranded many flight one and flight two destroyers and imperil our ability to meet their required service life. While the Navy has done a good job of preparing a plan for the service life extensions of cruisers, amphibs and submarines, I think that we need to provide significant emphasis on the modernization of the older destroyer fleet.

Finally, our auxiliary fleet is in need of serious upgrades. I don't think anyone would agree that a 42 year old surge sealift fleet is sufficient. Army indicated that they "face unacceptable risk in force projection beginning in 2024" because of the deficient surge sealift fleet. The Navy's recapitalization proposal does not meet Army timelines and is a classic military service "gap" issue. We need to close this seam.

As this is our last hearing before our NDAA markup, I think it is appropriate to consider the words of our first president. In a conversation with Marquis de Lafayette at the conclusion of the Revolutionary War, George Washington was attributed to saying "without a decisive naval force we can do nothing definitive, and with it, everything honorable and glorious." Our forefathers knew the power attributed to a standing Navy. As we prepare for the testimony of this esteemed panel, I hope that we can remember the importance of our naval forces and their deterrent value, a deterrent value to war.

I would now like to turn to our Ranking Member Joe Courtney, for any remarks he may have.

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

STATEMENT OF

THE HONORABLE JAMES F. GEURTS
ASSISTANT SECRETARY OF THE NAVY FOR
RESEARCH, DEVELOPMENT AND ACQUISITION ASN(RD&A)

AND

VICE ADMIRAL WILLIAM R. MERZ, USN
DEPUTY CHIEF OF NAVAL OPERATIONS
FOR WARFARE SYSTEMS (OPNAV N9)

AND

VICE ADMIRAL THOMAS J. MOORE, USN
COMMANDER, NAVAL SEA SYSTEMS COMMAND

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES OF THE

HOUSE ARMED SERVICES COMMITTEE ON

355-SHIP NAVY: DELIVERING THE RIGHT CAPABILITIES

APRIL 12, 2018

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

Chairman Wittman, Ranking Member Courtney and distinguished members of the Subcommittee, thank you for the opportunity to appear before you today to address the Department of Navy's plan to achieve a 355-ship Navy through the construction of new vessels and extending the service life of existing ships.

As detailed in the 2018 National Security Strategy and the 2018 National Defense Strategy, in order to retain and expand our competitive advantage, it is imperative that we continuously adapt to the emerging security environment – and do so with a sense of urgency. This requires the right balance of readiness, capability, and capacity, as well as budget stability and predictability. The Bipartisan Budget Act of 2018 is an important step towards achieving the stability in funding that is critical to our efforts to affordably procure ships, reduce risk across programs, and maintain a viable industrial base, and we thank you for your support. Together, we can ensure our military's capability, capacity, and readiness can continue to deliver superior naval power around the world, both today and tomorrow.

As part of the Joint Force, the maritime dimension of the National Defense Strategy is to increase American naval power by building the Navy the Nation Needs (NNN). The *Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2019* is the roadmap to attain a 355-ship fleet, prioritizing three elements that the Navy is pursuing to grow the force: (1) Steady, sustainable growth and an establishment of minimum baseline acquisition profiles that grow the force at a stable, affordable rate. This includes the sustainment of the industrial base at a level that supports affordable acquisition, predictable and efficient maintenance and modernization, and an appropriately sized workforce for more aggressive growth if additional resources become available. (2) Aggressive growth that more rapidly attains the same warfighting requirements as increased resources and industrial capacity permit. (3) Service Life Extensions (SLEs) that will maintain and modernize select ships past their expected service life to provide near-term combat ready ships.

SLEs provide near-term, cost-effective, opportunities to sustain inventory and achieve NNN requirements more rapidly. SLEs are relatively short-term extensions, and must be carefully balanced with the steady long-term growth profiles to ensure overall higher numbers when the SLEs expire. Candidate ships are evaluated for retention based on their material condition, ability to be upgraded with current systems, anticipated additional life, and cost versus replacement or other Navy priorities. Reactivation of retired battle force ships to sustain the force has also been taken into consideration. However, due to their poor

condition and higher level of obsolescence, they typically provide a minimal to negative return on investment.

A stable industrial base is a fundamental requirement to achieving and sustaining the Navy's baseline acquisition profiles. Our shipbuilding industrial base and supporting vendor base constitute a unique national security imperative that must be properly managed and protected. By balancing long-term acquisition profiles with targeted SLEs and aggressive growth options, the Navy will be able to stabilize the industrial base and set the foundation for growing the force towards its warfighting requirement.

The FY 2019 President's Budget charts a course to begin building the larger, more capable battle force our Nation needs. The FY 2019 budget request builds towards this larger and more lethal force and reflects the continued commitment to produce a 355-ship Navy with the correct mix of ships that values speed, lethality, stealth, information, and design margin for modernization as key attributes for future platforms. Such a force will provide warfighting commanders with the capabilities necessary to fight in increasingly contested and dynamic environments.

When compared to the FY 2018 President's Budget, the FY 2019 request adds 11 more battle force ships over the Future Year Defense Program (FYDP) for a total of 54 ships, with three additional ships in FY 2019. The FY 2019 request also includes funding for SLEs on 21 vessels in the Ready Reserve Force (RRF) and the Military Sealift Command surge fleet and the procurement of two used commercial auxiliary vessels in FY 2021 and FY 2022, as authorized in the FY 2018 National Defense Authorization Act (NDAA).

With sustained funding and the execution of qualifying SLEs, the FY 2019 request is aligned with the NNN shipbuilding plan and puts the Navy on a path to 326 ships by FY 2023 and 355 ships by the early 2050s. The plan promotes a stable and efficient industrial base that encourages industry investment in capital improvements, capital expansion, and a properly sized, world-class workforce. It is a realistic plan that reflects the imperative to remain balanced across investments in readiness and advanced capabilities in an era of unpredictable and restrictive funding levels. By setting conditions for an enduring industrial base as a top priority, and working together with Congress, the Navy is postured to aggressively respond to more investment in any year, which if received in all years, combined with SLEs and strong industry response, could attain the warfighting NNN target of 355 ships as early as the 2030s – balanced, credible and sustainable.

New Construction

The FY 2019 budget request includes procurement of ten ships in FY 2019: two SSN 774 VIRGINIA Class attack submarines; three DDG 51 ARLEIGH BURKE Class destroyers; one Littoral Combat Ship (LCS); one Expeditionary Sea Base (ESB); two JOHN LEWIS (T-AO 205) Class fleet replenishment oilers (T-AO); and one Towing, Salvage and Rescue ship (T-ATS).

The *Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2019* prioritizes the framework for building towards the NNN objective of 355 ships at a steady, sustainable, and affordable rate. The types of ships and capabilities procured over this 30-year timespan will evolve with technology and threat advances. Protecting the baseline acquisition profiles provides long-term foundational stability for thoughtful, agile modernization, and a clearer forecast of when to evolve to the next ship design. Aspects of the Navy's plan with the highest confidence in design and cost over the 30-year timeframe include ballistic missile submarines, amphibious ships, combat logistics ships, and aircraft carriers. Surface combatant and attack submarine capabilities are the most dynamic and will likely evolve substantially to align with growing operational demands, emergence of new technologies, introduction of unmanned and autonomous systems, and more capable sensors and payloads. Accordingly, the Navy will continue to analyze and update the Surface Capability Evolution Plan, the Tactical Submarine Evolution Plan, and all supporting plans (aviation, ordnance, etc.) for alignment of capabilities and appropriate NNN adjustments. This analysis is an enduring, responsive process that increasingly values agile and adaptable lethality against dynamic adversaries. Continual analysis coupled with a stable build profile will provide the foundation from which to ensure all future platforms keep pace with the ever-changing threat.

Table 1 depicts the Long-Range Naval Battle Force Construction Plan assuming steady, sustainable procurement. This plan addresses the Navy's most critical shipbuilding needs: building CVNs four years apart (four-year center instead of five) after CVN 82; constructing 12 COLUMBIA Class ballistic missile submarines (SSBNs) in support of the Nuclear Posture Review and U.S. Strategic Command deterrence requirements; and establishing a stable profile of two per year build rate for SSNs, 2.5 per year Large Surface Combatants, and two per year Small Surface Combatants starting in FY 2022. This plan also includes increasing the pace for amphibious ship production to support a 12-ship LHD/LHA force and modernized lethality.

Table 1. Long-Range Naval Battle Force Construction Plan

	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
Carrier					1					1				1				1				1				1				1
Large Surface Combatant	3	2	3	3	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
Small Surface Combatant	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Attack Subs	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Large Payload Subs																		1			1			1			1			1
Ballistic Missile Subs			1			1		1	1	1	1	1	1	1	1	1	1													
Amphibious Warfare Ships		1		1	1	2	1	1	2	1	1	1	2	1	1	1				1		1	1	1		1	2	1	1	2
Combat Logistics Force	2	1	2	1	2	1	1	1	1	1	1	1	1	1	1										1		2	2	2	2
Support Vessels	2	3	1	2	2	1	2	2	1	1	1	2	2	2	2	2	1													
Total New Construction Plan	10	10	10	11	13	11	11	11	12	11	11	11	13	12	12	10	9	8	7	7	8	9	8	8	8	8	12	9	10	12

Analyses are being conducted to determine the feasibility of accelerating this plan. Accelerating CVN procurement, including two-ship procurements and reducing carrier centers to 3.5 years, and procuring three VIRGINIA Class submarines per year are two options the Navy is currently analyzing.

Ships

The COLUMBIA Class SSBN program, to replace the current OHIO Class SSBNs, is the Navy's top shipbuilding priority. The program is executing detail design efforts in preparation for ordering long-lead time material starting in FY 2019 and is on track for start of lead ship construction in FY 2021. Cost, schedule, and technical performance are being tightly managed to ensure this critical strategic capability is delivered on time and within budget. Topline relief will be required for the Navy to fund serial production of the COLUMBIA Class SSBN.

The Navy is aggressively pursuing cost reduction opportunities to deliver fully capable FORD Class CVNs at the lowest possible cost. The PCU JOHN F KENNEDY (CVN 79) program has captured lessons learned from the construction of USS GERALD R FORD (CVN 78), refined the ship construction process, capitalized on technological improvements, and enhanced shipbuilder facilities to drive towards the targeted 18 percent reduction in labor hours from GERALD R FORD at the 2015 contract award, which has grown to 21 percent based on GERALD R FORD actuals. The Navy is also executing advance procurement and negotiating long-lead time material for PCU ENTERPRISE (CVN 80), with the first year of full funding for the unnamed CVN 81 in FY 2023.

The VIRGINIA Class SSN program will be building on past success by awarding a Block V Multiyear Procurement contract for 10 ships in FY 2019, which will include the VIRGINIA Payload Module and Acoustic Superiority enhancements.

The Navy is preparing to award a Multiyear Procurement contract in FY 2018 for 10 additional Flight III ARLEIGH BURKE Class destroyers, with flexibility to accommodate additional ships on the same contract. Flight III provides a significant capability upgrade to integrated air and missile defense by incorporation of the Air and Missile Defense Radar.

The 2016 Force Structure Assessment revalidated the warfighting requirement for a total of 52 small surface combatants, including the LCS and the future, more capable FFG(X). The Navy will continue to refine the FFG(X) Conceptual Design with industry through FY 2019 to support a full and open competition in FY 2020. The inventory objective for LCS is 32 ships and the budget request includes one ship in FY 2019 to ensure that the requirement is met while helping to sustain the viability of the industrial base until the FFG(X) award in FY 2020. The FFG(X) will be competitively procured.

The FY 2019 budget request includes the planned procurement of the lead LX(R) in FY 2020 with serial production starting with the second ship in FY 2022. The Navy is currently executing detail design and procuring long-lead time material for LHA 8.

The request supports continued serial production of the fleet replenishment oiler replacement with the T-AO 205 class, additional ESBs, continued serial production of the T-ATS(X) ships, and the planned procurement of the T-AGOS ships beginning in FY 2022.

Industrial Base

The DoD accounts for approximately 70 percent of the total domestic shipbuilding market. With such a large market share of the shipbuilding industry, the timing of DoD ship procurements is critical to the health and sustainment of the U.S. shipbuilding industry and has economic impact industry wide. It is important, therefore, for DoD to provide stability and predictability to the industrial base in order to keep it healthy today and robust enough to meet the Nation's future needs.

Over the last 60 years, Navy procurement profiles have shown sharp peaks in shipbuilding followed by significant breaks or valleys in production that have severely degraded the ability to plan for the long-term and respond to changing requirements in the near-term. This created a boom and bust within the industry, degrading the industrial base and resulting in longer construction times and increased costs. The steady, sustainable baseline shipbuilding profiles in the *Annual Long-Range Plan for Construction of Naval Vessels for Fiscal Year 2019* will establish industrial efficiency and agility and protect workforce skills in

order for the U.S. shipbuilding industrial base to remain cost effective long-term and meet the demands of the 355-ship Navy the Nation Needs.

Due to the significant impact and dependence the Navy has on the shipbuilding industrial base, there are multiple efforts currently underway within the Navy to identify and mitigate risks. These risks are monitored and addressed within the Navy in cooperation with their prime contractors.

The nuclear shipbuilding industrial base represents a significant challenge to support the production of the COLUMBIA Class, two (or three) per year VIRGINIA Class, and FORD Class (potentially as frequently as 3.5-year centers). The industrial base can overcome this challenge only with improvements at the prime shipbuilders and suppliers in the areas of workload stability, facilities, and recruitment and retention of skilled resources. To accomplish this, the Navy and its prime nuclear shipbuilders have established the Integrated Enterprise Plan and have jointly established action plans with each of the critical suppliers in need of improvement. In many cases, those plans require that the shipyards and suppliers invest in new facilities and increase their workforce.

In addition the Navy must fund workload in advance of normal timing to ensure the suppliers can execute a smooth ramp-up in workload rather than attempt a steep increase. This will allow the Navy to leverage funding across all three programs, where appropriate, and combine material procurement orders in a manner that strengthens the supplier industrial base while also achieving cost efficiencies.

Service Life Extensions

To achieve the NNN it is imperative that we achieve the expected service lives of our ships and, where appropriate, extend the service lives through modernization of existing ships. SLEs must evaluate the potential additional service life that can be gained through modernization based on capability improvement costs versus unit replacement criteria as well as immediate impact on warfighting capability and return on investment. The principle driver when making the determination to perform a SLE is cost versus overall gain in service life and the ships ability to be modernized.

Keeping existing platforms in the fleet longer enables the Navy to grow much faster than relying solely on new construction. One of the key components of getting to the size of the fleet the Nation needs is extending the service lives of the surface combatants, cruisers,

and the amphibious ships we have today. Currently, these ships have a planned service life of 30 to 40 years. However, the Navy is evaluating the feasibility of increasing their service lives by five to ten years. In addition, we are taking lessons learned from previous SLEs and incorporating them into future extensions and new construction designs to allow for continued, more efficient SLEs to occur in the future. The near-term SLEs include six CGs and one SSN.

In addition, the Navy and industry are collaborating on innovative approaches to conduct the modernization of CGs and Dock Landing Ships. The FY 2019 request allows for the execution over the FYDP for modernization of seven CGs to ensure long-term capability and capacity for purpose-built Air Defense Commander platforms. The remaining four CGs, which have Ballistic Missile Defense capability, will receive modernization to their hull, mechanical and electrical systems to support their operation through their service life.

The Navy has carefully monitored fuel consumption and material conditions of the LOS ANGELES Class SSNs to take advantage of any possible life extensions. In 2017, the Navy's analysis determined that five LOS ANGELES Class submarines could be refueled to extend their service life by as much as 10 years per submarine, helping to mitigate the shortfall in the attack submarine force structure. The FY 2019 request includes funding to refuel one LOS ANGELES Class SSN to extend its service life for an additional ten years.

Ready Reserve Forces (RRF)

The Navy has coordinated planning options with the Office of the Secretary of Defense, U.S. Transportation Command, and the Department of Transportation's Maritime Administration to develop a three-phased approach to recapitalize the strategic sealift fleet. To recapitalize the aging sealift fleet and provide sealift that the Nation needs, the DoD's strategy includes the near-term efforts for SLEs; mid-term efforts to continue to acquire used vessels; and the long-term goal of new construction common hull vessels to be assigned to the Maritime Prepositioning Force.

Across the FY 2017 to FY 2019 budget cycles, the Navy programmed SLEs for 31 ships. These SLEs will add roughly 10 additional years to select vessels (typically increasing the service life from 50 to 60 years). The current programmed funding for SLEs maintains required capacity through FY 2026. The Navy will continue to identify other vessels suitable for extensions in subsequent budget cycles, subject to the requirements of the sealift that the

Nation needs. Extending the service life of vessels is a temporary mitigation, which must be managed wisely as the fleet's average age will continue to increase, which exacerbates the challenge of maintaining older vessels with obsolete equipment and scarce spare parts.

The most cost-effective approach to replacing the aging fleet and bridging the gap for strategic sealift capability until a new construction program comes on line is acquiring used vessels. Authority granted in the FY 2018 NDAA permits the purchase of two used vessels. The Navy will continue to partner with Congress as well as interagency, joint, and industry partners to ensure the success of this important force projection capability.

Conclusion

By balancing new construction opportunities with calculated SLEs, the Department of the Navy is on the path to a 355-ship fleet. While the Navy continues to utilize multiyear procurements and block buy strategies to stabilize the industrial base and attain ships more affordably, achieving a 355-ship fleet will be a challenge. It's not just the number of ships that is important; it's the capability and the ability of our ships to be on station when and where needed. Procurement priorities must be balanced with what is needed to maintain our readiness including maintenance and planned modernizations to ensure our ships meet their expected service lives coupled with SLEs where appropriate. Through the select SLEs, we will be able to retain highly-capable ships past their originally designed service life until the Navy can replace them with new construction ships.

With the support of Congress, the Navy can achieve its requirements and deliver the presence and capabilities that our warfighters need. Our Sailors and Marines greatly appreciate your support and commitment.

James F. Geurts
Assistant Secretary of the Navy
(Research, Development and Acquisition)
12/5/2017 - Present

On Dec. 5, 2017, Mr. James F. Geurts was sworn in as Assistant Secretary of the Navy for Research, Development & Acquisition (ASN (RD&A)), following his confirmation by the Senate November 2017. As the Navy's acquisition executive, Mr. Geurts has oversight of an annual budget in excess of $60 billion and is responsible for equipping and supporting the finest Sailors and Marines in the world with the best platforms, systems and technology as they operate around the globe in defense of the Nation.

Mr. Geurts previously served as the Acquisition Executive, U.S.. Special Operations Command (USSOCOM), at MacDill Air Force Base (AFB), Florida, where he was responsible for all special operations forces acquisition, technology and logistics. In this position his innovative leadership and technological ingenuity provided rapid and affordable acquisition that positively impacted the USSOCOM acquisition work force and the special operations forces capability on the battlefield. These contributions were recognized by both private and public institutions during his tenure to include earning the Presidential Rank Award, USSOCOM Medal, William Perry Award and Federal Times Vanguard Award for Executive of the Year.

Prior to Senior Executive Service, Mr. Geurts began his career as an Air Force officer where he served as an acquisition program manager with engineering and program management leadership positions in numerous weapon systems including intercontinental ballistic missiles, surveillance platforms, tactical fighter aircraft, advanced avionics systems, stealth cruise missiles, training systems and manned and unmanned special operations aircraft.

He has over 30 years of extensive joint acquisition experience and served in all levels of acquisition leadership positions including Acquisition Executive, Program Executive Officer and Program Manager of Major Defense Acquisition Programs.

Mr. Geurts is a distinguished 1987 ROTC graduate from Lehigh University where he received a Bachelor of Science in Electrical Engineering. He holds a Master of Science in Electrical Engineering from Air Force Institute of Technology, Wright-Patterson AFB and in National Security Resourcing from Industrial College of the Armed Forces, National Defense University, Washington, D.C. Mr. Geurts also attended executive leadership and international studies programs at Harvard Kennedy School and George Washington Elliot School.

Updated: 19 December 2017

Vice Admiral William R. Merz
Deputy Chief of Naval Operations for Warfare Systems (OPNAV N9)

Vice Adm. Bill Merz is a native of San Diego. He graduated from the U.S. Naval Academy in 1986 with a Bachelor of Science in Ocean Engineering and subsequently earned master's degrees from The Catholic University of America and the U.S. Naval War College.

Merz qualified submarines on USS Haddo (SSN 604). He served as engineer officer on USS Boise (SSN 764) and as radiological controls officer on USS Proteus (AS 19). He commanded the deep sea vessel "Submarine NR-1", USS Memphis (SSN 691) and Submarine Development Squadron 12.

His flag assignments included commander Task Force 77 and Naval Mine & Anti-Submarine Warfare Command in San Diego; commander, Task Force 54 in Bahrain; commander, Task Force 74 in Japan; and director, Undersea Warfare Division, Office of the Chief of Naval Operations ([OPNAV] N97) in the Pentagon. Ashore, he conducted submarine design research in Carderock, Maryland, completed two tours in the Pentagon as a budget programmer on both the Navy and joint staffs, served as head of the Naval Reactors' "Line Locker" and as chief of staff for Commander, Submarine Forces Atlantic, Commander, Task Force 144.

Merz currently serves as the deputy chief of naval operations for warfare systems (OPNAV N9) in the Pentagon. In this capacity, he is responsible for the integration of manpower, training, sustainment, modernization, research and development and procurement of the U.S. Navy warfare systems.

He has completed nine overseas deployments in support of U.S., Joint and Coalition submarine operations in the Pacific Command, European Command, Central Command and Africa Command. The crews he served with collectively earned six unit awards, five Battle "E"s and the Atlantic Fleet's Battenberg Cup.

Updated: 25 August 2017

Vice Admiral Thomas J. Moore
Commander , Naval Sea Systems Command

A second generation naval officer, Vice Adm. Thomas Moore graduated from the United States Naval Academy in 1981 with a Bachelor of Science in Math/Operations Analysis. He also holds a degree in information systems management from George Washington University and a Master of Science and an engineer's degree in Nuclear Engineering from the Massachusetts Institute of Technology.

As a surface nuclear trained officer for 13 years, he served in various operational and engineering billets aboard USS South Carolina (CGN 37) as machinery division officer, reactor training assistant and electrical officer; USS Virginia (CGN 38) as main propulsion assistant; USS Conyngham (DDG 17) as weapons officer; and USS Enterprise (CVN 65) as the number one plant station officer responsible for the de-fueling, refueling and testing of the ship's two lead reactor plants during her 1991-1994 refueling complex overhaul (RCOH). Additionally, ashore he served two years as a company officer at the United States Naval Academy.

In 1994, he was selected for lateral transfer to the engineering duty officer community where he served in various staff engineering, maintenance, technical and program management positions including, carrier overhaul project officer at the Supervisor of Shipbuilding, Newport News, Virginia, where he led the overhaul of the USS Enterprise (CVN 65), USS Theodore Roosevelt (CVN 71) and the first year of the USS Nimitz (CVN 68) RCOH; assistant program manager for In-Service Aircraft Carriers (PMS 312) in the office of the Program Executive Officer, Aircraft Carriers, Aircraft Carrier Hull, Mechanical and Electrical (HM&E) requirements officer on the staff of the chief of Naval Operations Air Warfare Division (OPNAV N78); and, five years in command as the major program manager for In-Service Aircraft Carriers (PMS 312) where he was responsible for the new construction of the George H.W. Bush (CVN 77), the RCOH of the USS Dwight D. Eisenhower (CVN 69) and the USS Carl Vinson (CVN 70) and the life cycle management of all In-Service Aircraft Carriers.

In April 2008, he reported to the staff of the chief of Naval Operations as the deputy director, Fleet Readiness, Office of the Chief of Naval Operations (OPNAV) N43B. From May 2010 to July 2011, he served as the director, Fleet Readiness, OPNAV N43.

Moore commanded the Program Executive Office for Aircraft Carriers from August 11, 2011 to June 1, 2016. Over this five year period, he led the largest ship acquisition program in the U.S. Navy portfolio; was responsible for designing, building, testing and delivering Ford-class carriers; led the Navy's first-ever inactivation of a nuclear-powered aircraft carrier, USS Enterprise (CVN-65); and was the lead in the U.S.-India Joint Working Group Aircraft Carrier Technology Cooperation.

Moore became the 44th commander of Naval Sea Systems Command (NAVSEA) June 10, 2016. As NAVSEA commander, he oversees a global workforce of more than 73,000 military and civilian personnel responsible for the development, delivery and maintenance of the Navy's ships, submarines and systems.

Moore's personal awards include the Distinguished Service Medal, Legion of Merit (three awards), Meritorious Service Medal (four awards), and the Navy and Marine Corps Commendation Medal (three awards).

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