AUTHENTICATED
U.S. GOVERNMENT
INFORMATION
GPO

[H.A.S.C. No. 115–76]

HEARING

ON

NATIONAL DEFENSE AUTHORIZATION ACT FOR FISCAL YEAR 2019

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES HEARING

ON

DEPARTMENT OF THE NAVY FISCAL YEAR 2019 BUDGET REQUEST FOR SEAPOWER AND PROJECTION FORCES

HEARING HELD
MARCH 6, 2018

U.S. GOVERNMENT PUBLISHING OFFICE
29–414 WASHINGTON : 2019

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

ROBERT J. WITTMAN, Virginia, *Chairman*

K. MICHAEL CONAWAY, Texas
VICKY HARTZLER, Missouri
BRADLEY BYRNE, Alabama, *Vice Chair*
SCOTT DESJARLAIS, Tennessee
MIKE GALLAGHER, Wisconsin
DUNCAN HUNTER, California
PAUL COOK, California
JIM BRIDENSTINE, Oklahoma
STEPHEN KNIGHT, California
RALPH LEE ABRAHAM, Louisiana

JOE COURTNEY, Connecticut
SUSAN A. DAVIS, California
JAMES R. LANGEVIN, Rhode Island
MADELEINE Z. BORDALLO, Guam
JOHN GARAMENDI, California
DONALD NORCROSS, New Jersey
SETH MOULTON, Massachusetts
COLLEEN HANABUSA, Hawaii
A. DONALD MCEACHIN, Virginia

DAVID SIENICKI, *Professional Staff Member*
PHIL MACNAUGHTON, *Professional Staff Member*
MEGAN HANDAL, *Clerk*

CONTENTS

Page

STATEMENTS PRESENTED BY MEMBERS OF CONGRESS

Courtney, Hon. Joe, a Representative from Connecticut, Ranking Member, Subcommittee on Seapower and Projection Forces 3
Wittman, Hon. Robert J., a Representative from Virginia, Chairman, Subcommittee on Seapower and Projection Forces 1

WITNESSES

Geurts, Hon. James F., Assistant Secretary of the Navy for Research, Development and Acquisition; LtGen Robert S. Walsh, USMC, Deputy Commandant, Combat Development and Integration, U.S. Marine Corps; and VADM William R. Merz, USN, Deputy Chief of Naval Operations for Warfare Systems, U.S. Navy 4

APPENDIX

PREPARED STATEMENTS:
Geurts, Hon. James F., joint with LtGen Robert S. Walsh and VADM William R. Merz 37
Wittman, Hon. Robert J. 35

DOCUMENTS SUBMITTED FOR THE RECORD:
[There were no Documents submitted.]

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING:
[There were no Questions submitted during the hearing.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING:
Mr. Hunter 63
Mr. McEachin 65

DEPARTMENT OF THE NAVY FISCAL YEAR 2019 BUDGET REQUEST FOR SEAPOWER AND PROJECTION FORCES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Tuesday, March 6, 2018.

The subcommittee met, pursuant to call, at 2:04 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 am going to call to order the House Armed Services Committee, Subcommittee on Seapower and Projection Forces. And today, we are going meet to discuss the Department of the Navy's fiscal year 2019 budget request. Appearing before us to discuss this important topic are three esteemed Navy witnesses: 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 Lieutenant General Robert S. Walsh, Deputy Commandant for Combat Development and Integration.

I want to thank all of you for your service as well as for appearing before our subcommittee today on the fiscal year 2019 budget request.

Concurrent with the budget request last month, the Secretary of the Navy also released a 30-year shipbuilding plan that addresses new capabilities and offers a plan to recapitalize the current force structure. While I am pleased that the plan was timely, I am concerned that it does not properly advocate for the Navy the Nation needs. In fact, on page 8 of the plan, it references the 2016 Force Structure Assessment in a table, clearly identifying a need for 355 ships. Yet on page 12, the 30-year shipbuilding plan only reaches 342 ships by 2039.

And we have had some great conversations about the context of that, and understanding Congress' role, it is still, I think, critical to make sure that we are on the same page with the 355 number. Critical shortfalls in aircraft carriers, large deck amphibs [amphibious warships], and attack submarines are debilitating to our national security and only serve to embolden our potential adversaries.

I think that the Navy sometimes misses the strategic imperative and national urgency associated with the message our Nation needs to send to the world when an inadequate shipbuilding budget

is proposed. Shipbuilding is a sign of our Nation's resolve, and a weak shipbuilding request is carefully watched by our adversaries.

We need to significantly improve our Navy shipbuilding to meet the President's objective of a 355-ship Navy. As I spoke of the other day, people get sick of hearing it from me, but $26.2 billion and 13 ships is the floor will be a refrain that you will constantly hear as to the needs for this Nation.

As to the Marine Corps, I am pleased this committee supported the authorization of another *San Antonio*-class amphibious ship in the fiscal year 2018 NDAA [National Defense Authorization Act]. While I continue to hold some concerns with respect to conducting amphibious operations in a contested environment, I understand that the Marine Corps is actively seeking new strategies to overcome these challenges through exercises such as Bold Alligator, and I applaud these efforts.

Lieutenant General Walsh, you and I talked extensively about that, and I appreciate the innovation and creativity the Marine Corps is showing in looking at how to operate in those contested environments to continue do to forcible entry amphibious operations; those things are key.

Our Marine Corps was created to be an amphibious force; therefore, we must rapidly insert innovation into the amphibious warfare plan to ensure we are successful in future conflict. Additionally, I am concerned about the Navy's enabling forces, and specifically, the surge sealift forces. Our inability to provide a more responsive surge sealift will place soldiers' and Marines' lives at risk in a future conflict.

If you can't get to the battle in time, you need to fight your way in. We have seen the casualties of such a strategy in prior conflict. We do have a better way to support the warfighter. I am reminded of Winston Churchill, who, at the worst times of World War II, remarked, "I never worry about action, but only inaction."

Ladies and gentlemen, we have had 70 years of relative global peace with the absence of a major world war. This global peace was secured by the blood and sweat of our greatest generation. Our Navy's inability to act and embrace a bold shipbuilding vision will embolden our adversaries and risks the global peace that our fathers secured for our future.

Our witnesses today are here today because they are the best our Nation has to create the bold vision that our Nation needs. Gentlemen, it is time to act and establish a sustainable upward trajectory for our Navy, and I am confident in your ability to do so.

I would now like to turn to our ranking member, Joe Courtney, for any remarks that he may have. And, Joe, before you begin, I want to thank you for your leadership and what you have done with us to make sure that this vision for the Navy not only gets put in place, but is sustainable. So thanks so much for your leadership.

[The prepared statement of Mr. Wittman can be found in the Appendix on page 35.]

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

Mr. COURTNEY. Right. Well, thank you, Mr. Chairman, and thank you to the witnesses for being here today. I want to particularly congratulate the new Assistant Secretary of the Navy, James Geurts. He was confirmed recently, and I can personally attest to the energetic start that you have begun with your tenure. We had a great visit up to Groton a couple weeks ago to the sub base and to the shipyard Electric Boat. So we look forward to working with you, and, obviously, Admiral Merz and Lieutenant General Walsh.

In December 2016, the Department of the Navy produced a new Force Structure Assessment which reviewed and validated military requirements and determined that the Navy our Nation needs is a 355-ship Navy. Listening to this clear demand signal and responding to a 2018 budget request that fell far short of this goal, this subcommittee ultimately authorized nearly double the number of battle force and non-battle force ships in the 2018 defense authorization bill signed into law last December.

And, again, I want to congratulate my colleague, Mr. Wittman, because again, this subcommittee led the way in terms of really creating that new goal and standard that was reflected in the NDAA. Compared to the budget that we started with last year, the President's fiscal year 2019 budget request for seapower represents a move in the right direction. This budget proposes to procure 10 battle force ships in fiscal year 2019, 8 non-battle force ships, and 54 battle force ships over the next 5 years, 11 more than was planned in the fiscal year 2018 budget. Obviously, that is very positive movement.

In addition, the budget proposes a series of life extensions for ships and submarines to add to our force structure and to get the most use out of our existing platforms. However, this is still not a plan to achieve a 355-ship Navy, it is a plan to achieve a 335-ship Navy in 2048. As the 30-year shipbuilding plan clearly shows, this budget does not achieve the minimum Navy force size that the Navy says it needs until the 2050s.

Looking closely at the budget and the shipbuilding plan, it is clear that there is substantial meat left on the bone where industrial-based capacity does exist to add further ships and capabilities to the fleet. One glaring example of this opportunity is the undersea fleet. While the budget reflects a sustained two-a-year construction rate for *Virginia*-class submarines, at this rate, the force would not achieve the 66-boat level that was called for in the Force Structure Assessment until 2048, 30 years from now.

And, again, we heard from Admiral Harris just about a week ago about the fact that, you know, the demand signal for submarines in the Pacific area is barely able to keep up with what is out there, about 50 percent, and we are projected to see that dip even further, closer to 40 in the entire fleet. So we have got to do better and move faster.

The 30-year shipbuilding plan identifies specific opportunities in 2022 and 2023, where there is industrial-based capacity for a third submarine in each of those years, and within the next 5-year block contract where negotiations are occurring right now between the

Navy and industry. As I said, led by this panel on a bipartisan basis, Congress has already demonstrated its strong support for expanding the attack submarine production line. Specifically, we provided the authority needed to go beyond two subs a year in the next 5-year block contract.

I urge the Navy to take advantage of this opportunity, and others like it, that provide a great opportunity in the years ahead to add on to the plan presented to us here today. Achieving a larger fleet will take more than any one budget year, and will take more than just building new ships. We need to take a comprehensive approach that includes new construction, extension, and modernization of existing ships, repairing our ships on time and without delay, and incorporating new capabilities into the current and future ships wherever possible.

I look forward to discussing how the 2019 budget achieves these goals and where we can work together on this panel on a bipartisan basis to improve and expand on it. Thank you, again, to our witnesses, and I look forward to your testimony.

Mr. WITTMAN. Joe, thank you so much, we appreciate it. Now we are going to turn to our witnesses, and I understand, Mr. Geurts, that you will give the opening statement for all three, so the floor is yours.

STATEMENT OF HON. JAMES F. GEURTS, ASSISTANT SECRETARY OF THE NAVY FOR RESEARCH, DEVELOPMENT AND ACQUISITION; LTGEN ROBERT S. WALSH, USMC, DEPUTY COMMANDANT, COMBAT DEVELOPMENT AND INTEGRATION, U.S. MARINE CORPS; AND VADM WILLIAM R. MERZ, USN, DEPUTY CHIEF OF NAVAL OPERATIONS FOR WARFARE SYSTEMS, U.S. NAVY

Secretary GEURTS. Thank you, sir. Chairman Wittman, Ranking Member Courtney, distinguished members of the subcommittee, thanks for the opportunity to appear before you today and discuss the Department of the Navy acquisition program.

Mr. WITTMAN. Mr. Geurts, if I can get you to just real quick just to put the microphone in front of you.

Secretary GEURTS. A little better than that?

Mr. WITTMAN. Perfect. Perfect.

Secretary GEURTS. All right. I am joined today by Lieutenant General Bob Walsh here, he is a Deputy Commandant for Combat Development and Integration, and Vice Admiral Bill Merz, Deputy Chief of Naval Operations for Warfare Systems. With your permission, I intend to provide a brief joint statement and submit our opening statement for the record.

First, I would like to thank Congress for your support for the Bipartisan Budget Act of 2018. Enactment of this legislation will help provide the predictability and stability in funding that is critical to our success and will support building the Navy the Nation needs and Marine operating concept, the maritime components of the National Defense Strategy [NDS].

Coming out of an era of shrinking resources and increasing operations that drove exceedingly difficult choices, we feel your efforts for putting us on a course for readiness, recovery, and growing the fleet were substantial and significant. Thank you.

Secondly, I would like to thank this subcommittee specifically for your leadership and steadfast support of the Department of the Navy shipbuilding, not only support of our fiscal request in 2018, but for the increasing resources you added to our request. Our sailors and Marines are better off for the great support they get from you. Thank you.

The 2018 Defense Authorization Act supports the Navy's requirement for 355 battle force ships. The 2019 President's 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, with increasing values of speed, lethality, stealth, information, design margin, and modernization as key attributes to ensure we are providing the warfighting commanders capability in an increasingly contested environment.

It similarly supports the Marine Corps need for a more lethal, resilient force able to contribute to all domain access, sea control, power projection, maritime security, and deterrence in any environment.

As detailed in the 2018 National Security Strategy and National Defense Strategy, it is imperative that we continuously adapt to the emerging security environment to retain and expand our competitive advantage, 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. It also requires a constant focus on and partnership with the industrial base. They are a key element to our national security.

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. Thank you for the opportunity to appear before you, and we look forward to answering your questions.

[The joint prepared statement of Secretary Geurts, General Walsh, and Admiral Merz can be found in the Appendix on page 37.]

Mr. WITTMAN. Thank you, Deputy Secretary Geurts. Thanks again for all of you all joining us today, and thanks for your service. We will begin questions now. I am going to turn to Mr. Conaway to open, and then we will go to Ms. Bordallo. Very good.

Mr. CONAWAY. Thank you, Mr. Chairman. Gentleman, thank you for being here. As Rambo as my good colleague from Connecticut is about submarines, I feel the same way about carriers. General Richardson has said that if we would try to go to a 3- to 4-year increment between carriers, that would get us to a much better position. The budget does not do that. And we are still in the 5-year between carriers. Can you speak to us about what is being considered to try to catch up with respect to the carrier demand?

Secretary GEURTS. Yes, sir. I will start out somewhat with the near term, and then I will turn to Admiral Merz for a little bit of the longer-term perspective.

In the near term, as you know, we are producing *Ford* carriers. Our near-term focus is delivering those carriers on time and within the budget cap. A near-term opportunity that we are looking at is can we combine the buys for CVN 80 and 81, saving money and potentially accelerating some of that capability. We are studying

that now. We are not at the point yet where I am ready to put that on the table. We are working with the contractor to sharpen the estimates and ensure we really understand what that opportunity provides to us.

I will stay in communication here with the subcommittee as we work through that, so that you can understand what those savings are, because to capitalize that will take some authority from this committee, and we look forward to working with you on that.

That is on the near term. If—okay, Admiral Merz can address the longer term of that.

Admiral MERZ. Yes, sir. So the carrier procurement profile actually achieves its objective the slowest of all the ship classes in the shipbuilding plan. Secretary Geurts outlined the multiyear that we are trying to secure, and we are also looking at reducing the centers.

Within the shipbuilding plan, we lay out the program of record, but we also put out a timeline on top of that that shows what it would look like on 3½-year centers. A couple of reasons for that, one is to demonstrate our commitment to trying to reach that 3½-year centers. I will tell you, that is probably not aggressive enough.

Right now, on the 4-year centers, we achieve the 12 in the 2060 timeframe. If we go to the 3½, that still only moves it up to the early 2050s. So we are aggressively looking at that. Frankly, we just didn't get there in time for the PRES BUD 2019 [President's budget for fiscal year 2019], but that work is ongoing, and you are going to see the fruits of that effort in the next shipbuilding plan that we are putting together already started.

Mr. CONAWAY. All right. Well, I appreciate that. My other cause is auditing—Department of Defense starts with auditing the Navy as well. The Marine Corps has done a terrific job of leading the way. Can you talk to us about the requested resources, is that being fully funded for the auditors and whatever money needs to be done to fix the things that are a problem, but to make sure that I have got your commitment, Mr. Geurts, leading from the top on getting the Navy—Department of Navy and Marine Corps audited?

Secretary GEURTS. Yeah, absolutely, sir. That is certainly a priority of the Secretary, it is a priority of me. I don't—I am not aware of any resource issues to get there. Obviously, a lot of hard work, and it is not just the financial piece of the audit, it is auditing all our processes, property accountability and all of that. I am confident that as we work through that, we will find issues, and then those issues are opportunities for us to work through, correct things, and again, give ourselves and the American people confidence. We have got transparent, credible, and accountable processes.

Mr. CONAWAY. One thing I would—I am a CPA [certified public accountant] by profession, by background; stealing folks from other agencies who have already been through this might be particularly helpful. I know David Norquist is that exact example. But the more people you can get who have done it will get you there quicker, so I would encourage you to be aggressively recruiting from folks who have already done it.

In our briefing notes, we talk about truncating the Tomahawk program, and can you walk us through briefly the ammunition mis-

sile issue, that we are going to have enough stuff to shoot at people that we need to have?

Admiral MERZ. Yes, sir. I will address the requirements on the Tomahawk missile side. So we are addressing our entire family of systems and missiles comprehensively, and Tomahawk is a piece of that, arguably one of the most important pieces of it; it is the missile we have used the most over the last couple decades. So we are in a—we are in the process of transitioning to the next generation Tomahawk. So we are tailing off the production, we have what we need on the land attack side. The next-generation Tomahawk will be both a surface strike and a land attack with the name of the maritime strike Tomahawk.

We are fielding that in the early 2020s. We are looking to accelerate that effort, it will be a multi-domain, multi-mission Tomahawk missile, much improved over its predecessor.

Mr. CONAWAY. At a same range and payload?

Admiral MERZ. Same range, same payload. More targets.

Mr. CONAWAY. Thank you. I yield back. Thank you very much.

Mr. WITTMAN. Thank you, Mr. Conaway. I do want to just do a quick follow-up, Mr. Geurts, with one of Mr. Conaway's questions. How much do you expect the Navy to be able to save in buying two aircraft carriers at a time? So if you block-buy 80 and 81, how much do you expect, or would you say is a reasonable expectation? I know you are trying to get down to the real details, not just the shipbuilding costs, but the system costs. But give us an overall expected savings with that in going to buying two aircraft carriers at a time?

Secretary GEURTS. Yes, sir. I would point back historically when we have done this previously in the *Nimitz* class, it was on the order of a 10 percent savings, which is a fairly large number on a carrier buy. The exact savings for this and why we are studying it, we are kind of halfway through the first carrier, so we have got to figure out exactly what future savings are available there.

I think the other thing that is important is both from a—not just dollar perspective, but level loading the work force, and if in the future we want to press to a closer, you know, time between carrier buys, getting costs out of the carrier. And so, if you know you are doing two carriers, your return on investment for some of these initiatives, that equation changes, and our hope would be we could get costs out so that future carriers would also benefit.

We are working closely with the contractor to make sure we are sharpening the pencils and getting the best deal for the taxpayer on that.

Mr. WITTMAN. Gotcha. So that would be, roughly, if we purchase two at a time at $12.5 billion apiece, it would be roughly $2.5 billion of minimal expected savings if we bought two at a time?

Secretary GEURTS. Yes, sir. It depends on when we implement it. I would say somewhere between, certainly over $1 billion, up to $2.5 billion, and then if you were to do a follow-on carrier buy and we were able to take cost out of the carriers, as we expect, you would get follow-on savings to those future carriers.

Mr. WITTMAN. Very good. Thank you. Now, Ms. Bordallo.

Ms. BORDALLO. Thank you very much, Mr. Chairman. Assistant Secretary Geurts, and General Walsh, and of course, Vice Admiral

Merz, I want to thank you all for your service and being here this afternoon.

My question is for the Assistant Secretary Geurts. The fiscal year 2018 NDAA directed the Secretary of the Navy to complete a business case analysis for depot-level ship repair in the Western Pacific region. Admiral Harris, in his 2014 operational needs statement, stated, and I quote, "Dry docking on Guam is a critical component of depot-level ship repair. The capability must be maintained and regularly exercised so that capability and expertise are available to support ships of the 7th Fleet, both in peace and in war," unquote.

I appreciate that you just recently assumed your responsibilities as the Navy's Assistant Secretary for Research, Development, and Acquisition, and I hope that you will bring a fresh perspective to my concerns regarding the level of ship repair capability in the Western Pacific.

Specifically, I am concerned with mixed messages that I have received. On one hand, there appears to be a significant maintenance backlog for our fleet, but when asked here in this committee whether current depot-level ship repair is insufficient to meet peacetime and contingency requirements in the Pacific, I have been told that the Navy does not agree there is insufficient capacity.

With 60 percent of our naval fleet operating in the Pacific, and Hawaii's depot-level ship repair already—already exceeding capacity, what is the Navy's plan for depot-level ship repair in the Western Pacific in the event of foreign ports currently used? And these are currently used that are not available, and how does the Navy plan on funding this plan?

Secretary GEURTS. Yes, ma'am. Thank you for the question. I would say, overall, I would agree with the combatant commander that, obviously, having maintenance and repair capability, both in peace and in war, is critical and critical in a Pacific area of operation.

In our previous studies, as I understand them, before I arrived in this position, I understand that business case did not support having a dedicated dry-dock facility there at Guam, but as you indicated, we are doing another look at that analysis this year to report out per the requirements in the NDAA.

You have my personal commitment that I will take a look at that, and ensure that it is a balanced report, and then we will look at all the facts and factors, and provide a recommendation to the committee with that report.

Ms. BORDALLO. Well, thank you very much for that commitment. And how about the funding on the plan?

Secretary GEURTS. Ma'am, I don't—I believe the plan is—the report is funded, I——

Ms. BORDALLO. Funding will be part of it?

Secretary GEURTS. Yeah. As part of that report, I would expect if we had recommendations, we would include the funding to implement those recommendations as part of that plan, as well as considered in our PB [President's budget] 2020 budget buildup, and compete that amongst all of our other requirements in our 2020 budget.

Ms. BORDALLO. Thank you very much, Mr. Secretary. And I just want you to know the people of Guam are concerned about this and want to be very secure.

Secretary GEURTS. Yes, ma'am. And I will look forward actually to getting out there personally and getting some eyes on their——

Ms. BORDALLO. Good. Good. You will love it when you come.

Secretary GEURTS [continuing]. Out there and understand the situation.

Mr. BORDALLO. Thank you very much. And I yield back, Mr. Chairman.

Mr. WITTMAN. Thank you, Ms. Bordallo. We will now go to Mr. Byrne.

Mr. BYRNE. Thank you, Mr. Chairman. Gentlemen, thank you for being here today, but just as important, we thank you for your service to our country, we appreciate it. Mr. Geurts, you made a very important statement in your opening remarks, you said that the industrial base is a key element of the Navy's plan, and I appreciate your saying that because it is so true.

I want to talk to you about one particular class of ships. Now, I am going to call them the small surface combatants, because as you know, we are transitioning from the LCS [littoral combat ship] to the frigate. So when I say small surface combatant, we are talking about all of them. The plan this year calls for one.

Now, both shipyards who presently build the LCS have released statements that the one requested ship for fiscal year 2019 will lead to a gap in production that will negatively impact their yards, which will result both in job losses at the yards and increased cost to the Navy.

Last year, Admiral Neagley, who is a program executive officer for LCS, testified before this committee that the optimal sustaining rate for both shipyards is a total of three ships—not one, three—per year, which is where we have authorized and appropriated for the last few years. Both the industrial base and the Navy have said that one ship is not enough to maintain the industrial base and current cost efficiencies.

Would you agree that one ship will result in a loss of trained workforce and increased costs on ships?

Secretary GEURTS. Yes, sir. And, again, as we discussed yesterday, the industrial base is a critical element of our national security, and we look at that closely across all of our different shipyards. Certainly, one ship a year is not near the optimal rate. When we look at the current work out there, we have 18 ships in construction, we believe 3 ships in 2018, and 1 ship in 2019.

And so, I look at we will have four ships over the next 2 years, certainly not at the optimal level. I believe it is at the minimum sustained level, so that we will not completely lose the workforce or the work yard, but I do acknowledge that will probably cause some work turn-down in those yards as we build back into frigate and execute that down-select.

Mr. BYRNE. And you and I have discussed, I was involved in helping to build up that workforce, the shipyard in Mobile, these workers at that level of expertise, and certainly at that level of experience, it takes a very long time to get there. So it is in the interest of the Navy to have—to maintain that level of expertise and the

shipyard workers, and we are going to have some pretty substantial losses at one ship.

Now, the problem here is—and I think you and I discussed this yesterday. The problem here is that we were supposed to transition to the frigate this year. The Navy wasn't ready. So the present plan is transition next year. So we have got two shipyards affected here. This is after years of shipyards—numbers of shipyards drop in the United States. So you, the Navy, and the Congress, we've got to figure out together we can work so that these shipyards don't crumble on us, because without that, you will not have an effective competition for the frigate. I mean, I think we all agree on that.

So I guess I am asking, is the Navy willing to accept the risk that these two yards will be effectively crippled before that frigate contract is awarded?

Secretary GEURTS. Sir, obviously, we are tracking that closely. And I would say, in that shipyard and across all our shipyards, the amazing quality—we are getting ships out of the shipyards now, to your point of having a skilled workforce, with quality and in-service scores that we haven't seen over a long time. And so that is a very precious resource, we have to watch that closely.

I don't believe that will threaten the competition itself, but obviously, not operating at optimal production rates will cause some concerns to workers, and we will have to spin that workforce—that workforce will have to spin back up as we make this transition.

Mr. BYRNE. Well, you used the term "spin back up." And it is not "spin back up." It is long periods of time to get large numbers of people back to a program, get their level of experience back up to the optimal level, it will take years. And whereas some large shipyards might be able to survive that, these two shipyards are small shipyards, the one in Marinette, one in Mobile, they may not. And, in fact, I think the likelihood is at least one of them won't survive that, and we are already concerned on this committee about loss of shipyards.

So we have already had this discussion; I am not trying to beat a dead horse. But I think what you and I have said to one another, and I want to say it publicly here, is that we are a team. But we have got to have better communication as a team if we ever want to get through this. We are going to have to work together, because we are not going to get there the way we are going. We are going to have to make some change here to get there.

I am committed—I think everybody on this committee is committed to working with you all to make it happen, but one ship is not going to do it, I think that is pretty clear. How we get from here to that frigate competition next year is going to take some really smart people, hard thinking, but teamwork.

And I just want to tell you and Admiral Merz, you heard me yesterday, that I am committed to working with you gentlemen, trying to find something that makes sense.

Admiral Merz, did you want to say something in response to that?

Admiral MERZ. Yes, sir. Thanks for the question. And I think you are getting to the heart of the matter on one of the central themes of the shipbuilding plan. First being, we have to provide a balanced Navy. And with that, we are unlikely to ask for ships above our

requirement. However, the second theme is the industrial base, which we have never called out specifically as a key theme to the shipbuilding plan. We even used the term, our 12th man, as we go forward.

We went to the effort, within the shipbuilding plan, to capture unused capacity in the shipyards. So although I am limited by my validated requirement, I think we have set the environment in the shipbuilding plan to have the discussion. After that requirement is met, how do we work together with Congress to preserve the industrial base?

This is a very historically based shipbuilding plan. We went back to 1955 to track essentially the characteristics of shipbuilding over that timeframe, and it was a wild ride for industry, marked by significant boom and bust periods. And every time we went through that cycle, we lost shipyards. We are convinced that we will lose shipyards again if we go through that cycle.

So with that said, the shipyards are worth saving. We need to work with Congress on the best strategy to do that, while maintaining our balance across the other two key elements of the Navy, which is the readiness accounts, operating the ships and sailors out there today, which we have had some significant operational challenges, as you know, and then the advanced capability. We cannot grow the Navy quickly, but we can certainly turn advanced capability on the Navy we have to make it fight more lethally.

All those dynamics together, I think working with you, there are options for your shipyard.

Mr. BYRNE. Well, Admiral, my time is up, but I think I can speak for the committee, and say, we are not going to do anything that is going to hurt readiness for the Navy. But I think the committee is also committed to making sure we take care of the industrial base. So we look forward to working with you. With that, Mr. Chairman, I yield back.

Mr. WITTMAN. Thank you, Mr. Byrne, I appreciate it. We will now go to Mr. McEachin.

Mr. MCEACHIN. Thank you, Mr. Chairman. And this question is for you, Mr. Secretary—Assistant Secretary. We talk a lot of about using resources wisely, about making investments up front that will pay off in the long run. When it comes to shipbuilding, it seems to me that digit—here we go—digitation of blueprints, for example, and related technologies like 3D modeling and augmented reality have the potential to deliver significant efficiencies and cost savings during both acquisition and sustainment.

Can you please speak to the value of digital in shipbuilding. Could expanding the use of these technologies help us more swiftly reach our goal of 355 battle force ships, and more effectively sustain that force?

Secretary GEURTS. Yes, sir. Great question. And, you know, as I have taken on this new role, some folks have kind of coined my approach as 3D approach, right? So one is decentralize. How do we get the bureaucracy to operate at speed. Differentiate. So how do we move those things fast that need to go fast; move those things that need to be a little bit more precise at a precise speed. And my third is digitization. And for the first time——

Mr. MCEACHIN. You said that so well.

Secretary GEURTS. Yeah. For the first time, we have got a nuclear submarine and a nuclear carrier built in the digital environment. And in recent visits I have had with the Secretary down to Newport News looking at that aircraft carrier, and what you could do, starting with digital, I think is going to be one of the fundamental things that allows us to drive cost out of these programs.

And what is also very interesting is—you would think it would be just—the new generation would be excited about digital, what is interesting there is you see, you know, age—you know, folks that have been in the shipyard 20–30 years, you hand them these new tools, and they are coming up with ways to do things at a tenth of the time by using virtual reality to understand where the pipes are they need to inspect, or where the welds they need to go look at, how do they schedule the work better.

I think it is going to be one of the founding things we are going to pivot on to really drive cost out. Again, I think that the 355 plan shows us the way there. It has got some limitations of funding. So as we can reduce the cost to product, that will also allow us to accelerate into that plan.

Mr. MCEACHIN. So are there steps Congress can take, investments we can make, or authorities that we can provide to encourage greater use of these technologies?

Secretary GEURTS. Sir, I would say, some of the work that Representative Courtney has done on the submarine fleet where we have looked at investing, let's say, in the *Columbia* program, and putting some advanced procurement or economic order quantity funds early in the program that lets us explore some of those tools early so we can use them in the program, that is very useful.

Quite frankly, having a shipyard plan that shows serial production and gives the industry confidence that we are going to continue to build, allows them to make investment decisions that bring that digital environment in much more quickly than if the government funded it. And then on our side, on the government side, we need to do work to understand how do we use those digital tools to certify work more quickly, make sure we can sign off on things more quickly.

So I don't think—I think general support is key to that. I think helping us get a serial production flow in the shipbuilding plan is key because that will then show industry the return on investment for those digital investments early on that will pay off through the rest of the program.

Mr. MCEACHIN. Thank you. And thank you, Mr. Chairman, I yield back.

Mr. WITTMAN. Thank you, Mr. McEachin. We will now go to Mr. Hunter.

Mr. HUNTER. Thank you, Mr. Chairman. Gentlemen, thank you for being here. Secretary Geurts, you have my former chief of staff, Joe Casper, is working for you. And I would say, put him to good use, knocking bureaucratic heads together. He is good for cutting through the baloney, you know, and put him to use.

Secretary GEURTS. Yes, sir. We are loading him up.

Mr. HUNTER. Great guy. I want to start by talking about icebreakers. I know the RFR [request for review] went out last week, and basically what I would like to do is talk about getting funding

out of the SCN [Shipbuilding and Conversion, Navy] so it is not just in there, so that takes away the Navy having other people impede upon its accounts and its shipbuilding. The Coast Guard probably cannot build three to six heavy icebreakers, that is not what they do, that is not what they are good at. And they have to go through Homeland Security acquisition and procurement, which is ridiculous.

If you talk about weaponizing them, or at least preparing them for weaponization, which the Commandant of the Coast Guard has talked about, going from double hull to single hull and doing block buys. Your comments on any and all of those, or any other way to do it quicker and faster?

Secretary GEURTS. Yes, sir. I think this is a great example of us and the Coast Guard working very closely together. We have got MOUs [memorandums of understanding], we actually have a joint team. So the Coast Guard has lead, we have put that joint team together with Navy experts working full-time on that. I think in the 2019 PB, the budget has actually been laid into the DHS [Department of Homeland Security] budget. And so for the first time, they have got to budget in their portion of the 2019 budget to finish out that first icebreaker, so I believe that is on track.

And then to your point, I think, you know, again, we are going to share all our lessons learned, everything we have in the kit bag about block buys, or multiyear buys, or how to rig for serial production, assuming success in this first icebreaker, as we have got it underway.

Mr. HUNTER. We set up that joint program office last year for this exact thing. But the key was to have the Navy keep control in a way, have the Coast Guard build the requirements, and the Navy, too, but again, if you leave this in the Coast Guard's hand, they are not as adept at building big ships and bending heavy steel as the Navy is. So we want to just make sure that that stays on track.

To surface combatants, one easy way that I see to get the numbers up is to diversify the fleet, keep on building the big items that you need, the carriers, the subs, but also, look to, like, the FRCs [fast response cutters], the FRCs that are being built in Louisiana, weaponizing those, the offshore patrol cutters. There is different things out there. When you talk about Marinette and other small shipyards, simply transitioning to the—the NSC, the national security cutter, is a great small craft that the Navy could use. In my opinion, it would be a better LCS than the LCS. But you have things like that where you can stay hot and switch to those quickly, and use more small surface combatants.

It seems like right now in the Navy, it would be like the Army and Marine Corps saying, we are only going to focus on peer threats, we are not going to do any—no more force, no more MARSOC [Marine Special Operations Command], no more special operations, we are just going to build these big things and have tanks, and people that know how to fight at the battalion level and higher, as opposed to small unit fighting which we do, too. We have to do it all. And the Navy is going to have to do it all, and it is way cheaper, and you get those numbers up way faster if you use the smaller, medium-sized ships that can now be weaponized that

have digital, and that have great defense systems where you offset the actual size of it. So I would ask your comments on those, Admiral and Mr. Secretary.

Secretary GEURTS. Yes, sure. Maybe I will just talk a little industrial base, and certainly admiral can talk. You know, we talk a lot about the larger industrial base. I guess I would also say we are doing specific things to preserve the mid-tier industrial base as well as the small-business industrial base. So we will have a number of awards this year with small business, building—again, smaller vessels, but they will have full-up capability there. So, to your point, there is great industrial base across.

And the other piece that is critical, and we see it particularly on the nuke [nuclear] side, but it is critical across everything, is the supplier base. And so we are also not just looking at end item, but supplier base. So when we think the whole industrial base, we think all the way through that: big yards, mid-tier yards, small yards, and supplier base. But I will turn to Admiral Merz on the kind of requirement——

Mr. HUNTER. Typically to diversification?

Secretary GEURTS. Yes.

Mr. HUNTER. Looking at the Navy outside the box a little bit and say, we can change the way we do things to meet the threats that we see in the world.

Admiral MERZ. Yes, sir. Congressman Hunter, as a native San Diegan, I am happy to see you here. I will tell you, there is also—there are two things mentioned in the shipbuilding plan that we didn't give a lot of press to because we are working on it pretty hard. One is the surface capability evolution plan, it is mentioned in the same paragraph as the tactical submarine evolution plan, and there is a small paragraph on unmanned systems. These are actually connected to your question, as we are trying to expand the capability of the ships that fall outside the 355-ship battle force Navy, that are enablers or key elements of specific mission sets, mine warfare, underwater search.

So we do have—we have three efforts underway in the unmanned surface vehicle area that are varying sizes. And we are also starting to do studies on optionally manned smaller combatants. I think this is all going to start playing out fairly quickly over the next couple of shipbuilding plans as we expand the envelope of the yard as possible.

Mr. HUNTER. Thank you very much. My time is expired. You have the Sea Hunter in San Diego, in Point Loma, which is really interesting. Thank you, Mr. Chairman, I yield back.

Mr. WITTMAN. Thank you, Mr. Hunter. I want to mention, too, I think it was very important last year that this committee, as well as the full committee, really worked hard on integrating the different elements of title 1, title 10, to make sure that we have a solid track on how to make sure we build icebreakers. I think there is unanimity across folks here to make sure we get those things built. There is $700 million in this year's President's budget for building icebreakers, and I think that we are well underway with this, and Mr. Hunter, thank you for all of your efforts.

We will now go to Mrs. Davis.

Mrs. DAVIS. Thank you, Mr. Chairman. Thank you all for your service and for being with us to testifying today. I want to ask you about the Conventional Prompt Strike [CPS] program. And, as you know, prior to fiscal year 2019, it was funded through the defense-wide research and development funding, and then going forward now in the budget request, the Navy has been assigned the lead development efforts in the future.

Because the CPS has—I am just beginning to understand—has potential for miscalculation, what capabilities is this designed to replace, and what new capabilities will it achieve?

Admiral MERZ. Yes, ma'am. So the Conventional Prompt Strike is a new capability. The specific capabilities within—in the flight profiles, that is all classified, but I am happy to set up a separate brief for you that addresses those elements.

This has been a developmental effort under the Secretary of Defense. The PRES BUD 2019 has directed it to transition to the Navy, so we are at the point now where we are intending to operationalize it with a platform at sea. Whether it is a submarine or surface ship or both, that is the work to be done.

The funding for 2019 is really targeted just at the transition between Department of Defense down to the Department of the Navy. There's substantial money that comes with that in the follow-on years as we move it to an at-sea capability, which is the integration cost, the testing cost, but we have been involved with all the demonstrations up to this point. So we are well-suited and well-postured to take this program.

So the intention right now is to establish a program manager, establish the program structure. So on time it transitions to Navy, and we are marching forward. And we do intend to provide a report to Congress on how that transition is going to look and what those capabilities are.

Mrs. DAVIS. Okay. Thank you. It sounds like you are quite confident that you are at the position for moving forward with that?

Secretary GEURTS. Yes, ma'am. And as Admiral Merz said, as we kind of work through the details of the "hows," we are happy to come brief you in more detail, both on the capability, and then on my side on the acquisition, how we are going to set that all up, for us to talk in more detail.

Mrs. DAVIS. Thank you. I wonder if you could discuss a little bit more, maybe with specific examples of the Navy and Marine Corps collaboration with academia and universities? How is that, you know, in this very important time for key innovation, what is different?

Secretary GEURTS. So, ma'am, obviously, my time at Special Operations Command [SOCOM], that was one of our bread and butter was at close—getting the operator as close as we can to the academics, to the technologists, to the nontraditional suppliers.

And so, you know, that is something I am going to help drive within the Department of the Navy, both from the basic research standpoint where there is always a close tie with academia. But, quite frankly, I think there is more opportunity for us in the experimentation and, you know, problem-solving, and then how do we rapidly introduce new technology.

So that will be a theme. I might turn over to General Walsh because they have done some pretty amazing things, I would say, in the experimentation realm to bring that practical—get the Marine connected directly to the academics to see the problem up front.

General WALSH. Thank you, sir. Ma'am, I would say—as Mr. Geurts said, trying to get the right team together. So as we look at a problem, we view the problem one way. But trying to bring in academia, our warfare centers, and I would also include industry into that, is a key part that there is a lot of people approach the problem differently.

So the way we have kind of looked at a lot of this is lay the problem out there, not look at what capability we are trying to get, lay the problem out there for the—and academia has some very unique—you go school to school, university, you know, and you find unique capabilities that they have. And when we get them focused on the issues that we have, like we just did one with ship-to-shore maneuver, and got them—we have got them focused on unmanned systems. And those sort of things of bringing them in with the warfighter. And our Marine Corps warfighting lab is a very unique capability we have to connect——

Mrs. DAVIS. Are there challenges with sharing in regard to that, and having, really, access to the advanced instrumentation?

General WALSH. I don't think so. At the levels we typically try to work with them at, from a technology standpoint, research, information, trying to build a capability into the operational concept we are trying—at that level, I find it very easy and to bring them in, and the more we connect them to the warfighter, the more interested they are in helping to solve our problems.

Secretary GEURTS. Ma'am, just one other piece, again, some of my experience from the last 12 years at SOCOM, was as the military over time has gotten smaller, there is a larger percentage of the country that doesn't have the same touch with the military it once had, and so, what I found a lot of the time was, there was solutions to our problems we didn't know to ask for, and they had, you know, they had other ideas, we didn't even know we had the problem until we talked to them.

So making that connection, you can really do that without having to worry too much about the classification piece, when you talk about it at the problem level as opposed to the specific technology level.

Mrs. DAVIS. Thank you.

Mr. WITTMAN. Thank you, Mrs. Davis. We will now go to Mr. Gallagher.

Mr. GALLAGHER. Thank you, Mr. Chairman. Thank you all, gentlemen, for being here today. Mr. Geurts, congratulations on this position, it is a critical one at a critical time, we are happy to see you there. I just would like to follow up on something my colleague, Mr. Byrne, said about this notion of spinning back up. For what it is worth, in my neck of the woods, there is no such thing.

I mean, it is not as if that ship worker that gets laid off, if one of these shipyards goes under, can go down the street, we just don't have the same level of shipbuilding. So once you lose that guy who may have been educated through a partnership we have with Northeast Wisconsin Technical College, you are losing him or her

for good. So spinning back up is not necessarily as easy as flipping a switch, for what it is worth.

I think we all want the same thing, right? We want to, as you have laid out, preserve the defense industrial base, we want to make sure we have as robust of a competition for the frigate as humanly possible, learning lessons from the past mistakes that we have made, and also get to 355 in as expeditious but also sustainable of a manner as possible. And we stand ready to work with you on that.

But I would like to zoom back out, and ask a little bit about—and we throw this 355 number around, but we sometimes forget that it came from a December 2016 Force Structure Assessment [FSA] of the previous administration. And since then, a lot has changed, right? We have a new President, we have a new National Security Strategy and National Defense Strategy, the big move of which is to prioritize great power competition or to suggest we need to deemphasize counterterrorism, and move towards a re-orientation on great power competition.

I take my colleague Mr. Hunter's point that you don't want to neglect those missions. I just would add if we go with the cutter, then we are going from seven to five shipyards and we may have undermined the defense industrial base argument. That is neither here nor there. That is an argument for a different day.

But given this change in our overall orientation, which has been met with sort of unanimous applause from the national security community, it strikes me as odd that we didn't look at that—that the 30-year shipbuilding plan, the new one, didn't go back and revisit the assumptions underpinning the 2016 FSA.

So can you talk about the role that the National Defense Strategy played in crafting the 30-year shipbuilding plan?

Secretary GEURTS. Yes, sir. I will start quickly and then turn over to Admiral Merz. And, again, my comment on spin-up, I take your point, and I didn't—I certainly didn't mean that was a—you know, you can do it over a week, a month, or even a year in many cases, which again, is part of why, in our shipbuilding plan, the industrial base played such a prominent role in that plan.

So, working together, we have got to figure out how to preserve critical skills, whether it is at public yards or private yards, so we have got the capacity.

Mr. GALLAGHER. Perfect.

Secretary GEURTS. In terms of the 30-year shipbuilding plan, I will turn it over to Admiral Merz, and we can talk about that, recognizing that is a point-in-time living document, and Bill, if you want to share a little bit more, kind of what you think going forward.

Admiral MERZ. Yes, sir. I appreciate the question. Because this gets down to the fundamentals of the 355 and what constitutes it, which is essentially a requirements-based approach for each type of ship, add those all up and you get 355.

We intend to do another FSA with the new National Defense Strategy. There is this series of events that has to happen before we do the FSA, starting with the combatant commanders, all the way down to the defense planning guidance that leads us to the scenarios we need to plan for.

We have done multiple studies on the architecture of the Navy and the size of the Navy. Every single one of them says we have to grow. And we have to grow with these fundamental types of ships. So we don't expect much of that to change with the next FSA. There may be some changes on the margin. There may be another number that we are shooting for, but it is going to be bigger than we are today. So we have to move out and we have to move out aggressively as we go forward.

The small surface combatants, in particular, which is the area of concern for your shipyard, there was a lethality aspect of that that brought us to the mix between frigates and LCS. So we are definitely going to revisit on the next FSA based on the key elements of the National Defense Strategy. This will probably be done sometime over the next year, as soon as we can. We are eager to get this new FSA completed. But the undeniable fact is we still need to get bigger and still going to be some combination of these ships.

Mr. GALLAGHER. You referenced sort of the multiple studies that have been done, and of the outside studies that we have commissioned, only one seems to have the same explicit focus on great power competition that the NDS has, they seem to mirror each other in that respect, and that is the CSBA [Center for Strategic and Budgetary Assessments] study. And in that, it calls for growing small surface combatants from 52 to 71, I believe, if I am getting that correct.

Have you given any thoughts to—what role does that—sort of, the CSBA worldview play as you guys think about a new FSA. We are going crazy with these acronyms, by the way.

Admiral MERZ. Yes, sir. So the CSBA was one of the three initial studies we did. CSBA, the MITRE, and then the Navy FSA as we came through it. And the Navy FSA did use the great power competition approach also to determine the proper mix of ships.

We are very focused on the small surface combatant. I don't expect that number to go down. I do expect maybe the composition to change, just based on lethality aspects driven by the National Defense Strategy, but there are a lot of—I am sure you can appreciate competing factors that go into that type of study, and we plan to initiate and complete that as soon as we can.

Mr. GALLAGHER. Thank you, gentlemen. I am out of time.

Mr. WITTMAN. Thank you, Mr. Gallagher. We will now go to Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman. And thank you to all of our witnesses for your testimony today and for your service to the country. So our competitors are steadily pursuing advanced capabilities and technologies, and I, too, believe we have to continue to invest in both research and development of advanced technologies and transitioning them as soon as possible to the warfighter.

But, you know, it seems that both China and Russia continue to do just that. Last month, China appeared to mount an electromagnetic railgun onboard a new ship. And last week, Russia announced a, quote, "invincible hypersonic cruise missile." So would you agree that hypersonic technology such as electromagnetic railgun have the potential to be game changing in the hands of our warfighters, helping the United States maintain its edge in this domain? And

we research these technologies for some time, but at what point will the Navy transition them to the warfighter?

Secretary GEURTS. Yeah, maybe I will have the two gentlemen give the perspectives from the service, and then I will provide a kind of technology overlay on the how-and-when perspective.

Mr. LANGEVIN. Fair enough. Admiral.

Admiral MERZ. Yes, sir. Thank you, Congressman. And that just reminded me on my negligence to thank the committee on the hard work behind the scenes on the Bipartisan Budget Act that is probably going to get us finally on track to be able to pursue a lot of these advanced capabilities robustly, and for the greater Congress.

Hypersonics and railgun are high-interest items for the Navy. We intend to do actually a 10-round-per-minute test of the railgun later on this year, and we have a series of hypersonic efforts underway. And, again, this is a little bit of a delicate discussion before I run off into the classification realm.

So I am certainly happy to set up a classified brief for you, but I do believe they are game changers. This is the family of capabilities that we can get off of what we call the linear capability improvement and get into a geometric improvement with the existing platforms that we have today. So we are very excited and enthusiastic to field these capabilities as soon as we can in concert with growing the size of the Navy.

General WALSH. If I could follow up with Admiral Merz. Interesting, his point that he brought up, was the ability to give us stability in the budget, and allowing us to be able to do that, because what we are seeing is that stability in the budget is allowing us to put the right S&T [science and technology] investments in where we need to go.

We also see it helping industry understand that stability, and they are putting the right investment in there. So as we look at things like hypersonics, also I would throw in high-velocity projectiles. Potentially game-changing investments and capabilities where we make that linear high-velocity learning and increase that will leap ahead of the threat, and in many ways, as the Cold War was, but we were able to invest our S&T or our industry research and development in the areas where we could leap ahead of the threat and stay ahead of the threat.

The money that we are now seeing from a predictable budget that you are giving us is allowing us to invest in areas that are now starting to move very quickly and are going to give us that advantage into the future.

Secretary GEURTS. And, sir, maybe as one followup again, coming from my heritage at SOCOM. I am all about transition speed and taking what is good enough, getting it into the hands of the warfighter. And so as you are seeing now with lasers, I think you will see with some of these other areas, we are not going to wait until it is perfect before we go get it in an operational environment. We are fielding directed energy on a number of our systems in different phases. I am happy to run through that with you in more detail.

But, you know, the way I see it is, we have got to grow both capacity—so we talked a lot about 355, but then how do we lay on top of that our ability to rapidly grow capability, a lot like the sub-

marine force has done, so that you get an exponential growth in power, which is some combination of both of those.

Mr. LANGEVIN. So let me ask you this, and it dovetails into my first question. So the Laser Weapon System, LAWS, onboard USS *Ponce* has been a great success since it was installed in 2014. In the fiscal year 2019 budget request, we have an additional opportunity to put the Laser Weapon System demonstrator onboard the USS *Portland* for a shipboard demonstration. However, I understand that this budget was constructed before we knew which ship technology this—which ship the technology would be placed on. So without additional funds in fiscal year 2019, what risks may befall this critical demonstration? Is this going to still be on track?

Admiral MERZ. No, sir. I think in the laser family, we are actually in pretty good shape. It was designated as an accelerated acquisition program by the Navy Board of Directors, so that means the Secretary of the Navy and representatives and the CNO [Chief of Naval Operations] both agreed that this is a CNO priority and we are moving forward on it.

Portland was chosen simply because it is much more straightforward integration effort to test the technology. Long term, we are looking to bring this onto our combatants, integration is a little bit more complex and more expensive. So for testing out the demonstration, *Portland* is actually a very suitable platform to get this to sea first.

Mr. LANGEVIN. Thank you.

Secretary GEURTS. Sir, I would add for other direct energy systems, we are putting both first onshore and then on the DDGs [guided-missile destroyers]. So we are going to have a smaller 60-kilowatt laser going on the DDGs. We have got optical dazzlers and whatnot going on the DDGs. So our whole approach is, I will say, a family approach. We are building the technology path, and then we are putting together systems as that technology matures, both onto the naval components as well as on the Marine Corps components as that technology is ready to go into the field.

Mr. LANGEVIN. Okay. Thank you. Just before you go back, I want to mention, I was out at Dahlgren and I was there for that first multishot test they did on the railgun, it was very—from everything I saw, it was very successful. I am anxious for them to get to that 10-multishot test. I just hope we are not going to let this technology sit on the shelf.

If China is advancing this technology, we shouldn't be just looking at the projectile, but looking at this as a holistic system that we put on a ship at some point in the very near future. Okay. Thank you, Mr. Chairman, I will yield back.

Mr. WITTMAN. Thank you, Mr. Langevin. We will now go to Mr. Courtney.

Mr. COURTNEY. Thank you, Mr. Chairman. And, Admiral Merz, when you appeared before the Shipbuilding Caucus, again, you did a nice job of sort of explaining the 30-year shipbuilding plan, which again, as I mentioned in my opening remarks, I mean, if you do the math, it shows 335 by 2048. However, as you pointed out, there is sort of an optional sort of path that, I think, was sort of built into the system. Maybe you can talk about that a little bit.

Admiral MERZ. Yes, sir, I would be happy to. A lot of competing variables in the shipbuilding plan, and which I tried to frame in the brief discussion that we had at the Shipbuilding Caucus as we come through this. One of the dynamics we are challenged with is just beyond the Future Years Defense Plan [FYDP], is a massive period of retirements where I lose essentially 50 attack submarines and destroyers over about a 7-year period.

Now, we are going to aggressively attack that with service life extensions to help smooth out that divot, but that will not get us to 355 any faster; it just smoothes the ramp. I really want everyone to focus on the shipbuilding plan as the opportunity to grow, which was the—which was the purpose of identifying the available industrial capacity. And as we take advantage of a steady funding stream over time, one of the key elements is incentivizing industry to invest also along with us so we can grow that unused capacity over time, and then obviously take advantage of it so we can get there faster.

There was also the dynamic of overshoot. Although we want to get to 355 as soon as we can, we have to work closely with Congress on what do we do when we get there? If we get there very aggressively and stop, then we immediately create another bust period for industry, and with the fragility of the base now, very concerning for the Navy as we come through that.

So we think we have options to get there much faster. We laid out a steady-state profile that took advantage of the resources we have, and that is simply projected out at the 2019 level. We do know there are going to be additional builds outside the 5-year plan when *Columbia* class comes into serial production, another variable we will have to manage.

But there are a couple ways to do that besides just additional resources. We discussed the audit. Well, one of the objectives of the audit is for some acquisition reform so we can get better with the money we have. We had to be very, very careful that we don't get complacent, just because the budget is growing, that business as usual is going to get us there. We know it is not. We know we are going to need more resources. Whether it is $26 billion per year or $26 to $30 billion a year, depending on what the challenges are beyond the FYDP, we attempted to capture that, but we do know it is looming out there, and we want to start the discussion now so it is not a panic today, and we can put strategies in place so we are ready for that extra load on the shipbuilding plan.

So we know it is an unsatisfying ramp. But in the balance of the Navy, of our readiness and capability, we felt we have hit the mark on what we had to do to set a base profile that we cannot go below or we will not grow at all. And we have to protect that and then take advantage of any aggressive growth that we might be able to support with Congress' help going forward.

One final piece to that is the operating cost of the Navy. So what you will see in the next shipbuilding plan is an appendix dedicated just to: Hey, this is what it is going to take to build a 355-ship Navy; this is what it is going to cost to operate that 355-ship Navy. And we are going to have to work closely with Congress to make sure that paces the delivery of the ships, and that is the personnel, that is the maintenance plans, the ordnance, et cetera.

Does that——

Mr. COURTNEY. It does. And, again, just to sort of complete, I think, the picture—I mean, literally, you had a visual aid as part of the shipbuilding plan which had the colored boxes and the white boxes. And, again, the white boxes are really where, again, you have these options that I think were specifically identified in terms of specific classes. Again, can you kind of just walk us through that?

Admiral MERZ. Yes, sir.

So it is also important to understand, in that shipbuilding plan we are not talking in generalities, we are not talking in sand charts. Each one of those colored blocks is on the 30-year shipbuilding plan is, to the best of our ability, identifying a ship we need to buy in that year or in that timeframe. The white blocks on top of that do identify the capacities. So the goal is to not just fill in the white blocks but to create more white blocks that we can fill in. I will turn it over to Secretary Geurts.

Secretary GEURTS. Yeah. That was going to be my point. The white blocks are what we know today. That is not where I believe we are going to be 3, 4, 5 years down the road as we drive cost out of—you know, through serial production, drive cost out. And, quite frankly, as we get more efficient at building ships, we should, within the industrial base, create more opportunities as we go forward.

So I look at—again, as Admiral Merz says, I look at that shipbuilding plan as the starting point. It is a framework we can all work from and at least start communicating. It will continue to move and adapt as I try and drive out cost in the back end of things. And as the operational commands here understand what do we need in the future, we have got it kind of binned, but there is a lot of thought going into what do we do next? We don't want to wait until we have a crisis to be thinking about what is next down the road in any of these ship classes.

Mr. COURTNEY. So does—you know, pinpoint, you know, a couple of those white boxes, if I could for a minute, again in 2022 and 2023, *Virginia*-class program, there are two white boxes, one—you know, one for each year. And so, you know, as we are in the midst of block five negotiation, which obviously extends through those 2022 and 2023, I guess, you know, I am trying to understand what is the signal that the Navy wants to send in terms of, you know, what—is it in tandem with what this subcommittee did last year, which is to authorize, you know, a bigger block buy than 10 subs? If you could sort of explain how that sort of, you know, fits into, again, the process that is underway right now.

Secretary GEURTS. Yes, sir. I would say, you know, there are a couple of critical things coming in front of us. *Columbia* is coming in front of it. As you know, that is going to—that is our number one program, and we have got to make sure we are ready for that.

I think the good news is we have been working very close. *Virginia* has paved the way a lot of it. I mean, quite frankly, the authorities this committee and Congress has given us has really brought down the risk on that program. I mean we are saving over a billion dollars by continuous production there.

As we look to the potential for filling in those white boxes, a key element is how do we both maintain and grow the supplier base and as well as facilities at the final assembly yards. But, quite frankly, supplier base. So we have had an activity where we look at all the suppliers between the *Ford* carriers, the *Columbia,* and *Virginia* to understand that supply base. And some of the things in 2018, those funds that you had identified, they are critical to get those suppliers up and ready and ramped up. We want to make sure they are healthy so they will be there and then, two, that they will be able to produce at the rates we need them to.

And then, as we do a better job of synchronizing in maintenance availabilities in planning for maintenance and major repair, I think that will again give us a better composite picture so we can really understand our needs and then show industry, here's the predictable work that is coming so that they can do what industry does well. When they have predictable work that they can plan for, they can be very effective and efficient and make the investments now that will enable us to execute then.

Mr. COURTNEY. Thank you to all the witnesses for really creating a great record today.

And, with that, I yield back.

Mr. WITTMAN. Thank you, Mr. Courtney.

Gentlemen, again, thanks for joining us today. Thanks so much for your perspective. I think it is extraordinarily important. As you all have pointed out, a tremendously challenging environment for us. I think we have our path laid out through both the National Security Strategy and National Defense Strategy. Food for thought: With a 30-year shipbuilding plan, Force Structure Assessment coming out, too, I think is also going to challenge all of us to make sure that we are on path to build a 355-ship Navy.

I do want to drill down a little bit first with you, Lieutenant General Walsh. First of all, thanks so much for your diligence and all of your efforts in looking at surge sealift as a component of how the Marine Corps will pursue the fight when asked to do so. And I really appreciate all that you have done there to really understand that and look at that top to bottom.

We understand that, you know, one of the important elements of being able to project power for the Marine Corps is the logistics associated with getting there and sustaining the fight. And I think you all have really laid that out well. One of the key components there that I think is concerning is surge sealift. You know, we have an RRF today, a Ready Reserve Fleet, that is 46 ships that average in age 43 years. Old ships, very challenging to maintain. In fact, by the end of this year, we will be the only country on the face of the Earth that will continue to maintain and operate steam plants in ships.

Now, you know, old technology sometimes has an advantage. I would argue, in this case, it does not. So what we have got to look at is, how does that limitation straddle us in things like pursuing an operations plan [OPLAN]? General Dunford laid out—said that the big challenge for executing the Korean Peninsula OPLAN is logistics and surge. So I want to ask you, from the Marine Corps standpoint, in looking at your part of that strategy and the mission

that you will have to prosecute, how does this aging surge sealift affect you?

Secondly, in looking at what is proposed by the Navy in decommissioning one of the two hospital ships, how does that affect you in your ability to respond to casualties in the battle situation where the Marines are going to be at the tip of the spear? And what risk does the Marine Corps take on with this antiquated and insufficient surge sealift force as well as taking away one of the hospital ships in a situation that I would argue would create a significant increase in casualties without that capacity there? So I want to get your perspective on that.

General WALSH. Thanks, Mr. Chairman, for that question.

You know, I think if you kind of look back, Admiral Merz talked about history and how we went back in the shipbuilding plan and looked at history. I think we have been here before with the Ready Reserve Force in the past. And I think we had some lessons learned from where we were after Desert Storm and how we fixed some of those problems going into OIF 1 [Operation Iraqi Freedom]. And the force continues to get old. I think, you know, if you look at our requirements, we have a two MEB [Marine expeditionary brigade] amphibious task force requirement which is very closely tied to our Maritime Prepositioning Squadron Force that we have got in Guam and Diego Garcia. That, along with our two MEBs that are from the Maritime Prepositioning Force, that surge sealift that you are talking about is—what we are seeing right now, is if we look at our contingency plans, our operational plans, that we are really kind of getting to that ragged edge of being able to support that, that we feel pretty tight with our MPSRON [Maritime Prepositioning Ship Squadron] supporting our—you know, our forward amphibious task force and that capability tied very close to that.

But that assault follow-on capability, that flow-in force, or those surge forces that you read about in the NDS, I think that is that area where you talked about the age of the force is, I think, what we have got ourselves really concerned with. And taking a hard look at that within Admiral Merz and also over on the N4 side, I think that is going to take a lot of focus from both the Navy and the Marine Corps to be able to look at that long-term investment, because I think, right now, with the age of the force, right now, we are probably at a point where we can meet what we need, but it is slowly going to degrade over time. And with the average age of the ships that you just said, that probably, by the mid-2020s, we are not going to be able to meet the requirements we have got.

On the side of the hospital ships, you talk about that. Two ships isn't a lot of ships. And that is a capability that I think that the Marines, certainly the sailors too that have deployed into Iraq and Afghanistan, they have learned a lot about the type of care that we are used to and accustomed to get and to survive on the battlefield. It is something that our Armed Forces have learned to say that we are going to be taken care of. And you could look back over a number of conflicts. And a lot of times, militaries have quit fighting because they didn't have the proper care to fight. And you could take a look at that in the past.

So those hospital ships of having that capability that we are used to is a critical component of that, and I think it probably will take a deep look by the Navy and Marine Corps on what that real requirement is.

And I would ask Admiral Merz if he has got anything to add to that.

Mr. WITTMAN. Sure. Admiral Merz.

Admiral MERZ. Yes, sir.

Thank you, Mr. Chairman.

Thanks General Walsh.

So this is an area we need to spend more work on. You know, today's force does meet the 15 million square foot lift requirement. However, as you said, it needs to be recapitalized. It needs to be aggressively recapitalized. So we exercise three levers to do that. We do service life extensions on the existing ships. So you are taking an old ship and trying to get it even older. Buy used, and I appreciate the authority we received to buy the foreign-built ships. We are also aggressively looking for U.S.-built ships. However, due to market dynamics of previous decades, there are just very few out there. And then, of course, the long-term recap plan of building new. And we are initiating an effort to see if we can accelerate the CHAMP, the common hull platform, that we will ultimately use to replace the lift fleet and some other capabilities, such as submarine tenders and command ships, and notwithstanding the hospital ship.

We are going to have to do something with the hospital ship. The replacement is not ready, so we are evaluating what it would take to do a life extension on her. Her sister ship is in good shape. She will be around for quite a while. And there may be other opportunities to fill in the sea-based medical support that we need to provide. So we are casting a wide net on how to meet that specific capability. But the other three levers are what we are going to pull very firmly to move out on recapitalizing this force.

Mr. WITTMAN. Very good. I appreciate your perspective on that. It is very tempting to only talk about what our Navy and Marine Corps need as far as warships. It is not in the headlines to say we need support ships and hospital ships. But I would argue, if history is any lesson to us, that the support element of the Navy is as critical as the warship component and especially in a contested environment today, which creates a whole other challenge for us, you know, making sure that we have a modernized sealift fleet is going to be key as well as—and, General Walsh, I think you hit the nail on the head. And that is the expectation today for all of our fighters, whether they are soldiers, Marines, sailors, or airmen, is that we provide the best for them. What we do to train Navy corpsmen and Army medics, so on the battlefield they get the best, survivability rates have gone sky high. We see what happens in exercises for those great caregivers on the battlefield. They are pretty doggone efficient in making sure that men and women that are injured there survive. Having the conduit, so once we get them out of that battle space and make sure we support them on that hospital ship I argue is equally as important. It is also a measure of this Nation's commitment to taking care of them.

So I would urge you, on the hospital ship side, to do everything we can. While that doesn't make the headlines as far as a shipbuilding number or an aircraft carrier or submarine, I would argue it is as, if not more, important as a measure of our Nation's commitment to the men and women that serve in uniform. It sends a signal, not just to them but their families, to say we are going to do everything we can. So I would urge you, with all due diligence, to make sure we take care of that, as well as the support that they need, because it is great to give them great training, but if they are out there at the tip of the spear, and, for the first 30 days, they have everything they need, but after that, things start to tail off, that really becomes an issue.

And, Mr. Geurts, I know you know that being there in SOCOM. And sustainment for that—as you know, our special operators get a lot of what they need, but the key to their success is sustainment.

So I don't know if you have anything that you want to add. I have been lecturing here for too long. So go ahead.

Secretary GEURTS. Sir, I completely agree with everything you said there. And it is something in this year's shipbuilding plan and our budget bill, we will look very closely at. But I completely agree with your perspective on the issues.

General WALSH. Mr. Chairman, if I could, I just want to add to that piece is, you know, sometimes—I think Admiral Merz mentioned the sea base. And sometimes I think we look at a specific capability of how to replace that like one for one. But some of the things that we have looked at is like looking at the ESBs [Expeditionary Sea Base ships], which Congress has been very helpful with us in getting the afloat staging bases. And we have got [USS *Lewis B.*] *Puller* out right now in CENTCOM [U.S. Central Command]. But a lot of the modular capabilities to reconfigure packages, medical packages, to be able to go aboard those kinds of ships, there are lots of opportunities. When you talk about industrial base and continuing to build ships, that it isn't always build the exact same thing; it is, how do you repurpose what you already have? And I look at opportunities there in the ESBs along with the ESFs [Expeditionary Fast Transports], our joint high-speed vessels. Tremendous capacity and capability in both those ships to be able to use them for a lot of different reasons. And certainly on the medical side, it is very clear to bring packages onto there in an expeditionary way to give increased capacity.

Mr. WITTMAN. I think that is a great point. And that provides a lot of flexibility to the force too, to be able to move and to surge medical capacity when necessary and do that pretty quickly. So I appreciate you looking outside the box from the existing platforms to leverage the other assets that are there.

One element that I did want to get some additional reflection on, and then I will go back to our other members if they have any other questions, and that is in the shipbuilding plan both for our warships and our Ready Reserve Force, there is not an element of those plans that addresses attrition. We all know, in the great power competition, I suspect that there is going to be some attrition there. We talk about operating in contested space and looking at where we are. And, again, if history is any lesson to us, in a highly contested environment, we see what happens. So I would

like to get your reflection on, how do we make sure we properly address attrition in all the elements of shipbuilding both in our warships and our Ready Reserve Force in making sure that we understand what the outcome would be in that situation?

Secretary GEURTS. Yes, sir.

And Admiral Merz can cover how we think about it. But I would also broaden that thought at least in our thinking is, how do we think about resilience and not just in terms of attrition of the thing but in terms of cyber protection in all the other forms of resilience to include medical and all that. So I think our thinking is resilience in the broader sense, not just in the attrition in a kinetic sense.

I will turn to Admiral Merz to talk about that element specifically. I just want to let you know: We are thinking of resilience both from a network, from a cyber, from people perspective, not just a platform perspective.

And, Bill, I don't know if you want to share on the plan itself.

Admiral MERZ. Thanks, Mr. Chairman. Great point.

So the battle force ships, the 355 actually do account for attrition. The Ready Reserve Force does not. So, as we come out of this era of very compressed requirements, where we would shift the attrition is to more risk. So this will give us the opportunity to reevaluate those assumptions and then re-vet the requirements behind them. So work to be done there. Very insightful question on how we approach this. But you are exactly right. This is warfare. It is only fair they shoot at us. And there may be some success there that we have to account for.

Mr. WITTMAN. Thank you.

I want to go now to Mr. Hunter.

Mr. HUNTER. Thanks, Mr. Chairman, for your indulgence.

By the way, General McDew is bringing that end of it. He is calculating attrition, trying to for the first time ever, which is crazy.

About 8 years ago—this just kind of blew my mind. I was looking at the transcripts going back to this same hearing going back 8 or 9 years. We would spend a quarter of the hearing talking about AAVs [Amphibious Assault Vehicles], or expeditionary fighting vehicles. And I remember when General Dunford—he might have been a lieutenant general at that point. I forget which star he skipped, at what point. But he came up, and he said: This is the Marine Corps' number one thing. It is the Navy's number one thing, ship to shore. General Neller has put out "fight to get to the fight." How do we do it? That was one of his directives.

We didn't talk about it at all today. I just kind of caught that as we are sitting here. I have seen the prototypes that MCCDC [Marine Corps Combat Development Command] is looking at, and I am sure the Navy is looking at stuff too.

So what is your—we didn't bring it up. So is it no longer a big deal? Have we figured that out so well that we are just good on it, or we have admitted that we can't do it anymore in terms of anti-access/area denial? Is that an admittance of ours, or we are just working it behind the scenes and it is a secret?

General WALSH. I will start and then turn it over to Admiral Merz.

We are working it very hard behind the scene. And it is probably our highest priority because, as you know better than anybody,

Congressman, where we have been focused in Iraq and Afghanistan and where that is now with the clear guidance we have got in the National Defense Strategy to focus on peer competition, that is a completely different game than we have been dealing with for a long time.

So, as we look at that, as a force that does—concentrates on the threat and a threat that deals with our concepts in a concepts-based requirement system, dealing with that threat as we look at that, and we get questioned all the time, and a lot of it by smart congressional professional staff members asking us, how are you going to operate in this contested environment? And we have been working this problem very hard with the Navy at all levels from the Commandant and the CNO on down all the way out into the operating forces. A lot of work done on our concepts. Littoral operations in a contested environment, distributed maritime operations, expeditionary advanced base operations, all of those, I would say, have done multiple war games on how we are going to conduct those operations, along with the fleet exercises that Congressman Wittman mentioned, Bold Alligator and Dawn Blitz. One of the other things that we did out at Camp Pendleton, out in your neck of the woods, last year, we conducted a ship-to-shore maneuver task force advanced naval technology experiment. Going back to that problem-solving, bringing everybody in from industry, the warfare centers, and going, how are we going to get ashore differently in the future than we have done in the past?

We had written concepts, our Marine Corps operating concept. We had a video on that that showed a lot of unmanned systems, sensing, pulsing, deception to get ashore differently. Different types of maneuver than we have ever done in the past. When we did that exercise out in Camp Pendleton, probably the first 15 to 20 minutes was all unmanned systems coming ashore in advance, sensing the environment, deceiving in the environment, and going where the enemy is not. So a lot of effort is going into this. We are spending an awful lot of time with the Navy working this hard. We see it as a long-term problem, but we are getting after it very hard to determine how we are going to do this differently. It is not going to be how we did it at Iwo Jima or Incheon or some of the other exercises we have done in the past. This is going to be a completely different operation that is really going to rely on the joint force and certainly the naval force. I think too many times folks look at the amphib [amphibious] force, and how are we going to do this as an amphib force? It is not. It is a naval campaign, just like it was in other contested environments where we have been in the past where we need submarines, we need cruisers and destroyers, we need carriers that are out there supporting us.

So I think that is a key part of we are part of the problem. We are helping to solve the problem as part of that. And that is why I think we are so focused on the sea control. As General Neller says, we have to fight to get to the fight. We bring a lot of capabilities with F–35s on big deck amphibs and a lot of other capabilities, and how do we contribute to that naval campaign of getting to the fight in the sea control/sea denial mission that we are being tasked to do.

Admiral MERZ. Yes, sir. So this—a lot of effort going on in this area. And this is where the details of the shipbuilding plan are very important. So, when you look at the amphib line, it appears to be one of the lines that is closest to its requirement, which naturally has us focus more on the destroyers and the attack submarines, which are quite a distance from their requirement. The problem with the amphib, it is not the correct mix of amphibs that we need for the lethality standpoint. So we have put a lot of effort into the LX(R) [dock landing ship replacement] on what those capabilities will mean to the Navy and the Marine Corps. And Secretary Geurts will attest that we dug in pretty firmly on surrendering any of those capabilities before we set the—sent it out for competition.

There is also the ship-to-shore connector piece to this, the LCAC [Landing Craft Air Cushion] replacement, that, a year ago, I would tell you we were in a crisis with that program. But, again, thanks to the increased top line, we are able to shore that program up, competed very well against—even though it is not an accountable ship in a 355, as Chairman Wittman said, we have this whole family of enablers underneath it that have to be tended to, and that was one of them.

And then, of course, I certainly agree with General Walsh on the whole unmanned side of that. And then there is the whole mine warfare piece to that where the threat is much easier to advance ahead of the ability to counter that threat. A lot of work going on in there as well.

General WALSH. If I could just follow up with one point is, you know, over the last few years, we focused on readiness. Are the shipyards manned correctly for maintenance to get the wholeness of the ships we need? Are they coming in on time? Are we pulling them out? We focused on the Optimized Fleet Response Plan. Doing much better at that. We then focused on capacity. I think this shipbuilding plan starts moving us in the right direction in capacity.

From an amphib side, I would say the next thing that we have got to really focus on from our side is along with the other battle force ships is capability on those ships. So for us to be able to stand in and operate in a contested environment, those ships need to be part of that battle force. So we start talking about ability to detect, control, engage, self-defense capabilities, strike and missile defense capabilities. When you start bringing a fifth-generation capability into that amphibious task force, we need the same type of capabilities to be able to operate within that battle force and be able to network into the fleet tactical grid just like those other ships do.

Mr. WITTMAN. Very good. Thank you, Mr. Hunter.

Gentlemen, thanks again. This was a great and exhaustive addressing of the challenges that we face. As you have heard from other members, this is a team effort. It is a bipartisan effort, bicameral effort to make sure we get our Navy-Marine Corps team where they need to be. The Secretary of Defense I think has laid out very eloquently where we are today in the era of great power competition.

And I will close with this, with the words of a former Admiral of the Navy, David Farragut, there at the Battle of Mobile Bay: Gentlemen, damn the torpedoes; full speed ahead.

Thank you. With that, we adjourn.

[Whereupon, at 3:32 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 6, 2018

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 6, 2018

Opening Remarks of the Honorable Robert J. Wittman
for
Department of the Navy Fiscal Year 2019 Budget Request
for Seapower and Projection Forces

March 6, 2018

Today, we meet to Department of the Navy's Fiscal Year 2019 budget request. Appearing before us to discuss this important topic are three esteemed Navy witnesses:

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

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

Lieutenant General Robert S. Walsh
Deputy Commandant for Combat Development and Integration.

I want to thank you all for your service as well as for appearing before this subcommittee on the fiscal year 2019 budget request.

Concurrent with the budget request last month, the Secretary of the Navy released a 30-year shipbuilding plan that addresses new capabilities and offers a plan to recapitalize the current force structure. While I am pleased that the plan was timely, I am concerned that it does not properly advocate for the Navy the nation needs. In fact, on page 8 of the plan, it references the 2016 Force Structure Assessment in a table, clearly identifying a need for 355 ships. Yet, on page 12, the 30-year shipbuilding plan only reaches 342 ships by 2039. Critical shortfalls in aircraft carriers, large deck amphibs, and attack submarines are debilitating to our national security and only serve to embolden potential adversaries. I think that the Navy sometimes misses the strategic imperative and national urgency associated with the message our nation sends to the world when an inadequate shipbuilding budget is proposed. Shipbuilding is a sign of our nation's resolve, and a weak shipbuilding request is carefully watched by our adversaries. We need to significantly improve our Navy's shipbuilding to meet the President's objective of a 355-ship Navy.

As to the Marine Corps, I am pleased this committee supported the authorization of another San Antonio-class amphibious ship in the FY18 NDAA. While I continue to hold some concerns with respect to conducting amphibious operations in a contested environment, I understand that the Marine Corps is actively seeking new strategies to overcome this challenge through exercises such as BOLD ALLIGATOR. I applaud these efforts. Our Marine Corps was created to be an amphibious force, therefore we must rapidly insert innovation into amphibious warfare to ensure we are successful in future conflict.

Additionally, I am concerned about the Navy's enabling forces and specifically the surge sealift forces. Our inability to provide a more responsive surge sealift will place soldiers and marines lives at risk in future conflict. If you can't get to the battle in time, you need to fight your way in. We have seen the casualties of such a strategy in prior conflict. We have to do better to support the warfighter.

I am reminded of Winston Churchill who at the worst of times in World War II remarked "I never worry about action, but only inaction." Ladies and gentlemen, we have had 70 years of relative global peace with the absence of a major world war. This global peace was secured by the blood and sweat of our greatest generation. Our Navy's inability to act and embrace a bold shipbuilding vision will embolden our adversaries and risks the global peace that our fathers secured for our future.

Our witnesses today are here today because they are the best our nation has to create the bold vision our nation needs. Gentlemen, it is time to act and establish a sustainable, upward trajectory for the Navy. I am confident in your ability to do so.

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

LIEUTENANT GENERAL ROBERT S. WALSH
DEPUTY COMMANDANT
COMBAT DEVELOPMENT AND INTEGRATION &
COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

AND

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

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES OF THE

HOUSE ARMED SERVICES COMMITTEE ON

DEPARTMENT OF THE NAVY SEAPOWER AND PROJECTION FORCES CAPABILITIES

MARCH 6, 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 Seapower and Projection forces capabilities. First I would like to thank Congress for your support of the Bipartisan Budget Act of 2018. Enactment of this legislation will help provide the predictability and stability in funding that is critical to our success and will support building the Navy the Nation Needs, the maritime component of the National Defense Strategy.

The strategic environment continues to become more sophisticated, uncertain, and technologically charged. The proliferation of modern conventional and cyber weapons to a broader range of state and non-state entities, along with the erosion of our competitive advantage in areas where we have long enjoyed relative superiority, is likely to continue as rival states attempt to contest our influence. Competition for natural resources, violent extremism, natural disasters, social unrest, cyber-attacks, regional conflict, and the increase of advanced weaponry create a range of challenges for a globally responsive force.

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. 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 our enduring commitment to accelerating delivery of advanced capabilities to the warfighter, the Department continues its pursuits of accelerated acquisition and business process reforms. We are utilizing accelerated acquisition authorities Congress provided under the Fiscal Year (FY) 2017 National Defense Authorization Act including implementation of accelerated acquisition policies for Rapid Prototyping. We are actively promoting innovation, government/academia partnerships, and the transition of key manufacturing technologies and processes with investments focused on affordability and capabilities most beneficial to the warfighter.

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 *Report to Congress on 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 will pursue 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 evaluate the potential additional service life that can be gained through restoration and modernization based on capability improvement costs versus unit replacement criteria. By balancing long-term growth 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.

Similarly, to increase its competitive advantage over pacing threats, the Marine Corps will rapidly adapt and modernize in an affordable way, which depends greatly on predictable funding. In anticipation of the changing threat, the Marine Corps began implementation of the Marine Operating Concept (MOC) in 2016, codifying the long-term vision for how the service will operate, fight, and win in the future. This concept identified the need for a more lethal, resilient force able to contribute to all domain access, sea control, power projection, maritime security and therefore deterrence in any threat environment. The MOC is directly in line with the recently published National Defense Strategy which highlights the requirement for increased strategic flexibility and freedom of action. The MOC and its implementation prepare the Marine Corps to operate as part of the Contact, Blunt, and Surge forces identified in the National Defense Strategy, specifically as part of the naval force. Marines operate regularly within these three layers today, making the modernization priorities highlighted in the FY 2019 President's Budget all the more critical.

The Fiscal Year 2019 President's Budget Request

The FY 2019 President's Budget was informed by the 2018 National Security Strategy and the 2018 National Defense Strategy and charts a course to building a larger, more capable battle force the nation needs.

The 2018 National Defense Authorization Act supports Navy's validated NNN

requirement for 355 Battle Force ships, which is based upon analysis and acceptable strategic and operational risk, to address the evolving and increasingly complex responsibilities. The FY 2019 President's 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; a commitment that increasingly values speed, lethality, stealth, information, and design margin for modernization as key attributes for future platforms – providing warfighting commanders capabilities in increasingly contested environments across all phases of warfare.

When compared to the FY 2018 President's Budget request, the FY 2019 President's Budget adds 11 more Battle Force ships over the Future Year Defense Program for a total of 54, with three additional ships in FY 2019. The FY 2019 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 Class fleet oilers (T-AO); and one Towing, Salvage and Rescue ship (T-ATS). The FY 2019 President's Budget provides for SLEs on 11 Battle Force ships including six Cruisers, four Mine Countermeasure ships, and one Improved Los Angeles Class SSN. The FY 2019 President's Budget request also includes funding for SLEs on 21 vessels in the Ready Reserve Force (RRF) and the Military Sealift Command surge fleet. The FY 2019 President's Budget request includes funding for procurement of two used commercial auxiliary vessels in FY 2021 and 2022, as authorized in the FY 2018 National Defense Authorization Act.

With sustained funding provided in a timely manner and the execution of qualifying SLEs, the FY 2019 President's Budget as described in the NNN shipbuilding plan 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 funding levels. By setting conditions for an enduring industrial base as a top priority, 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.

Summary

The ascendant threats posed by revisionist powers and rogue states require change – we must become more lethal, resilient and as a consequence, a more capable deterrent. The Navy-Marine Corps team is re-evaluating our contributions to all domain access, sea control, power projection, maritime security, and deterrence knowing that we must consider the tactical and operational details of a contingency – and how our contributions could shape the strategic environment to prevent conflict. Modern sensors and precision weapons with expanding ranges and lethality are redefining how we assess our posture and relative combat power.

The Department of the Navy continues to increase capacity, lethality, and availability with the shipbuilding, aviation, and expeditionary programs. New capabilities are continually being delivered to the fleet and retrofitted on existing platforms to provide enhanced lethality and survivability to the warfighter. In addition, the Department is aggressively pursuing efforts to accelerate acquisition timelines and schedules and further drive affordability into our programs, in order to deliver capability to our warfighters faster and be as effective as possible within our resources. Continued congressional support of the Department's plans and budgets will help sustain a viable industrial base, as will timely enactment of appropriations, avoiding costly Continuing Resolutions. This request lays the ground work for growing warfighting capabilities in the FY 2020 President's Budget, as the Department also makes initial investments in a larger Navy and Marine Corps.

We thank you for your continued support of the Navy and Marine Corps and request your support of the FY 2019 President's Budget.

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

U.S. NAVY AND MARINE CORPS SEAPOWER AND PROJECTION FORCES CAPABILITIES

Ships

Aircraft Carriers

The aircraft carrier is the centerpiece of the Navy's Carrier Strike Groups and central to Navy core missions of sea control, maritime security, and humanitarian assistance and disaster relief. NIMITZ and FORD Class carriers will be the premier forward-deployed asset of choice for crisis response and early decisive striking power in major combat operations for the next half-century. The Department has established a steady state FORD Class procurement plan designed to deliver each new ship in close alignment with the NIMITZ Class ship it replaces.

We continue to see progress in the testing of new systems aboard USS *Gerald R Ford* (CVN 78). As of this January, CVN 78 has completed six underway events and conducted over 700 catapult launches and arrestments with Navy jets, including over a hundred launches and recoveries in one day on two separate occasions. These fixed wing operations were successfully supported by a number of aviation systems, while others will require continued refinement as they continue to support ongoing shipboard testing. The *John F Kennedy* (CVN 79) is approximately 40 percent complete with launch planned in late 2019 and delivery in the fall of 2024. The Navy is pursuing contracting actions necessary to continue fabrication of *Enterprise* (CVN 80) in FY 2018 and preserve the delivery date to achieve significant cost reductions.

The NIMITZ Class Refueling Complex Overhaul (RCOH) is key to both the maintenance and modernization of each carrier in support of the second half of its service life. USS *George Washington* (CVN 73) began her mid-life recapitalization in August 2017 with re-delivery planned in summer 2021 to accomplish refueling of the ship's reactors, modernization, and repair of ship systems and infrastructure. The USS *John C Stennis* (CVN 74) RCOH advance planning contract award is scheduled in summer 2018.

Submarines

Ballistic Missile Submarines, coupled with the TRIDENT II D-5 Strategic Weapons System, represent the most survivable leg of the Nation's strategic arsenal and provide the

Nation's most assured nuclear response capability. The COLUMBIA Class program is on track to start construction in October 2020 and deliver to pace the retirement of our current ballistic missile submarines, deploying for its first patrol in FY 2031.

The FY 2019 President's Budget supports the funding required to achieve a target of 83 percent design completion at construction start in FY 2021. In September 2017, the Navy awarded General Dynamics Electric Boat a $5.1B contract for the design completion, technology development, and prototype manufacturing for the COLUMBIA Class program. The contract leverages the authorities contained within the National Sea-Based Deterrence Fund and incentivizes construction readiness, affordability and supplier base capability and capacity. The FY 2019 President's Budget request also funds Continuous Production of Missile Tubes and will support Advance Construction of long lead time material. Both efforts will improve manufacturing efficiencies and vendor learning, maintain critical production skills, and reduce costs by leveraging high-volume procurements.

In addition to the Department of the Navy's budget request, the continued support of Congress for Naval Reactors' Department of Energy funding is vital to the Navy mission and ensuring the safe, reliable, and enduring operations of the nuclear-powered fleet. The President's FY 2019 budget fully funds Naval Reactors' request for the COLUMBIA Class SSBN. Recapitalizing this capability is critical to the Navy's readiness, specifically by ensuring adherence to the tight refueling and defueling schedule of nuclear-powered aircraft carriers and submarines.

The long-term strategy for our attack submarines and future payload submarine is the Tactical Submarine Evolution Plan, or TESP, which features the VIRGINIA Class SSN. The VIRGINIA Class program is continuing to deliver submarines within budget and with increased capability in each block. The Navy will be building on past success by awarding a Block V Multiyear Procurement (MYP) contract for 10 ships in FY 2019. This represents an increase from the FY 2018 budget request of one submarine in FY 2021, while also introducing the VIRGINIA Payload Module and Acoustic Superiority.

In 2016, the Navy established the Integrated Enterprise Plan to provide a framework for an integrated approach to support COLUMBIA, VIRGINIA, and FORD Class construction. This long-term government and contractor effort will guide the execution of these nuclear-powered platforms affordably, on time, to specifications, in the necessary quantities, and with acceptable risk.

Large Surface Combatants

The ARLEIGH BURKE Class (DDG 51) program remains one of the Navy's most successful shipbuilding programs with 65 ships delivered to the Fleet. The FY 2018-2022 MYP maximizes affordability, stabilizes the industrial base, and has the flexibility to add additional ships. All ships in this MYP will incorporate Integrated Air and Missile Defense and provide additional Ballistic Missile Defense capacity known as Flight III, which incorporates the Air and Missile Defense Radar (AMDR). AMDR meets the growing ballistic missile threat by improving radar sensitivity and enabling longer range detection of increasingly complex threats. The program demonstrated design maturity through its successful completion of several stages of developmental testing, its entry into the Production and Deployment phase, and FY 2017 Flight III awards to both shipbuilders.

Complementing the DDG 51, the DDG 1000 ZUMWALT class guided missile destroyers are an optimally crewed, multi-mission surface combatant designed to provide long-range, precise, naval surface fire support. The DDG 1000 ship is nearing completion of industrial work in preparation to activate its combat systems in its homeport of San Diego. DDG 1001 has successfully completed acceptance trials and is scheduled for delivery in March 2018 and construction on DDG 1002 is 72 percent complete. After a comprehensive review of ZUMWALT Class requirements, the Navy decided in November 2017 to refocus the primary mission of the ZUMWALT Class Destroyers to Offensive Surface Strike. This change in mission adds lethality and offensive capabilities by providing fires against targets afloat and ashore.

Small Surface Combatants

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 Guided Missile Frigate (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 with a single source award in FY 2020. The inventory objective for LCS is 32 ships and the FY 2019 President's budget 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 expand the competitive field of our shipbuilding industrial base.

The Program of Record (PoR) requirements for LCS Mission Packages (MP) have been updated. The new MP PoR requires 10 Surface Warfare (SUW), 24 Mine Countermeasures (MCM), and 10 Antisubmarine Warfare (ASW) for a total of 44 deployable MPs. Due to the expeditionary and modular nature of the MCM MP this capacity can be fielded by both LCS and other Vessels of Opportunity. The Navy plans to leverage the modularity and flexibility of elements of the ASW and SUW MPs for the FFG(X) design, however these elements will not be complete MPs nor will they be included in the LCS MM PoR quantity of deployable MPs.

The LCS MP program continues the development of the SUW, MCM, ASW capabilities, delivering individual mission systems incrementally as they become available. This past year LCS 4 deployed with the first installation of an over-the-horizon missile capability added to the SUW MP. The Surface-to-Surface Missile Module with Longbow Hellfire will add more lethality to the SUW MP. It is currently in testing with Initial Operational Capability (IOC) planned for FY 2019.

The ASW MP Escort Mission Module (EMM) uses a continuously active Variable Depth Sonar, integrated with a Multi-Function Towed Array to provide a revolutionary surface ship anti-submarine capability. Development and integration of the EMM, Light Weight Tow, and Torpedo Defense Module are ongoing. The ASW EMM and is on track to fully integrate with the LCS to support IOC with the ASW MP in FY 2019.

The Navy has scheduled three MCM systems for developmental tests (DT) and two for operational assessments (OA) this year, with Milestone C production decisions of the first two expected before the end of FY 2018. The MCM Unmanned Surface Vehicle (USV) is the tow platform for minehunting operations, and is based on the USV already used in the Unmanned Influence Sweep System program. The Navy's plan is to conduct MCM MP DT/OA in FY 2020 and achieve IOC in FY 2021.

Amphibious Ships

Amphibious ships operate forward to support allies, rapidly and decisively respond to crises, deter potential adversaries, and provide the Nation's best means of projecting sustainable power ashore. They also provide the preponderance of our naval response in humanitarian assistance and disaster relief. The operationally available inventory of amphibious warships and connectors remains below the 38 ship force structure requirement. The Navy is exploring service life extensions of existing ships and the acceleration of the

LX(R) program to mitigate this shortfall.

LHA 6 AMERICA Class ships are flexible, multi-mission platforms with capabilities that span the range of military operations, from forward-deployed crisis response to forcible entry operations. These ships will provide the modern replacements for the LHA 1 TARAWA Class ships and the aging LHD 1 WASP Class ships. USS *America* (LHA 6) deployed as the centerpiece of AMERICA Amphibious Readiness Group/Marine Expeditionary Unit, while USS *Tripoli* (LHA 7) is on schedule to deliver in December of 2018. The Detail Design and Construction contract was awarded in June 2017 for LHA 8 and delivery is planned for FY 2024. LHA 8 will return to well deck design to increase operational flexibility and includes a reduced island structure that increases flight deck space to enhance aviation capability.

The SAN ANTONIO Class (LPD 17) provides the ability to embark, transport, and land elements of a landing force by helicopters, tilt rotor aircraft, landing craft, and amphibious vehicles. USS *Portland* (LPD 27) will commission in April 2018 and the USS *Fort Lauderdale* (LPD 28) keel was laid in September 2017, with expected delivery in FY 2021. LPD 28's design and construction features will leverage many of the ongoing LX(R) design innovations and cost reduction initiatives that are necessary for the program to achieve affordability goals while maintaining the high-level capabilities of the LPD 17 class. LPD 29 was awarded in February and will continue with the LPD 28 design, but add the Enterprise Air Surveillance Radar (EASR) among other improvements.

LX(R) will be a flight upgrade to the LPD 17 Class. The lead ship for the LX(R) is currently programmed for FY 2020. Contract actions are planned for FY 2019 to facilitate Detail Design and Construction award in FY 2020.

Combat Systems

The Department continues to field the most capable and lethal surface and submarine combat systems in the world. The AEGIS Combat System Baseline 9 has been fielded on cruisers and destroyers and continues to deliver unprecedented offensive and defensive capabilities, including, offensive ASW and simultaneous air and ballistic missile defense on destroyers and Air Defense Commander capability on cruisers. AEGIS Baseline 10 will add the AN/SPY 6(V) AMDR providing significant performance improvements over the AN/SPY 1D(V) radar and expanding the sensor coverage and enhancing the Navy's ability to perform the Integrated Air and Missile Defense mission. The Navy is leveraging the investment in

AMDR to produce the EASR that will become the primary Air Search Radar for large deck ships and the Guided Missile Frigate. By using a common design and support strategy, we are enabling significant life cycle cost reduction for the Navy's surface radars.

The Ship Self-Defense System provides ships with greater capability to defend against anti-ship cruise missile attack and supports a myriad of mission areas on Carrier and large deck Amphibious Class Ships.

The Department continues to aggressively pursue affordable systems that are employable from multiple platforms. Under the Surface Electronic Warfare Improvement Program (SEWIP), the Navy is replacing aging analog electronic warfare systems first fielded in the early 1970's with new, digital systems. SEWIP Block 1 and 2 systems are in Full Rate Production and continue to be installed across the fleet. The SEWIP Block 3 program completed its Critical Design Review in 2017 and is on track for Milestone C in FY 2018. The Navy continues to deliver enhanced surface Undersea Warfare capability through the AN/SQQ-89A(V)15 aboard cruisers, destroyers, and LCS Mission Packages.

The Submarine community continues to successfully deliver improvements in Anti-Submarine Warfare utilizing bi-annual hardware Technology Insertions on even years and software Advanced Processing Builds on odd years. Leveraging commercial off-the-shelf (COTS) technologies via the Acoustic Rapid COTS Insertion (A-RCI) program mitigates COTS obsolescence while providing more capability improvement at lower costs.

Auxiliary Ships, Expeditionary, and Other Vessels

Support vessels such as the ESB, Expeditionary Transfer Dock (ESD), and the Expeditionary Fast Transport (EPF) provide additional flexibility to the Combatant Commanders. ESBs are flexible platforms capable of hosting multiple mission sets with airborne, surface, and subsurface assets. The USNS *Lewis B Puller* (ESB 3), the first Afloat Forward Staging Base variant of the ESD, joined the U.S. Fifth Fleet in the Persian Gulf in the Fall of 2017. ESB 4 delivered in February 2018 and ESB 5 is scheduled for delivery in May 2019. The Navy accepted delivery of the 9th EPF this past December and the final EPF, EPF 12, will start fabrication this year.

The Combat Logistics Force (CLF) consists of T-AOE fast combat support ships, T-AKE dry cargo and ammunition ships, and T-AO fleet replenishment oilers. CLF ships fulfill the vital role of providing underway replenishment of fuel, food, repair parts, ammunition and

equipment to forward-deployed ships and embarked aircraft, to enable them to operate for extended periods of time at sea. The KAISER Class (T-AO 187) fleet replenishment oilers will be replaced with the JOHN LEWIS Class fleet replenishment oilers, designated T-AO 205 Class. The start of construction for the first T-AO 205 is scheduled for September 2018.

The Department has begun procurement of a combined towing, salvage, and rescue (T-ATS) ship to replace the four T-ATF 166 Class fleet ocean tugs, which reach the end of their expected service lives starting in 2021, and the four T-ARS 50 Class salvage ships, which reach the end of their expected service lives starting in 2025. Fabrication is expected to begin in early FY 2019.

In 2016, the Navy and Coast Guard established an Integrated Program Office to rebuild the Nation's heavy icebreaking capability. The Navy is supporting the Coast Guard's efforts to responsibly and affordably recapitalize the heavy polar icebreaker fleet. The Coast Guard intends to leverage existing designs and mature technologies to mitigate schedule and cost risks using a strategy based on robust industry collaboration and competition. The detail Design and Construction Request for Proposal has been released with proposals due at the end of FY 2018. Based on this effort, the Coast Guard expects delivery of the first icebreaker as early as 2023.

Surface Ship Modernization and Service Life Extensions

The fiscal realities facing the Navy make it imperative that we modernize our in-service ships to achieve their expected service lives and also to extend the service lives through modernization of our ships to achieve a 355 ship Navy. The Navy and industry are collaborating on innovative approaches to conducting modernization of Cruisers and Dock Landing Ships. The FY 2019 President's Budget includes funding for the modernization of five destroyers to sustain combat effectiveness, ensure mission relevancy, and achieve the full expected service lives of the AEGIS Fleet. The request also continues to execute over the Future Years Defense Program (FYDP) for modernization of seven cruisers to ensure long-term capability and capacity for purpose-built Air Defense Commander platforms. The remaining four cruisers, which have Ballistic Missile Defense capability, will receive modernization to their hull, mechanical and electrical systems to support their operation through their engineered service life.

Unmanned Undersea Vehicles

The Navy is expanding its global reach through the development of unmanned capabilities to ensure maritime dominance and power projection. This requires persistent global presence in all maritime domains, the ability to deny our adversaries safe haven in the world's oceans, and the capability to generate kinetic and non-kinetic effects at the time and place of our choosing. The Navy executes multiple missions in and from the Undersea Domain including Strategic Deterrence; Intelligence, Surveillance, and Reconnaissance (ISR); ASW; Anti-Surface Warfare (ASuW); Strike; Naval Special Warfare; and Mine Warfare. The Navy is using a Family-of-Systems strategy to develop and employ unmanned undersea vehicles to conduct a spectrum of undersea missions that complement and relieve stress on the manned force. The Family leverages small and medium-sized commercial vehicles, and is developing large and extra-large vehicles.

Snakehead is the Large Vehicle which is the most critical member of the Family for overall Family development and tactical operations. Orca is the Extra Large Vehicle that is being designed to launch from a pier or large surface ship and operate for weeks or months at a time.

Ready Reserve Forces (RRF)

The Navy has coordinated planning options with the Office of the Secretary of Defense, U.S. Transportation Command (USTRANSCOM), and the Department of Transportation's Maritime Administration (MARAD) and developed a strategic sealift recapitalization strategy that includes a three-phased approach. The strategy includes the SLE of select Surge Sealift vessels, acquiring used vessels, and a new construction, common-hulled shipbuilding program. The Navy's long-term strategy advocates that new construction common hull vessels be assigned to the Maritime Prepositioning Force (MPF) as delivered, ensuring the Fleet has the latest capabilities to support employment across the full range of military operations. Existing MPF ships would rotate to surge, preserving capability and maintaining the requisite square footage to meet USTRANSCOM sealift capacity requirements.

Naval Aviation

With the support of Congress, the U.S. Navy and Marine Corps are implementing our "Vision for Naval Aviation 2025". This framework informs our investment priorities across

the triad of warfighting capability, capacity, and naval aviation wholeness; placing the right capability in the hands of the warfighter in the most affordable manner possible.

Airborne Early Warning Aircraft

The Navy continues its full support for E-2D. E-2D is the Navy's premier carrier-based Airborne Early Warning and Battle Management Command and Control (C2) system. The aircraft provides 'Theater Air and Missile Defense' and 'Naval Integrated Fire Control-Counter Air' capabilities. E-2D is capable of synthesizing information from multiple onboard and off-board sensors, making complex tactical decisions, and then disseminating actionable information to Joint Forces in a distributed, open-architecture environment.

Maritime Patrol Aircraft

The P-8A Poseidon recapitalizes the ASW, ASuW and armed ISR capabilities from the aging P-3C Orion. The P-8A combines the proven reliability of the commercial 737 airframe with avionics that enable integration of modern sensors and robust military communications. All squadrons are scheduled to complete transition by FY 2020. The P-8A program is meeting all cost, schedule and performance parameters and has surpassed reliability standards for operational availability.

Fixed Wing Aircraft

The KC-130J brings increased capability, performance, and survivability with lower operating and sustainment costs for the MAGTF. Today, the KC-130J is in high demand as it provides tactical air-to-air refueling, assault support, close air support and Multi-sensor Imagery Reconnaissance capabilities in support of Special Purpose MAGTFs and deployed Marine Expeditionary Units (MEUs). Targeted improvements include aircraft survivability through advanced electronic countermeasure modernization and obsolescence upgrades to the Harvest HAWK ISR/Weapon Mission Kit. The obsolescence upgrade includes compatibility with additional Hellfire variants and an improved full motion video data-link.

Operational Support Aircraft (OSA)

The C-40A is a military variant of the Boeing 737-700C, a combination passenger/cargo aircraft, with military avionics and aircraft survivability equipment. The

Marine Corps' intends to procure two C-40As in FY 2019 to replace the C-9B fleet it divested in April 2017. This procurement enables the time-sensitive movement of personnel and cargo for Marine forces and complies with current FAA communication, navigation, surveillance, and air traffic management requirements. Missions previously flown by C-9s are either not being accomplished or they are being accomplished via tactical aircraft like the CH-53E, MV-22 or KC-130J. Using tactical aircraft to conduct OSA missions not only increases their utilization rates, but also has a higher cost-per-flight-hour than the C-40A.

Unmanned Aviation

The Department has placed a priority on the development and fielding of unmanned systems leading to a fully integrated manned and unmanned fleet. Unmanned technology will not replace our Sailors and Marines; instead it will unlock their full potential as we integrate this technology within our total force.

MQ-4C (Triton)

The Department continues steady progress on development and fielding of the MQ-4C Triton Unmanned Aircraft System (UAS). Triton will be a core capability of Navy's Maritime Patrol and Reconnaissance Force and fill a vital role for the Joint Forces Maritime Component Commander by delivering persistent maritime ISR. The system will be a force multiplier for the Coalition and Joint Force, as well as the Fleet Commander, by enhancing situational awareness of the operational environment and shortening the sensor-to-shooter kill chain.

MQ-25 Carrier Based Unmanned Aerial System

Navy is committed to unmanned carrier aviation. MQ-25 Stingray will deliver the Navy's first carrier-based UAS to function primarily as a mission tanker to extend the range, reach, and lethality of the carrier air wing with secondary recovery tanking and ISR capabilities. MQ-25 will reduce current use of F/A-18E/Fs as carrier air wing tankers, freeing F/A-18E/Fs to execute strike fighter missions, effectively increasing strike fighter capacity within the carrier air wing. MQ-25 is a rapid acquisition program designed to significantly reduce its development and delivery timeline. The program has established a short chain of command to mitigate risk and expedite programmatic and technical trade decisions.

RQ-21A Blackjack

To meet the demand for persistent, multi-role ISR capability, the Navy and Marine Corps are building a balanced portfolio of manned and unmanned aircraft focused on missions in the maritime environment. This UAS, with the capability for expeditionary operations via deployment aboard amphibious ships, provides persistent ship and land based ISR support for expeditionary tactical-level maneuver decisions, unit level force defense, and force protection missions. The RQ-21 completed several combat deployments in 2017 and supported both East and West coast MEUs. The Blackjack has flown over 1,000 sorties and 5,600 hours in support of the MAGTF.

MAGTF Expeditionary UAS (MUX)

The MAGTF Expeditionary UAS (MUX) supports the Marine Operating Concept and is envisioned to be a multi-mission, long-range (690+ NM), long-endurance (24+ hours), platform that will complement MV-22 operations and operate from both sea and expeditionary bases. MUX will enable the MAGTF to provide, complement, or expand a Joint Force or geographic commander's capabilities during the conduct of campaigns, joint forcible entry operations, and crisis response.

Weapons

The Department continues to make significant strides in extending the fleet's layered defense battle-space while also improving the capabilities of the individual ship defense layers in order to pace the increasing anti-ship missile threat.

Standard Missile-6 (SM-6) provides theater and high value target area defense for the Fleet, and with Integrated Fire Control, has more than doubled its range in the counter-air mission. SM-6 Block I declared Full Operational Capability in December 2017 and the Navy plans to award a MYP contract for up to 625 SM-6 missiles in FY 2019. The MYP will span from FY 2019 to FY 2023, is projected to achieve over 10 percent savings vice annual procurement, and aligns with the potential SM-3 Block IB MYP in FY 2019.

The Evolved Sea Sparrow Missile (ESSM) provides another layer to the Navy's defended battle-space. ESSM Block 2 is on track to achieve IOC for AEGIS platforms in FY 2020 and Ship Self-Defense System platforms in the 2022-2023 timeframe.

The inner layer of the Fleet's layered defense is the Rolling Airframe Missile (RAM)

designed to pace the evolving anti-ship cruise missile threat and improve performance against complex stream raid engagement scenarios. The RAM Block 2 is on track to receive a Full Rate Production Decision in FY 2018.

The FY 2019 President's Budget includes funding to continue upgrades to the Standard Missile-2 (SM-2) inventory with active guidance utilizing accelerated acquisition authorities. This investment provides an affordable, integrated fire control capable, area defense missile to counter stressing threats.

Cruise Missile Strategy

The Department has aligned its Cruise Missile Strategy along warfighter domains to pursue maximized lethality while minimizing overall costs to the taxpayer. The first tenet of our strategy is to sustain the highly successful, combat proven, Tomahawk cruise missile inventory through its anticipated service-life via a mid-life recertification program starting in the first quarter of FY 2019. This recertification program will increase missile service-life by an additional 15 years (total of 30 years) and enable the Department to support Tomahawk in our active inventory through the mid-late 2040s. In concert with our recertification program we will integrate modernization and technological upgrades and address existing obsolescence issues. In addition, we are developing a Maritime Strike Tomahawk capability to deliver a long-range anti-surface warfare capability.

The Department will field the Long-Range Anti-Ship Missile (LRASM) as the air-launched Offensive Anti-Surface Warfare/Increment 1 (OASuW/Inc. 1) material solution to meet near to mid-term anti-surface warfare threats. LRASM is pioneering accelerated acquisition processes. We anticipate LRASM will meet all Joint Chiefs of Staff-approved warfighting requirements, and deliver on-time within cost.

Finally, the Department plans to develop follow-on next generation strike capabilities such as the surface and submarine launched Next Generation Land Attack Weapon (NGLAW). NGLAW will have both a long-range land strike and maritime ASuW capability that initially complements, and then replaces, the highly successful Tomahawk Weapon System.

United States Marine Corps Expeditionary Warfare

Expeditionary Warfare

The principle of Expeditionary Warfare is to operate forward, to exploit the seas as maneuver space as a base for global power projection, and to be ready to maneuver to shore when so ordered. Our ability to deploy from the sea in austere environments at a time and place of our choosing gives us significant tactical, operational and strategic advantages over potential adversaries. That ability is provided through the combination of connectors that move forces from the sea base to the objective sites and sustain the organic capability of those forces to maneuver and fight on the objective.

The Navy/Marine Corps team provides the Combatant Commanders and our Nation the options needed to engage with our partners, to deter our adversaries and, when needed, to fight and win. That capability is underpinned by our disciplined, well-trained and motivated Sailors and Marines equipped with the "right" amphibious ships, aircraft and weapons in our arsenal. Unique to our expeditionary warfare capabilities is the ability to exploit the sea as maneuver space and conduct operations in international waters and airspace. Tactically, the ability to project multiple elements of a landing force ashore via multiple entry points using both vertical and surface means gives us greater flexibility in maneuvering into positions of advantage over an adversary. Our service capstone concept, the Marine Corps Operating Concept, envisions a future Marine force fighting at and from the sea to gain and maintain sea control and enable freedom of maneuver within an Advanced Naval or Joint Task Force as directed through the National Defense Strategy and Defense Planning Guidance.

Connectors

Ship-to-shore connectors move personnel, equipment and supplies, maneuvering from a sea base to the objective. These are critical enablers for any naval force by closing the last "tactical mile" with the adversary. Modern aerial connectors, such as the MV-22 Osprey and CH-53K King Stallion, extend operational reach and lift capacity, revolutionizing our ability to operate from the sea, austere locations, and previously damaged airfields within a contested environment. Aerial connectors alone do not suffice; the Navy is in the process of modernizing the surface connector fleet by replacing the aging Landing Craft Air Cushion (LCAC) and the 50-year-old fleet of Landing Craft Utility (LCU). This system of surface

and aerial connectors will enable the Joint Force to establish a web of sensor, strike, decoy, and sustainment locations based on land and sea that complicates the strategic and operational decision-making of our most advanced rivals, thus attacking their Anti-Access/Area Denial (A2AD) strategies. Continued funding of the modernization, maintenance, and service life extension programs of our existing fleet of connectors is critical to enabling our success in future security environments.

The FY 2019 President's Budget includes 37 LCAC 100 Class air cushioned vehicles. The Ship to Shore Connector program will replace aging LCACs, which have undergone a Service Life Extension Program (SLEP) and a Post-SLEP Extension program. Additionally, the FY 2019 President's Budget includes the procurement of 18 LCU 1700 Class craft, which will recapitalize, in part, the aging LCU 1610 Class. Both variants still require additional funding for post-delivery and outfitting efforts to provide Fleet craft which are capable of supporting operational tasking.

These platforms are essential in connecting the combat power and logistics sustainment the seabase provides to expeditionary forces operating in the littorals. The Department will continue to explore future connector options that will increase our ability to exploit the sea as maneuver space by increasing range, speed, capacity, and force interoperability.

Combat and Tactical Vehicles

Our Ground Combat and Tactical Vehicle Strategy (GCTVS) provides a framework for portfolio management and enterprise decision support. The Marine Corps is investing approximately 29 percent of its modernization resources into GCTV systems within the FYDP. The overarching combat and tactical vehicle investment priority is the modernization of Assault Amphibian capability through the Amphibious Combat Vehicle (ACV) program as the means to incrementally replace the legacy Assault Amphibious Vehicle (AAV).

The first phase and increment of the ACV program (ACV 1.1) is on schedule for Milestone C decision and down-select to a single contractor in June of 2018. Thus far, it is successfully performing at or above the required performance parameters with both vendors demonstrating the capacity to meet objective requirements for ship-to-shore water mobility. Both manufacturers have delivered their required number of vehicles and have been going through rigorous developmental testing including water mobility and under-vehicle blast

protection tests as well as operational testing with the user community.

The second highest priority for combat and tactical vehicle investment remains the replacement of the legacy high mobility, multi-purpose, wheeled vehicle (HMMWV) fleet beginning with that portion that is most at risk; those trucks that perform a combat function and are typically exposed to enemy fires. In partnership with the Army, the Marine Corps has sequenced the Joint Light Tactical Vehicle (JLTV) program to ensure affordability in conjunction with the execution of the ACV program. This approach enables an affordable, incremental, and simultaneous modernization of the two most stressing gaps within the GCTV portfolio.

Marine Air-Ground Task Forces

The focus of our ground modernization efforts continues to be our combat and tactical vehicle portfolio, along with the C2 systems needed to leverage the entire MAGTF once ashore.

Critical to the success ashore of the MAGTF is our ability to coordinate and synchronize our distributed C2 sensors and systems. Our modernization priorities in this area are the Ground/Air Task Oriented Radar (G/ATOR) and the Common Aviation Command and Control System (CAC2S). These systems will provide modern, interoperable technologies to support real-time surveillance, detection and targeting and common C2 suite to enable the effective employment of that and other sensors and C2 suites across the MAGTF.

G/ATOR ensures the Marine Corps will be in full control of MAGTF airspace. It serves as the foundation for Commander, Joint Force Air Component delegation of airspace control to the future MAGTF, and provides MAGTF commanders the freedom of action to employ organic surface and air fires. G/ATOR detects the most challenging air threats for the MAGTF and will pace the threat for years to come.

CAC2S provides the tactical situational display, information management, sensor and data link interface, and operational facilities for planning and execution of Marine Aviation missions within the MAGTF. CAC2S will eliminate the current stove-piped, dissimilar legacy systems and will add capability for aviation combat direction and air defense functions by providing a single networked system. CAC2S will be the primary C2 system that integrates MAGTF aviation operations with Joint, combined, and coalition aviation C2 agencies.

Counter Unmanned Aircraft Systems (C-UAS)

The proliferation and technological progression of readily available UASs to state and non-state actors have advanced at an unprecedented pace. The Department is pursuing an aggressive plan that delivers the most capable, available C-UAS solutions for the warfighter in the near term, while simultaneously pursuing advanced technologies to support an enduring C-UAS capability.

Other MAGTF Programs

Individual Marines are the foundation of the Marine Corps, the MAGTF and our expeditionary capability. In addition to the major programs described above, this budget supports the continued delivery of required warfighting capabilities to our individual Marines and our flexible MAGTF structure in a timely and affordable manner. The Marine Corps continues to invest in the weapons, individual protective equipment, tactical radios, training systems, and information technology necessary to ensure an effective and efficient fighting force and keep faith with our commitment to those individual Marines who shoulder the burden and privilege of being America's expeditionary force in readiness.

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

Lieutenant General Robert S. Walsh
Commanding General, Marine Corps Combat Development Command, and Deputy Commandant, Combat Development and Integration

Lieutenant General Walsh was commissioned a Second Lieutenant from the United States Naval Academy in May 1979. After completing The Basic School he was assigned as an infantry platoon commander in 1st Battalion, 7th Marines. He reported to Pensacola, FL for flight training and was designated a Naval Aviator in October 1981. Upon completion of an assignment to VT-26 as a Selectively Retained Graduate and the F-4 training syllabus he was ordered to VMFA-115 at Marine Corps Air Station Beaufort, SC in November 1983.

While in VMFA-115 he transitioned to the F/A-18 Hornet, attended the U.S. Navy Fighter Weapons School, and made two deployments before assuming duties as a flight instructor at TOPGUN in 1987. He returned to MCAS Beaufort in January 1990 and was assigned to VMFA-251, making two WESTPAC deployments, and was selected as the 1st Marine Aircraft Wing Aviator of the Year.

In July 1993, he reported to the 9th Marine Regiment as the Air Officer. He attended the Air Command and Staff College at Maxwell AFB before reporting to Headquarters, U.S. European Command, Stuttgart, Germany in 1995 where he served in the Plans and Policy Directorate.

In 1998, he returned to MCAS Beaufort for a third tour in Marine Aircraft Group 31 where he served as the Commanding Officer of VMFA-115 and deployed to both the European and Western Pacific Theaters.

He graduated from the National War College in Washington D.C. in June 2002 with a Masters of Science in National Security Strategy. From there he reported to Headquarters, U.S. Marine Corps, where he served in the Aviation Department. After his Branch head tour, Lieutenant General Walsh returned to MCAS Beaufort as the Commanding Officer of Marine Aircraft Group 31 from June 2004 to May 2006.

Following command, he returned to Headquarters, U.S. Marine Corps, as the Assistant Deputy Commandant for Aviation. In May 2008, Lieutenant General Walsh became the Commanding General of the 2d Marine Aircraft Wing and deployed to Operation Iraqi Freedom 09 as the Commanding General of the 2d Marine Aircraft Wing (Forward). In August 2010 he assumed the duties as the Director of Operations, United States Northern Command. In June 2012 he became the Deputy Commanding General, Marine Corps Combat Development Command. In July 2013, Lieutenant General Walsh assumed duties as Director, Expeditionary Warfare Division for the Chief of Naval Operations. In August 2015, Lieutenant General Walsh became the Commanding General, Marine Corps Combat Development Command; Commander, Marine Corps Forces Strategic Command, and the Deputy Commandant for Combat Development and Integration.

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

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

MARCH 6, 2018

QUESTIONS SUBMITTED BY MR. HUNTER

Mr. HUNTER. Currently, we have 30 amphibious ships and the USMC requirement is 38. Would it be helpful to accelerate production of a large deck amphib ship in 2019? Along the same vein, the production line for the LPD is hot and if we wait until 2020 for continued production and skip a year of production, what would be the implications to the Marine Corps?

Secretary GEURTS and Admiral MERZ. The President's FY 2019 Budget (PB19) request reflects the Navy's balanced approach to responsibly grow the size of the Fleet consistent with the National Defense Strategy and the Navy the Nation Needs. If additional funding was available within the Future Years Defense Program (FYDP), the Navy would evaluate our overarching shipbuilding requirements, including accelerating LHA 9 to a FY 2021 procurement, with advance procurement (AP) in FY 2020. By accelerating LHA 9 to FY 2021 and procuring follow-on ships on four-year centers, the Navy could take advantage of the efficiencies and related cost avoidance inherent in maintaining an active and stable industrial base for the amphibious fleet, while mitigating the large deck amphibious ship capability gap in FY 2029. In comparison, accelerating LHA 9 to a FY 2019 procurement (or FY 2020 procurement with AP in FY 2019) provides for only marginal acceleration of LHA 9's delivery date, while introducing inefficiencies that reduce the cost savings that would be achieved. The FY 2018 Omnibus Appropriations Act accelerates procurement of the LPD Flt II lead ship from FY 2020 to FY 2018. The lead LPD Flt II ship will deliver in time to replace LSD 43 prior to decommissioning and maintain the requirement for 13 LSD/LPD Flt II ships

Mr. HUNTER. How does our Navy/Marine Corps team answer General Neller's directive to prepare to "fight to get to the fight" in high-end littoral warfare?

Secretary GEURTS, General WALSH, and Admiral MERZ. Within the 2018 National Defense Strategy and Defense Planning Guidance (NDS/DPG) framework, the Marine Corps will actively contribute to naval maritime security operations and enhance deployment and employment options for power projection. Tactically distributed, operationally synchronized, and strategically linked scalable Marine Air-Ground Task Forces (MAGTFs), will operate as contact and blunt forces, ranging in size from Special Operations Force and platoon sized detachments, company landing teams, task-sized Special Purpose MAGTFs, and Marine Expeditionary Units operating afloat and ashore. In support of Advance Naval Task Force operations—persistent, resilient, and versatile forward postured and engaged contact and blunt forces will retain the ability to aggregate and interoperate with other globally sourced force elements including Marine Expeditionary Brigades, Marine Expeditionary Forces, and other Naval Fleet-Level surge forces capable of conducting crisis/contingency operations, and assume expanded roles and tasks in order to enable freedom of action through simultaneous sea control/denial and power projection afloat or ashore. Additionally, our posture and pace of modernization must improve. Legacy warships, connectors, and associated platforms and vessels must be modernized and operationally sustained, as new platforms are designed and constructed with capabilities that improve global coverage, persistent and resilient forward presence, credible crisis/contingency response capability—all through an integrated C2 network to ensure seabased forces are most ready to engage and succeed at the time and place of our choosing despite our adversary's attempts to deny and defeat our actions. As stated by CNO, there are three ways America can increase naval power and provide the Navy the Nation Needs (NNN): "1) Increase number of platforms; 2) Increase capability of each platform; and 3) Networked platforms." Within the context of the NDS, DPG and the NNN, there are key actions critical to achieve an integrated and "balanced" next generation maritime expeditionary warfare capability. The Navy and Marine Corps are actively pursuing key capabilities and capacities that will achieve our strategic to tactical force objectives and tasks. Perhaps the most critical action is renewed investment in emerging technologies that will deliver the capabilities needed of amphibious forces for decades to come. Therefore, we must move forward in evolving and transitioning capabilities across USMC organizations, equipment, and training, thus increasing the agility and lethality of our MAGTFs, Naval Task Forces, and the Joint Force in support of global operations.

Mr. HUNTER. Will there be funds to research and develop a truly amphibious vehicle that is armored and will be able to:

1. Travel more than 200+ nmi at 40kt?

2. Carry in excess of 25 long tons or 30 troops?
3. Fight in High-End Littoral Combat against enemy naval vessels as well as it does on land against an armored enemy?
4. Organically produce 10 MW of electrical power for use in emergencies?
5. Carry its own Material Handling Equipment (MHE) to move shipping containers off the beach to where they are needed inland?
6. Reconfigure its payload to switch in minutes between an ambulance, mobile artillery platform, troop carrier, communications hub, AGM–176 missile platform or water purification station?

Secretary GEURTS, General WALSH, and Admiral MERZ. The Office of Naval Research continues to fund research into meeting the challenges of high speed ship to shore movement. The specific challenges associated with building a vehicle that can meet all the requirements listed are well documented. HWS capabilities also continue to be studied by numerous agencies to include the Marine Corps Warfighting Lab, naval warfare centers, research institutions, and foreign services. The Marine Corps remains highly interested in the results of this work and remains committed to the best solutions that are timely and affordable. Near term, we are searching for "bridge" capabilities such as modifications to current connectors, development of new connectors, and add-on materials that enable current and emerging vehicles such as ACV to move to shore faster and from greater distances.

Mr. HUNTER. General, I would like to ask you about non-traditional ships like the Expeditionary Sea Base (ESB), Expeditionary Transfer Dock (ESD), and Expeditionary Fast Transport (EPF)s. Can you briefly describe how the Marines are using these new ships in the CENTCOM AOR and some of the lessons learned, and are they a replacement for Amphibs?

General WALSH. The competitive global demand for forward deployed MAGTFs exceeds our ability to sea base all of those forces on amphibious warships. In some instances we are forced to rely on shore-based MAGTFs that lack the advantages resident in shipborne formations. We have also used non-traditional ships from the Maritime Prepositioning Force and the auxiliary inventory to deploy Marines in support of theater security cooperation missions and other limited threat engagements. Select "non-traditional" platforms have been and are currently providing support to special and conventional force operations afloat with policy, doctrine and concepts in place. T–ESB 3 is assigned to 5th Fleet and has been tasked to compliment the forward deployed ARG/MEU, serving as an Afloat Forward Staging Base (AFSB) to support SOF and Marine Forces. We are learning this model has the potential to be duplicated in other geographic areas where combatant warships provide protection for the entire at-sea formation. T–ESB 4 recently delivered and is completing acceptance trials. T–ESB 5 is under construction Seven T–EPF's are assigned around the globe to Geographic Combatant Commanders and are being used for point to point inter-theater lift and contact layer activities. We are gathering the information on operational usage and applying those lessons to enhance the capability of future vessels. The EPF in 5th Fleet also has been tasked to complement the forward deployed ARG/MEU. T–ESD 1 and 2 are assigned to the Maritime Prepositioning Force and are being used as at-sea piers in the PACOM area of operations supporting sea-based transfer of equipment and sustainment for movement ashore. No less than 38 amphibious warships are required to support high impact contingency response operations. To meet global demand we will continue to use both traditional (amphibious warships) and non-traditional (MPF/auxiliary) ships. Operational Platform Distinctions: The Navy and industry are building and delivering versatile, interoperable warfighting platforms capable of going into harm's way while serving as the cornerstone of America's ability to extend seapower ashore. The capability of these ships is prized by Geographic Combatant Commanders because they can do everything from delivering aid to supporting forcible entry. We should continue our investment in the readiness, maintenance and construction of these platforms while we examine best practices to leverage the employment of auxiliary ships- those not built to combatant standards, but capable of enabling distributed sea-based littoral operations. We will continue to investigate enhancement for auxiliary platforms to improve lethality, agility, and resilience. These purpose built platforms can better complement amphibious warfare ships with increased surface, vertical and digital interoperability.

Mr. HUNTER. Currently, we have 30 amph ships and the USMC requirement is 38. Would it be helpful to accelerate production of a large deck amph ship in 2019?

Along the same vein, the production line for the LPD is hot and if we wait until 2020 for continued production and skip a year of production, what would be the implications to the Marine Corps?

General WALSH. Yes. Current Amphibious Warship Inventory is 32 (9 LH/11 LPD/12 LSD) Congress has generously helped accelerate ship building with passage of

the Consolidated Appropriations Act. The procurement of LPD 30 will speed a much needed capability to the fleet and increase our battle force inventory. LPD 30 in FY18, plus the build profile for LPDs' in the long range shipbuilding strategy, will ensure delivery of extremely capable multi-purpose ships to replace the aging LSD inventory. The Navy realizes to achieve today's warfighting requirement in three decades, represents an unacceptable pace in the context of the current and predicted security environment. By setting the conditions for an enduring industrial base as a top priority, we are postured to aggressively respond to more investment in any year, which if received in all years could attain the needed naval battleforce target of 355 ships as early as the 2030s—balanced, credible and sustainable—by leveraging all available tools for growing the force. In conjunction with pursuing required long-term, predictable funding, and in concert with the Secretary of Navy's business reform initiatives, the Navy continues to aggressively pursue acquisition strategies to build ships more quickly and more affordably.

QUESTIONS SUBMITTED BY MR. McEACHIN

Mr. MCEACHIN. Should the equipment and systems on the Future Frigate be able to survive engagements in a contested environment? Should the Future Frigate also contain equipment and systems able to operate over a long life-cycle with minimal need for repair and replacement? And should critical components like the power distribution system be "hardened" in order to operate in a combat environment?

Secretary GEURTS and Admiral MERZ. The Guided Missile Frigate (FFG(X)) will include improved radar, combat systems, weapons, launchers, communications systems and countermeasures, and added capability in the Electromagnetic Maneuver Warfare mission area. The FFG(X) will be a multi-mission ship capable of operating independently or with aggregated groups of naval forces in contested environments in support of Distributed Maritime Operations. It will have the ability to protect itself and other surface units with improved air defense capability and will include shockhardening and redundancy for survivability. FFG(X) will also be built with service life allowances to support life-cycle sensor and lethality upgrades. Because FFG(X) is expected to have a service life of 25 + years, the Navy is pursuing systems and equipment that reduce ship life-cycle cost.

Mr. MCEACHIN. Hybrid Electric Drive systems have been integrated on various naval platforms, significantly decreasing fuel consumption while maintaining impressive operating ranges. Additionally, these hybrid drive systems are much quieter than conventional propulsion drives, resulting in a safer platform in contested waters. Could you please outline for the committee the benefits that would be achieved from including Hybrid Electric Drive propulsion on the Future Frigate Program as compared to current legacy propulsion technologies?

Secretary GEURTS and Admiral MERZ. With the Conceptual Design phase of the Frigate program in progress and a Detail Design and Construction competition planned for award in FY20, it would be inappropriate for the Navy to comment on advantages or disadvantages of systems that may be included in current proposals submitted by industry. The Navy is considering offeror designs that will meet the established requirements to include those with Hybrid Electric Drives. The Navy is however, evaluating Hybrid Electric Drive (HED) on an Arleigh Burke Class Destroyer (USS TRUXTON), to assess the viability in an operational environment in order to inform the Navy's longer term commitment.

Mr. MCEACHIN. Should the equipment and systems on the Future Frigate be able to survive engagements in a contested environment? Should the Future Frigate also contain equipment and systems able to operate over a long life-cycle with minimal need for repair and replacement? And should critical components like the power distribution system be "hardened" in order to operate in a combat environment?

General WALSH. I defer to the Navy as the Future Frigate is their program.

Mr. MCEACHIN. Hybrid Electric Drive systems have been integrated on various naval platforms, significantly decreasing fuel consumption while maintaining impressive operating ranges. Additionally, these hybrid drive systems are much quieter than conventional propulsion drives, resulting in a safer platform in contested waters. Could you please outline for the committee the benefits that would be achieved from including Hybrid Electric Drive propulsion on the Future Frigate Program as compared to current legacy propulsion technologies?

General WALSH. I defer to the Navy as the Future Frigate is their program.

○