

[H.A.S.C. No. 116-32]

HEARING
ON
NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2020
AND
OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS

BEFORE THE
COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED SIXTEENTH CONGRESS
FIRST SESSION

FULL COMMITTEE HEARING
ON
**THE FISCAL YEAR 2020
NATIONAL DEFENSE AUTHORIZATION
BUDGET REQUEST FOR THE
DEPARTMENT OF THE NAVY**

HEARING HELD
APRIL 10, 2019



U.S. GOVERNMENT PUBLISHING OFFICE

37-499

WASHINGTON : 2020

COMMITTEE ON ARMED SERVICES

ONE HUNDRED SIXTEENTH CONGRESS

ADAM SMITH, Washington, *Chairman*

SUSAN A. DAVIS, California	WILLIAM M. "MAC" THORNBERRY, Texas
JAMES R. LANGEVIN, Rhode Island	JOE WILSON, South Carolina
RICK LARSEN, Washington	ROB BISHOP, Utah
JIM COOPER, Tennessee	MICHAEL R. TURNER, Ohio
JOE COURTNEY, Connecticut	MIKE ROGERS, Alabama
JOHN GARAMENDI, California	K. MICHAEL CONAWAY, Texas
JACKIE SPEIER, California	DOUG LAMBORN, Colorado
TULSI GABBARD, Hawaii	ROBERT J. WITTMAN, Virginia
DONALD NORCROSS, New Jersey	VICKY HARTZLER, Missouri
RUBEN GALLEG0, Arizona	AUSTIN SCOTT, Georgia
SETH MOULTON, Massachusetts	MO BROOKS, Alabama
SALUD O. CARBAJAL, California	PAUL COOK, California
ANTHONY G. BROWN, Maryland, <i>Vice Chair</i>	BRADLEY BYRNE, Alabama
RO KHANNA, California	SAM GRAVES, Missouri
WILLIAM R. KEATING, Massachusetts	ELISE M. STEFANIK, New York
FILEMON VELA, Texas	SCOTT DESJARLAIS, Tennessee
ANDY KIM, New Jersey	RALPH LEE ABRAHAM, Louisiana
KENDRA S. HORN, Oklahoma	TRENT KELLY, Mississippi
GILBERT RAY CISNEROS, Jr., California	MIKE GALLAGHER, Wisconsin
CHRissy HOULAHAN, Pennsylvania	MATT GAETZ, Florida
JASON CROW, Colorado	DON BACON, Nebraska
XOCHITL TORRES SMALL, New Mexico	JIM BANKS, Indiana
ELISSA SLOTKIN, Michigan	LIZ CHENEY, Wyoming
MIKIE SHERRILL, New Jersey	PAUL MITCHELL, Michigan
KATIE HILL, California	JACK BERGMAN, Michigan
VERONICA ESCOBAR, Texas	MICHAEL WALTZ, Florida
DEBRA A. HAALAND, New Mexico	
JARED F. GOLDEN, Maine	
LORI TRAHAN, Massachusetts	
ELAINE G. LURIA, Virginia	

PAUL ARCANGELI, *Staff Director*
KATY QUINN, *Professional Staff Member*
DAVE SIENICKI, *Professional Staff Member*
JUSTIN LYNCH, *Clerk*

CONTENTS

	Page
STATEMENTS PRESENTED BY MEMBERS OF CONGRESS	
Smith, Hon. Adam, a Representative from Washington, Chairman, Committee on Armed Services	1
Thornberry, Hon. William M. "Mac," a Representative from Texas, Ranking Member, Committee on Armed Services	3
WITNESSES	
Neller, Gen Robert B., USMC, Commandant, U.S. Marine Corps	7
Richardson, ADM John M., USN, Chief of Naval Operations	6
Spencer, Hon. Richard V., Secretary of the Navy	4
APPENDIX	
PREPARED STATEMENTS:	
Richardson, ADM John M.	63
Smith, Hon. Adam	51
Spencer, Hon. Richard V.	54
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. Brown	89
Mr. Cisneros	89
Mr. Conaway	88
Mr. Langevin	83
Mr. Larsen	83
Mr. Turner	84

**THE FISCAL YEAR 2020 NATIONAL DEFENSE
AUTHORIZATION BUDGET REQUEST FOR THE
DEPARTMENT OF THE NAVY**

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
Washington, DC, Wednesday, April 10, 2019.

The committee met, pursuant to call, at 10:00 a.m., in room 2118, Rayburn House Office Building, Hon. Adam Smith (chairman of the committee) presiding.

OPENING STATEMENT OF HON. ADAM SMITH, A REPRESENTATIVE FROM WASHINGTON, CHAIRMAN, COMMITTEE ON ARMED SERVICES

The CHAIRMAN. Good morning. We will go ahead and call the committee to order.

It is going to be a little bit more confusing today because we have votes. We scheduled this hearing before they changed the schedule, and votes will be coming sometime in the next half hour. We will take the votes and come back. We will try to get through as much as we can.

There is no particular hard stop, as I understand it, but we will probably go till about 1 o'clock would be the plan. That is normally when things fade. But we will see where people are at after that point.

Also, I will not be here for the full hearing, massive head cold, which is getting better. But Mr. Langevin will be in the chair for the last part of the meeting.

But, with that, I am pleased to welcome the Secretary of the Navy, the Honorable Richard Spencer; Admiral John Richardson, Chief of Naval Operations; and General Robert Neller, Commandant of the Marine Corps.

This seems to be a theme with our hearings these days, but as I understand it, Admiral Richardson and General Neller are soon to retire and may not have the pleasure of coming before our committee again. So I want to thank both of you for your outstanding service to the country and for your work with this committee. You have both done a great job of being very open, cooperating with us over here in Congress. I think we have worked very well together. I appreciate that relationship, and I appreciate your dedication and hard work.

With that, I have an opening statement, which I will submit for the record, and just make three quick points off of the top of it.

First, I think the biggest challenge within the Department of the Navy right now is the new ships that you are building and preparing to build. And to put it bluntly, we have not had the best

past record in terms of developing new large programs. We have had a number of them that never quite got off the ground, others that were truncated and wound up costing us a great deal of money.

I think the number one most important thing that I want to hear from all of you today is how are we going to do better going forward with the new frigate we are talking about doing as a—as I understand, it is something of a replacement to the LCS [littoral combat ship]. As we are developing new ships in a number of areas of capabilities, how can we be confident that this time we actually are going to get what we are looking for and not wind up wasting money, and wind up with a product, because the history of that has been truly painful. Everything is expensive in this business, but it is really tough when you spend the money and you don't wind up with any product on the back end of that.

Second is readiness and training issues. And I really want to thank Admiral Richardson in particular. You have been very open in discussing with us, you know, your investigations into the accidents and the USS *Fitzgerald* and the *McCain*. We obviously need to do better. It is not just the Navy, it is throughout the force, in terms of training, making sure that we keep the men and women who serve safe as we do this. So I would love to get an update on readiness, where that is at, and how you see us being in a better position to avoid these types of accidents going forward.

Lastly is an issue that I know will come up, and that is the issue of readiness as it relates to the deployment to the southern border and how it impacts the readiness of the force. I have no doubt that it is not a huge impact. It doesn't help. It is an additional distraction to the overall mission of the military. We are also concerned about the taking of money out of the Department of Defense to go towards the President's emergency on the southern border in building that wall.

But the one message—and this message is not for the people here, it is just on the issue that I think is really important. There wasn't actually any crisis at the border when President Trump took office. We were doing better than we had done in about 15 years. Two-plus years later, it is a mess. And you can debate, you know, what the solution is. Is it a crisis? Is it an emergency? But you cannot debate that the situation on our southern border is vastly worse than it was 2 years ago.

Personally, I don't think spending tens of billions of dollars on a wall is going to change that equation. The biggest thing driving it is people are desperate, primarily in Central America, and they are coming because of that desperation. So if we are going to solve this, let's start thinking about how we can stop them from being so desperate in coming to our border.

And most of the crisis right now is asylum seekers. It is not people trying to sneak into the country; it is people showing up and making themselves available for asylum. And I don't know exactly what policies have led to this, but there are a couple that don't help. One, we have dramatically reduced the number of people being allowed in as refugees. We are making asylum tougher and tougher to seek, so people out there are desperate. They don't see

a process, those who are trying to get out of horrific situations, particularly in Central America.

Lastly, with a daily threat of closing the border, folks feel like this is it. If they don't come now, they are never going to have a chance. Sorry. Not lastly. One other thing. Cutting off aid to Central American countries that are struggling, that are beset with violence and poverty and a lack of economic opportunity only makes it more likely that more people are going to come.

We can build all the walls and send all the troops and set up all the sensors and do everything we have got, as long as we create a situation where more and more people are going to try to come into our country, we are never going to be able to deal with it. We need to get at the source of the problem so we can take the pressure off of the Pentagon, off of you gentlemen, so that DHS [Department of Homeland Security] isn't always showing up and asking you to do things that they ought to be able to handle themselves.

We have got enough to do with the Department of Defense, to get the readiness up to where we want it, to meet the national security threats in the complex threat environment. We don't need to create a bigger problem on the southern border that distracts from those already difficult and incredibly important missions that you all at the Department of Defense are trying to implement.

With that, I will turn it over to Mr. Thornberry for his opening statement.

[The prepared statement of Mr. Smith can be found in the Appendix on page 51.]

STATEMENT OF HON. WILLIAM M. "MAC" THORNBERRY, A REPRESENTATIVE FROM TEXAS, RANKING MEMBER, COMMITTEE ON ARMED SERVICES

Mr. THORNBERRY. Thank you, Mr. Chairman.

And let me join in welcoming our witnesses. And may I begin, General Neller, by expressing condolences to the Marine Corps and to the family and friends and colleagues of the three Marines who lost their lives yesterday in Afghanistan. I think it is important for their family and others to know that they were there to protect our country. That was their mission. And we grieve their loss and honor their service.

I also want to thank Admiral Richardson and General Neller for your service over many years. I am not quite ready to let you all go yet. As we work our way through a number of issues, I am sure we will have a lot of interactions with the committee, but I join the chairman in appreciating what you all have done.

If you step back and look from when each of you first assumed your current position, in some ways, things are on a better track. We have a National Defense Strategy. We have, this year, a budget that is, you can debate to what degree, but at least somewhat tied to that National Defense Strategy and is looking ahead at the challenges that we face before us. My sense, and this is what I am going to ask you in a minute, is that we have turned the corner, maybe, on readiness. I noticed there was a study that was published yesterday that said, for aviation, the Navy was slightly worse last year than the previous year. The Marine Corps was

slightly better. But if you look at overall accident rates, it is somewhat better than it was, even though it is still way too high.

I join the chairman, Admiral, in appreciating the efforts you all have made on the surface combatant accidents and training and so forth that you all have tried to improve.

And I will say, another way things are getting better, as I was heartened by the reports yesterday, that finally there are some serious discussions going on about a cap deal. Because as all three of you have talked about before with this committee, it is the amount of funding and the consistency of funding that enable you all to make the most use of the dollars that the taxpayers provide.

So there will be a lot of questions today, a lot of issues. I am going to avoid the border debate for the moment.

But I guess the last thing I would say is, even though we, in my estimation, are on a better track, the enemy always gets a vote. And they are not going to wait for us to get our act together. So there is still a sense of urgency dealing with the shipbuilding issues the chairman talked about and other things. I am sure we will touch on most of those today.

Again, I thank all of you for being here.

I yield back.

The CHAIRMAN. Thank you.

Mr. Spencer.

**STATEMENT OF HON. RICHARD V. SPENCER,
SECRETARY OF THE NAVY**

Secretary SPENCER. Chairman Smith, Ranking Member Thornberry, distinguished members of this committee, on behalf of our sailors, our Marines, and our civilian teammates, we want to iterate yet again thank you for your bipartisan support of restoring funding stability.

Before I begin, I would also like to reflect what the ranking member just said, and we all keep the three Marines that were lost in our prayers and our thoughts, and also one of our allies. The Japanese lost somebody who is still being searched for, and we should keep our allies in our thoughts and prayers.

I would be remiss not to say, wearing a businessman's hat, that I could not have asked for two better business partners in the last 20 months of working here as Secretary of the Navy. The CNO [Chief of Naval Operations] and the Commandant have been terrific. If I was to put my business hat on and use business terms, ladies and gentlemen, the Navy that I sat down to was literally a corporate turnaround. We have made herculean efforts, and you will hear about them today.

But these two gentlemen, there was no light between us as we walked down the path and moved some big rocks out of the way. And I would like to tip my hat because this is their last time probably in front of you. But more importantly to me, I am going to lose two great people this summer. I am going to gain two great ones. But for this moment, I would like to say thank you in public.

The concept of a strategy is the application of limited resources to attain a goal. Aligned to the National Defense Strategy, the Navy strategy for restoring readiness, strengthening relationships,

and reforming our processes has been set. And we build on that with a discipline focused on people, capabilities, and processes.

This budget prioritizes a strategy-driven balanced approach to investment. It builds on prior investments that we have made, sustains the industrial base, and maintains our competitive advantage, if not expands it in certain areas, as we transition to a more cost-imposing survivable and affordable future force.

The restoration of readiness is well underway, and we are seeing progress each and every day. My analogy is that the wind vanes are all pointed in the correct directions. And although we might be frustrated with the velocity, we continue to increase it day by day.

We are building the strength of our team through hiring in areas of critical need, such as cybersecurity specialists, aviation technicians, scientists and engineers, human resource specialists, shipyard workers, and digital warfare officers. We are aligning and enhancing our educational institutions and our distributed learning venues through the Education for Seapower Review.

And we are taking aggressive actions to return private military housing to a premium product, mindful that while we recruit the individual, we retain the family.

All of these actions have one common thread: the goal of increased readiness. We are building our capabilities through investments in hypersonics, machine learning, additive manufacturing, quantum computing, and directed energy. We are building the fleet in pursuit of a 355-ship Navy, manned and unmanned, to include the *Columbia*-class submarine, next-generation frigate, remotely piloted sea platforms such as *Sea Hunter* and *Orca*. These efforts are increasing lethality through our increased distributed maritime operations.

To reach the Secretary's goal of 80 percent mission-capable tactical aircraft, we have realigned investments in new spare parts, aviation engineering, logistical support, through our newly created Navy Sustainment System, incorporating best practices from outside the wire or, as we might say, from commercial airline maintenance leaders.

As a pilot program, these activities have moved us to review our processes in all maintenance areas within the naval enterprise, to include ship, weapon, vehicle maintenance and sustainment.

Driven by the Marine Corps Force 2025 Capability Investment Strategy, we are investing in the amphibious combat vehicle, loitering munitions, and unmanned logistical systems in order to maintain and, as I said earlier, expand our competitive advantage on the margins.

Exercising the Marine Corps operating concept is moving us to rapidly progress as a continual learning organization as we adapt and experiment in our new competitive environment. Yet while we effect the aforementioned, the Marine Corps is also contending with the unprecedented double impact of Hurricanes Florence and Matthew, which together damaged or destroyed more than \$3.7 billion of infrastructure across many of our east coast installations.

Camp Lejeune, as many of you know, is our primary force generator for naval services, directly contributing to the capacity and readiness of our force. That area took the majority of the blunt impact of the storm.

Over the past year, we have meaningfully increased our interaction with our allies and friends. Exercising and education have strengthened the ability to operate and, therefore, increase the depth of our collected ability to deliver the forces required. Compared to a year ago, the increase in this depth of our relationship with our allies and friends has been the prime contributor to the good of this outcome.

Our Navy has implemented 91 of the 111 Readiness Reform and Oversight Council recommendations, transforming a culture of accepting risk to one of understanding and managing risk. We have reviewed and are in the process of reviewing the remediation of our business processes following our first ever top-to-bottom audit. The great news on the audit is, ladies and gentlemen, it is now proven to be a tool where we can leverage lethality.

We are using this information to streamline operations and to re-imagine how support functions can be modernized to drive continual learning, therefore producing ever increasing efficiencies for the American taxpayer. We owe it to them to ensure every dollar we invest, every dollar, is invested in the most effective manner possible. I am proud to work with this committee to keep that promise.

Thank you.

[The prepared statement of Secretary Spencer can be found in the Appendix on page 54.]

The CHAIRMAN. Thank you, Mr. Secretary.
Admiral Richardson.

**STATEMENT OF ADM JOHN M. RICHARDSON, USN, CHIEF OF
NAVAL OPERATIONS, U.S. NAVY**

Admiral RICHARDSON. Thank you, Chairman Smith, Ranking Member Thornberry, and distinguished members of the committee for the opportunity to appear alongside Secretary Spencer and General Neller to discuss the Navy's fiscal 2020 budget.

President Jefferson wrote: Industry, commerce, and security are the surest roads to the happiness and prosperity of our people.

And the causal link between prosperity, order, and security is why he deployed the United States Navy to combat piracy off the Barbary Coast at the dawn of the 19th century. And it is why, for over two centuries, we have helped keep the seas open for all and oppose those who seek to control the seas at the expense of America and her allies.

Today, as outlined in the 2018 National Defense Strategy, nations like China and Russia are attempting to do just that, to stem the tide that has steadily lifted all boats by unilaterally redefining international norms on terms more favorable only to themselves.

The Nation and the Navy are responding with more than 60,000 sailors deployed aboard nearly 100 ships and submarines at this very moment by sustainably operating around the globe advocating for our principles and protecting our national interests.

To maintain this worldwide posture, the President's budget offers a strategy-driven, future-leaning, balanced approach to deliver a naval force up to the task in this era of great power competition. The single most effective way to maintain our strategic momentum is to provide adequate, stable, and predictable funding. This makes

everything possible. It solidifies strategic planning, incentivizes our commercial partners, and mitigates operational risk by maximizing our planning and execution time.

The foundation of naval powers are a force of talented and well-trained sailors. And important to our success, we remain committed to recruiting and retaining diverse shipmates whose intelligence, curiosity, energy, different backgrounds, and varied viewpoints will catalyze the speed and quality of decisions we need to outperform our adversaries. As well, working with Congress, we continue to transform our pay and personnel systems to 21st century standards.

This budget builds a bigger fleet, 55 battle force ships over 5 years, preserving our industrial base and strengthening our ability to prevail in any warfighting contingency. This budget fully funds the *Columbia*-class ballistic missile submarine program, fulfilling our existential imperative to deter a nuclear attack on our homeland. This budget builds a better fleet, fielding state-of-the-art systems that are more agile, networked, resilient, and lethal. This budget recognizes that aircraft carriers will be central to winning the future fight, which is why it invests in the *Gerald R. Ford*-class delivering far more combat power for less cost over their lifetimes than their *Nimitz*-class predecessors.

And this budget builds a ready fleet, steaming days to exercise at sea, flying hours to train in the air, sufficient quantities of ammunition and spares, the resources to conduct maintenance today and in the future as the fleet size grows.

Meeting the Nation's and the Navy's responsibilities is not easy. It requires us all to work together. But this is what great nations and only great nations can and must do.

At the dawn of the Cold War, as the Nation took on the challenge to go to the moon, President John F. Kennedy, a naval officer, said: We do these things not because they are easy but because they are hard, because that challenge is one that we are willing to accept, one that we are unwilling to postpone, and one that we intend to win.

I am grateful to this committee and your colleagues in the Congress for continuing this important work. We look forward to sailing alongside you to build and deliver the safest Navy for our sailors, the strongest partner Navy for our friends and allies, and a Navy that is the worst nightmare for our enemies.

I look forward to your questions.

[The prepared statement of Admiral Richardson can be found in the Appendix on page 63.]

The CHAIRMAN. Thank you, Admiral.
General Neller.

**STATEMENT OF GEN ROBERT B. NELLER, USMC,
COMMANDANT, U.S. MARINE CORPS**

General NELLER. Chairman Smith, Ranking Member Thornberry, distinguished members of the committee, I am here today to testify on the posture of your Marine Corps. I appreciate this opportunity to be here and look forward to your questions.

I know this committee, the Congress, and the American people have high expectations for our Marines. As our Nation's expedition-

ary force in readiness, you expect your Marines to be ready to operate forward with our Navy in the contact and blunt layers of the global operating model and to assure our partners, deter our rivals, and respond to crises across a range of military operations. And if that deterrence should fail and we are called to fight, you expect us to fight and win.

As we hold this hearing, approximately 41,000 Marines, along with our Navy shipmates, are forward deployed or postured to more than 60 countries around the world, some in harm's way as we were reminded of 2 days ago, all engaged doing exactly what you would expect of them. Through our history, you have called upon your Marines to respond immediately to crises around the globe, either from the sea, from forward bases, or from home station.

To meet your intent to be ready to suppress or contain international disturbances short of large-scale war, we strive to prevent war by assuring our allies and deterring our rivals with ready, capable, and persistently present expeditionary forces.

Forward postured naval forces, your Navy-Marine Corps team, remain critical to that end, providing the Nation a significant operational advantage through maneuver access and our presence. Supporting day-to-day operations through theater security cooperation, building partner capacity, providing, when required, humanitarian assistance and disaster relief, or supporting current global contingencies requires your expeditionary force in readiness to be present.

We recognize the strategic environment is constantly changing, requiring adaptations to our organization, our training, our equipment, and our warfighting concepts in order to provide our Nation the most lethal naval expeditionary force it demands. Your Marine Corps remains committed to building the most ready, capable, and adaptable force the Nation can afford. This requires hard choices as we balance our commitments to current operations, work to continue to improve our readiness, and pursue modernization efforts designed to increase our competitive advantages over our adversaries.

Thanks to your efforts in Congress to provide increased and on-time funding, you have made some of these choices far less difficult. Still, we remain challenged by the lasting effects of Hurricanes Florence and Michael that hit the east coast last fall. The financial cost of these storms totals \$3.7 billion. But the impacts go much deeper. I look forward to answering any of your questions on this issue.

I do want to thank the Office of the Secretary of Defense, the Congress, and the administration for their work and support in approving a \$400 million reprogram resources so we can begin immediately to address some of those needs at Camp Lejeune and the North Carolina area.

The Marine Corps continues to work tirelessly to address our remaining shortfall for this year, but we are prepared to make the decisions necessary in the short term so that we continue to train and be ready, repair our facilities, and continue to increase our readiness.

Despite these challenges, the Marine Corps remains on the right path as we implement the National Defense Strategy. We continue to develop effective warfighting concepts and invest in the right capabilities, while experimenting ruthlessly to validate these choices.

Most importantly to the success of your Corps, we continue to be able to recruit and train the most qualified men and women our Nation has to offer, men and women who raise their right hand, desire to earn the Eagle, Globe, and Anchor, and ask to serve something greater than themselves and represent the best our Nation has every day around the world.

The Navy and Marine Corps team remains our Nation's naval expeditionary force in readiness, forward deployed, postured, and competing every day. And with the Congress' continued support and commitment, we will assure that we must send—if we must send our sons and daughters into harm's way, they will have every advantage our Nation can afford and provide.

As was mentioned, this is likely my last opportunity to appear before this full committee as I close out 44 years as a Marine and the last 4 as a Commandant. And I want to personally thank this committee and the Congress for the support you show every day to your Marines.

Thank you, and I look forward to your questions.

The CHAIRMAN. Thank you, General.

As I mentioned in my opening statements, the two most important things we can do is get the caps deal that the ranking member referred to so that we can get that budget on time by October 1. I know it made a huge difference to actually have that last year for the first time in Lord knows how long. And the second is passing some sort of supplemental emergency funding bill. I know that has really impacted the military. And we are going home in a couple hours, and we are not going to get it done before the April recess. And that is a huge problem, well, for the country, but also for the Department of Defense. These are two things that we in Congress need to get done to help you.

Just one area of questioning, Mr. Secretary, is, one of my opening comments about, as you are developing new platforms, moving forward with the *Columbia*-class submarine, having a replacement for the large surface combatant ships, what have you learned?

I know we have talked a lot about, you know, your efforts to try to figure out how to be more cost effective in acquisition and procurement, to bring some of your business skills. And I have been very impressed with what you guys have done in terms of making it more efficient and more effective. But this is the big stuff. This is the billions of dollars.

What did we learn from the mistakes of the past, from the expeditionary fighting vehicle, from the DDG 1000 [guided-missile destroyer] where we wound up with only three ships, from the UCLASS [Unmanned Carrier-Launched Airborne Surveillance and Strike]? What have you learned from that that is going to be different as you move into the these large new procurements that are going forward so that we can actually get a product in a cost-effective way?

Secretary SPENCER. Chairman, day one arriving, the whole approach that I had had with industry is that we truly do have to

become partners. And that is not just words. My definition of partners is shared risk, shared return and benefits. Aligning ourselves with people who can solve our problems and have skin in the game is the best fundamental formula that we can have. We have moved closer and closer towards that as we go forward. We have increased the actual—

The CHAIRMAN. If I may, and I am sorry to interrupt, but that is all kind of generic speak. What I would love is what is a concrete example. Gosh, here is what we did wrong and here is how we are going to do it different this time. Just one or two concrete examples.

Secretary SPENCER. Fine. Concrete examples. Using technology that is available to us off the shelf in designing ships and building ships. We now have digital tools versus paper. A huge savings in that regard. The concept of modular building, increasing modular building. Do we force that upon the contractor themselves? No. Do we help them and steer them? Do we work together? Yes, we do. Again, cost savings in that regard.

Requirements. Focusing requirements and understanding that the contractor is in the game. And the reason I led with that, Chairman, is we have to know what is the best solution that they have, to walk into the marketplace and say I want this, this, and this and this, without the supplier going, wow, if you took this path, I can save you 15 percent.

That is the two-way communication that has really helped us going forward as far as partnership goes.

The CHAIRMAN. Yeah. That is exactly what I wanted to hear. And that makes sense. And that is incredibly important going forward to make sure that we follow through on that.

We have got votes coming up, so I will cut this short and go to Mr. Thornberry.

Mr. THORNBERRY. Admiral and Commandant, I mentioned at the beginning, my sense is that we turned a corner on readiness, but we are certainly not where we need to be. And I would appreciate each of you kind of stepping back and giving this perspective of where we have been, where we are, and where we are going on the broader readiness issues that we have talked about with this committee so much.

Admiral RICHARDSON. Thank you, sir. I will take the first stab and then hand it off to the Commandant.

First is that we funded those readiness accounts. And so since I have been CNO, we have been steadily funding those at pretty much the requirement or the maximum executable. And that has allowed us, particularly in the enabler accounts, as we call them, the parts, the engineering, and everything to support readiness, the flying hour program, the steaming hour program, maintenance programs, all of those have been funded.

Then in response to the collisions in the 7th Fleet, as we've briefed, we have got a comprehensive review and a program. The Secretary highlighted the number of measures that we have taken. But really, what we have done is working on a change of culture there. So the first thing we did is reestablish schedule discipline out in the 7th Fleet. We don't send a ship out to do a mission until they are maintained, trained, and certified to do that mission. And

that return of that discipline has ensured that our ships are ready to go.

With respect to the training required both pipeline—career-based training. As I pointed out in my written statement, the amount of sea time and experience that an officer will get when they take command is almost double now with this new career path than it was before. As well, the schoolhouse training has increased at every level of an officer's career. And not only in amount but also quality as we have brought in a lot of high-fidelity simulators to enhance that training and complement the at-sea training.

And so, really, we have moved from a climate where we needed to make sure that we were safe to operate, then able to comply with all requirements, now really striving towards that culture of excellence, measuring ourselves the whole way to make sure that we are achieving the goals that we set out to achieve.

Mr. THORNBERRY. Just briefly, Admiral, how far do we have to go?

Admiral RICHARDSON. Well, this is really establishing a new normal, sir. And so I would say that, in many ways, we are at that new normal. Some of this is going to be career-long types of things. And so we need to—I would advocate for letting this program have some run time so that we can see some of the longer term benefits before we start to make changes. That was one of the symptoms of the past is that we kept moving the goalposts. And so I think we have got ourselves on a good course. Many of the near-term goals have already been met. Some of the longer term goals are going to be career-type things. And then these simulators are going to be in place for the next couple of years. So I think we are on a good track, sir.

General NELLER. Ranking Member Thornberry, you know, you asked if we turned the corner. It is like being too ready is like having too much money or being too good-looking. It is impossible to be too ready.

So have we improved? Absolutely. And I can quantify that for you, particularly with aviation. More hours flown, more ready aircraft, the goal of 80 percent TACAIR [tactical air], which means we are—based on OSD [Office of the Secretary of Defense] standards, we have—10 squadrons are supposed to have 12 jets, which means we have got to have 96 jets that can fly. We have been up into the 80s. So we are continuing to strive for that. And it will be—we may make it like for 1 or 2 days, but it will be very difficult to sustain that level. But as the CNO said, we had not previously funded the readiness accounts.

The training piece of this is even more different, because at the same time we have current operations, we are trying to modernize those capabilities to be able to be effective for the current op, and we are trying to change the force fundamentally for what we anticipate the fight to be in the future. So a lot of the training changes that we have been able to do because of the resources allow us to fight more against a peer adversary as opposed to operate in what we have done in the last 17 years, 18 years, which is a counterinsurgency, stability, counterterrorism fight. And it is fundamentally different having to consider mentally the training aspects to fight against an adversary who has an air force, who has long-range

fires, who can jam your nets, who can take down the network. And so, obviously, those capabilities are things that we need to look at.

Now, our ability to operate in cyber, in the information domain, to protect our network, which is our friendly center of gravity, the thing that we have to protect to be able to operate.

So are we making progress? Absolutely. Turning the corner? We continue to make progress, and we are never going to be satisfied that we are too ready.

Admiral RICHARDSON. Sir, if I could just add on a little bit. The Congress has been working, really, hand in hand with us. We talked, both the Commandant and I, about funding. And I would say since the 2017 request for additional appropriations, the 2018 and 2019 budgets has helped tremendously. We hope to keep that momentum.

Mr. THORBERRY. Thank you, Mr. Chairman.

The only thing I would say is, by turn a corner, I mean it is not getting worse, it is getting better. That is the corner.

General NELLER. No, it is quantifiably better, and I can show you the metrics for that. Yes, sir.

Mr. THORBERRY. Yeah. I appreciate it.

I yield back.

The CHAIRMAN. There are always more corners, but it is good to have that one turn. I agree with the ranking member. We have made an enormous amount of progress.

Votes have been called. We can get through one questioning and then go, so we will start with Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman.

I want to welcome our witnesses here this morning. Thank you for your testimony. In particular, Admiral Richardson, General Neller, thank you both for your service to the country. I know that you said this is the—and the Secretary said this is the last appearance likely before the committee. And I want to just thank you for your service. You have all made a difference both improving our military and enhancing our national security. For that we are grateful.

Secretary Spencer, if I could start with you. I understand that you recently commissioned a review of our cybersecurity readiness of the Navy and Marine Corps. And I think you commissioned that study. Cybersecurity clearly is one of the greatest challenges that I believe that we face as a Nation, both now and going forward. Again, I commend you for taking the step in doing the study and commissioning it.

However, I also understand that one of the primary findings of the report was that—with the need to change the culture of the Navy in a way that must stem from the senior-most leadership. So I was a little disappointed that you didn't expand upon that more in your opening statement. But if, you know, going forward, if you can expand upon that right now, because the bottom line is, if you don't prioritize it, you know, how can we expect your deputies to do so? So can you help the committee understand what you are doing in response to the review's recommendations?

Secretary SPENCER. Congressman, thank you. I could spend a day on this topic. And it is a high-priority topic, if not one of the highest. And one of the things that came out of the study, and the

reason we had the people on the study that were there, was to look outside the wire and see some of our compatriots in large organizations who have gone down the cyber path and the learning curve—JPMorgan, Caterpillar, large corporations.

And in every single case, every single case, it starts at the top. You hit the nail on the head. It is a cultural issue and it is a mechanical issue. It is a hygiene issue for data. And it has to be led at the top.

We have right now, one of the members of the group who did the study is on board in Navy right now prioritizing the findings that he helped write to put together our remedial plan to go forward on the cyber issues facing the Navy and Marine Corps team.

Mr. LANGEVIN. Okay. I look forward to working with you on that.

Secretary SPENCER. Most definitely.

Mr. LANGEVIN. Our enemies and adversaries are not standing still on this, and they used this asymmetric technology to undermine our advantages, and we want to make sure that we are as resilient and strong in that area as possible.

Secretary, I also wanted to say I am concerned about the resiliency of Navy and Marine Corps bases due to the effect of climate change and rising sea levels. Thank you for—obviously, you identified Camp Lejeune as having taken a major hit. Billions of dollars of damage done as a result of a storm that they had to go through. And, you know, really underscores the need for the Navy and the Marine Corps to consider resilience in their installation master plans.

So on this point, what investments are you making today in order to mitigate risks that we are going to face in the short, medium, and the long term to our CONUS [continental United States] and OCONUS [outside continental United States] institutions, and how are you evaluating those risks as they evolve? Otherwise, if we are not planning ahead—you know, we have to face the fact that climate change is here and it is going to cost us more if we don't prepare for it and mitigate those effects going forward.

Secretary SPENCER. Congressman, spot on. I share those exact same concerns. We have done an inventory around all our bases. And it is not just rising water. It is drought. It is fire. It is any weather-induced massive impact to our bases. And we have done our analysis.

As an example, Norfolk. We have a MILCON [military construction] project for, in most simplest terms, diking around Norfolk for rising waters. Camp Pendleton. We are constantly looking at how we can address fire control at Camp Pendleton. All our seaside bases, we are looking at what we can do going forward with all our projects to add into those projects rising water and/or weather-related events.

Mr. LANGEVIN. Thank you. I want to continue to work with you on that as well.

Secretary SPENCER. Yes, sir.

Mr. LANGEVIN. Finally, as you know, China, it appears, has fielded a railgun. We are making advances in railgun technology. When are we going to be fielding our railgun?

Secretary SPENCER. Congressman, we have a whole priority of advanced weapons that we have talked about, directed energy.

Railgun is in there. I actually will defer to the CNO quickly on the actual technical application there.

It is a priority. Put it this way, it has been prioritized within the Navy. We are focusing on some other areas that we think are probably more productive when it comes to a weapon.

But, CNO, I don't know if you have anything to add to that.

Admiral RICHARDSON. Sir, we are continuing to work on the railgun.

The CHAIRMAN. The gentleman's time has expired. I don't want to rush you. Sorry. I should have said this upfront. I try to keep people to the 5 minutes. But if you have something quick, Admiral, go ahead, since we are—

Admiral RICHARDSON. We are continuing. We are working on integration. We are going to take the railgun out to White Sands. And we have made some great progress not only on the gun itself, which is a lot of energy in a short period of time, but also on the projectiles. The high-velocity projectile is as much a benefit from that program as anything else because they are adaptable to other guns as well. So there is money in the budget to advance this program this year.

The CHAIRMAN. Thank you. I apologize. I should have pointed out for the witnesses. We try to keep them to the 5 minutes as much as possible. And I don't want to cut you off at mid word. But we will try to move it on.

We have five votes, I think. Doing the math, and it pains me to say this, it is probably going to be about 11:45 before we get back. We don't move too quickly over on the floor, regrettably.

So we will just plan on reconvening at 11:45. And I appreciate your patience.

We are in recess.

[Recess.]

Mr. COURTNEY [presiding]. The committee will come back to order. Mr. Smith again has other commitments, and he asked me to fill in for him.

With that, I will yield to Mr. Wilson for 5 minutes.

Mr. WILSON. And thank you very much, Acting Chairman Courtney.

And, gentlemen, it is particularly an honor for me to be here with you—and thank you for your service—in that I am here as a Member of Congress, but also as the very grateful dad of a naval doctor, who works with the Marines, General, at Parris Island.

And I am also very grateful and wish you well in your retirement, General Neller. You have made such a difference on behalf of our country.

And, Secretary Spencer, the fiscal year 2020 budget request includes approximately \$10 billion for cybersecurity. South Carolina is uniquely positioned to advance cybersecurity partnerships that enhance the U.S. capabilities to compete with adversaries in cyber domain. Our Adjutant General Van McCarty is advancing cybersecurity partnerships through existing force structure with senior military colleges like The Citadel and the proximity of key infrastructure. How does this request reflect the new cyber strategy? Does this request include any programs that work with universities or industry?

Secretary SPENCER. Thank you, Congressman. I had the pleasure of joining, I believe, Senator Scott down in Charleston about 2 or 3 weeks ago, and he introduced me to the military contractors association down there, and we also had a chance to tour the new training facilities that are online in Charleston for—the nuclear training facilities.

It does align, and the reason I am pausing for a second is, as I told you earlier, the review that I just had done is now being created and implemented. Our implementation plan will be rolled out. You will see more coming along that way.

But in the \$10 billion, we are aligning ourselves, not only through the Naval Postgraduate School, but through other organizations and institutions outside the wire.

Mr. WILSON. That is really encouraging. And also encouraging, each of you earlier in the hearing provided an update in regard to readiness and the progress that is being made toward readiness, and part of that is modernization. There are three versions of F/A-18 Hornets that are found aboard the Marine Corps Air Station Beaufort, the F/A-18A and C Hornet and the F/A-18D Hornet. These are older models showing their age.

What is the plan, Mr. Secretary, and timeline to replace these aging aircraft and add new Super Hornets to the inventory?

Secretary SPENCER. As far as the Marine Corps is concerned, no new Super Hornets in the Marine Corps. We are transitioning to all fifth generation, which, if I am not mistaken, Commandant, we are somewhere around 2030 for the actual full transition to the F-35B and C.

Mr. WILSON. That is excellent.

And, Admiral, I was grateful to have recently met with General Steve Lyons, and he testified to this committee the need for increased sealift capacity. How is the Navy addressing the TRANSCOM [U.S. Transportation Command] commander's number one request for increased sealift? What is your assessment of the current Ready Reserve Fleet and the ability of it to support the National Defense Strategy?

Admiral RICHARDSON. Sir, as I am sure General Lyons told you, we currently meet the requirements, but that fleet is aging out quickly. And so the need for recapitalization there is urgent. We are taking—working very closely with TRANSCOM and also Admiral Buzby. We are taking sort of a three-pronged approach. One is to do life extensions where those life extensions make fiscal sense. The second approach is to buy used ships that will meet the requirements, and we are taking advantage of all the authorities that Congress has given us with respect to buying used. And then the third is to build new. And so it is the combination of those three.

Right now, though, I think we are also interested—I am interested in having a discussion in terms of how we can best incentivize domestic shipbuilding in the United States of America. And I think that all of this would help, not only the sealift part of TRANSCOM's issues, but also alleviate some of the cost for DOD [Department of Defense] shipbuilding, Navy shipbuilding. So I think that that would be a good thing to discuss as part of this as well.

Mr. WILSON. And additionally, Admiral, I appreciate how the budget invests in continuing to rebuild aviation readiness. What lessons have the Navy and Marine Corps learned from pursuing former Secretary Mattis' goal of 80 percent mission capability for the strike fighter aircraft?

Admiral RICHARDSON. Yes, sir. I think the Secretary has described it that we are really going outside to take a look at what are the commercial best practices. And we have brought a lot of that—those ideas in-house. And so in terms of workflow, establishing that workflow and maintaining it, that has allowed us to have a steady ramp toward achieving that 80 percent readiness, and we are optimistic that that is going to happen.

And then the stable funding has allowed us to refill parts bins and parts baskets that were previously empty, and so that is also reducing the time in maintenance.

Secretary SPENCER. Congressman, I got a beef just for a second because readiness right now, Navy and Marine Corps team, F/A-18s, 67 to 70 percent, which when I was here a year ago, we were nowhere near that.

Mr. WILSON. Progress.

Mr. COURTNEY. The gentleman's time has expired. Again, going in order, I yield myself 5 minutes.

First of all, I just want to start by saying, as someone who has been on the Seapower Committee for the last 4 or 5 years, I want to thank all the witnesses for their great work, in particular, Admiral Richardson and General Neller, as you start to head towards the exit. Again, both of you served straddling two administrations, two national security reviews, and have really, I think, done an outstanding job in terms of just integrity and excellence, and again, I want to thank you publicly.

I would like to focus for a second on the inclusion of funding to build a third *Virginia*-class submarine in the 2020 budget to be actually executed in the 2023 timeframe. From a strategic standpoint, this is a step to more rapidly reach 66 attack submarines called for in the 2016 Force Structure Assessment. Today, of course, the fleet stands at 51 and will drop to 42 by 2006.

Admiral Richardson, can you state what the impact of even one additional attack submarine would have on the Navy's operational capability? Can you discuss what types of OPLANs [operations plans] it would help support, in an unclassified setting?

Admiral RICHARDSON. Sir, I will do my best. One is that with respect to our greatest gap between the warfighting requirement and current inventory, there is no greater need than the attack submarine fleet, as you have highlighted just with the numbers. It is a wide gap, and it is getting wider. So every single submarine counts against closing that gap.

Why do we need that force level? Well, in the OPLANs, I think it is safe to say in this forum, that particularly the more stressing OPLANs in the Pacific and in the Atlantic, the first phalanx, the first response among them are going to be the submarine response. And they are going to go out there early, they are going to use their stealth and speed to get into far forward areas and really establish the conditions for the rest of the joint force to execute their part of the campaign.

And so right now, we are stressed to meet those requirements just because of the force level, in particular, combined with maintenance, and so every single submarine counts. If you think about a submarine going out there with 26 tubes in its torpedo room and missiles on board as well and coming back empty, it is a tremendous influence on the battlespace there, in that asymmetric aspect of it, to open the door for the rest of the joint force.

Mr. COURTNEY. Thank you. And, again, just to follow up, there has been some discussion, you know, the fact that we are funding this sub outside the block contract program, which is two subs a year. There has been some questions raised about whether or not it is adding risk in terms of the *Columbia* program, which obviously is happening pretty much in that same timeframe.

I was wondering if you could just, you know, sort of explain whether or not doing it this way, actually with flexibility, will, in fact, maybe help de-risk the *Columbia* program.

Admiral RICHARDSON. Sir, that is exactly how I see it. And I was up at Electric Boat just last week to have them walk me through that from their perspective. First, I have got to say, what a great situation, where a lot—a lot of this involves workforce, bringing workforce on, and all of our shipbuilders, but it was very vivid there at Electric Boat, are bringing in so many young people. About 50 percent of the workforce has less than 5 years of experience now, which is just such a terrific story in terms of building those skills to do welding, pipefitting, electricians, et cetera. So that is part of it.

They showed me their workload curves and how they are actually going to use this to mitigate peaks and valleys, smooth out their level of effort. If we get the flexibility to do this, as you said, we will fund it in 2020, because the SCN [Shipbuilding and Conversion, Navy] profile is much smoother then, and then we will execute it as a 2023 ship because that smooths out the workforce. So the combination of that really is almost a stabilizer rather than an increased risk.

Mr. COURTNEY. Thank you. I appreciate that.

And then one quick question. Again, one of the initiatives is the unmanned vessels that, again, are a part of the budget here. And, again, I think there is enthusiastic recognition that this is where the future is going to be headed. But in terms of just, you know, investing upfront this year, I just wonder if the two of you could comment a little bit in terms of whether or not, you know, we are getting a little ahead of our skis in terms of creating a program where the mission set isn't quite developed yet and, you know, hopefully we won't repeat some of the mistakes of the past.

Secretary SPENCER. Let me go first on that, if I could, then hand it over to the CNO.

Congressman, it is a great observation, but one of the things that you have charged us with is to go smartly, go quickly, and go intelligently. We believe that what we put before you is the intelligent way to go. It is in size, I completely agree with that, but we are going to experiment with it, we are going to actually, you know, quote/unquote, break it, figure out what to do, learn with it, and then go forward. This is the way we go fast.

Admiral RICHARDSON. Sir, I will just add, we are going to leverage a lot of work that we have already done with the Strategic Capabilities Office, particularly for the 2020 ships. So we have got those really kind of underway.

And then for the follow-on, again, as the Secretary discussed, leveraging mature technology and then getting after those things with respect to autonomy and unmanned that we just really have to explore those. And this is not a capability that we want to cede to the adversary because it is going to be decisive when we get it right. That is why we have parked it in the research and development line. I think that is the appropriate place to do work like this, where so many questions remain to be explored.

Mr. COURTNEY. Thank you to all of you.

Mr. Scott, you are recognized for 5 minutes.

Mr. SCOTT. Thank you, Mr. Chairman.

General, I think that a hurricane hit Camp Lejeune September 14. Is that date correct?

General NELLER. Yes, sir.

Mr. SCOTT. How are things at Camp Lejeune now?

General NELLER. There have been repairs made. The people are back occupying those buildings that they can still occupy. So there were two impacts, one was on the private—the public housing or the PPV [Public Private Venture] housing. The vendor there has fixed about 50 percent of those houses.

We have gone through and done what we could do with the appropriations and the resources we had, and we have reprogrammed some money, but we have come up with a list of about 31 buildings that we believe the cost to repair exceeds the value of the building, and it would be better off to build new. Some of those buildings were already in the future program. We want to bring them to the left.

But the end result is, we have a bill, if you take away the \$400 million that we got last week on reprogramming, we have a bill of about \$3.1 billion over the next 3 or 4 years, where we think—where we need to fix the base so that we don't have to go through this again.

Mr. SCOTT. Is it safe to say that things will continue to degrade unless some type of supplemental disaster assistance or appropriation is passed for Camp Lejeune?

General NELLER. If we—well, yes, they will. Otherwise, we are going to have to figure out how we are going to have to self-fund this. So whether there is reprogramming done within the Department or there is a supplemental, we don't have insurance. The Congress is our insurance.

Mr. SCOTT. Yes, sir.

General NELLER. So—

Mr. SCOTT. As is the White House. It is Congress and the White House. It takes both to get disaster relief passed.

General NELLER. Yes, sir.

Mr. SCOTT. Hurricane Michael hit my district, and we haven't received disaster assistance yet either. I know Vice President Pence, who I have a tremendous amount of respect for, flew down there in two of your—two Marine Corps Ospreys on October 16. We are with you and we will stay with you until we rebuild and recover

better than ever before, is the statement, and yet to this day, we have not received a request for disaster assistance from the Office of Management and Budget.

And I am a little taken back with what has happened at Camp Lejeune and with the Corps and the damage and the need that you have for a supplemental appropriations bill, as well as the Air Force, who has basically had to take what they had in operation and maintenance money left over and use it to rebuild as best they can Tyndall. And now the Air Force is about to be in a situation where they are going to be stopping flying unless some type of supplemental appropriations is done.

Congress is about to go on vacation for 2 weeks. The White House hasn't even submitted a request for assistance. And I am embarrassed, quite honestly, that this job hasn't been done. Now, to be clear, there is politics being played on the Senate side. If the storm had hit Vermont or if the storm had hit New York or if the storm had hit a blue State, then Senators from New York and Vermont would not be standing in the way of this package passing.

But have any of you talked with the White House about the need for a supplemental disaster assistance package?

Secretary SPENCER. Not directly, Congressman.

Mr. SCOTT. Secretary Spencer, I would suggest—I have a tremendous amount of respect for you, I have a tremendous amount of respect for both of you two, but I think the number one thing you could do for the men and women in the Navy and the Marine Corps is to speak directly with the White House about the need for supplemental assistance.

I do not think that the President of the United States—I do not think President Trump would be allowing Congress to go home for 2 weeks if he—if he knew what was about to happen to the readiness of the Air Force and the Corps. I think that he would be challenging us on—to stay here and get this job done, and I think that we could get beyond the petty politics in the Senate, but—we want to be a part of the solution.

I am embarrassed that we are going home. These storms hit 7 months ago for you. They hit 6 months ago for me. Farmers in my area are filing bankruptcy, even though they were promised disaster assistance. It hasn't come. You guys need it just like we do. And I hope, I hope, Secretary, that you and the other secretaries will speak with the White House about the damage that is going to be done by not getting a disaster relief bill passed before we go home for Easter.

Thank you for your service.

Mr. COURTNEY. Thank you, Mr. Scott.

Mr. Golden.

Mr. GOLDEN. Thank you.

Secretary Spencer and Admiral Richardson, I want to talk just a little bit about shipbuilding readiness for a moment. The Navy's fiscal year 2020 report to Congress on the annual long-range plan for construction of naval vessels noted—that is a quote—that a healthy and efficient industrial base continues to be the fundamental driver for achieving and sustaining the Navy's baseline acquisition profiles and that the shipbuilding base is a matter of national security that is unique and must be protected.

As leaders, I know you both know from experience that producing people with the right skill sets isn't just not something that occurs overnight and takes a great deal of training and instruction. So I was very pleased by your—both of your remarks, where you put an emphasis on the importance of education and training, as well as support for both public and private shipyards.

And as you know, trained shipbuilders, you know, we have got some great ones up at Bath Iron Works, and it is something that requires some time and investment in workers. It typically takes like 5 to 7 years of training in order to get someone to achieve shipbuilding proficiency.

And with the Navy's plans to expand the fleet, I wanted to hear your thoughts on what you are doing to encourage young men and women to enter into the shipbuilding profession, and what you are doing to help private and public shipyards with recruitment. I think about this in regards to the younger folks, whether they are coming out of high school or looking to get into the trades, or even individuals like myself leaving the service who are looking for potential career opportunities. Anything that you are doing with the shipyards for recruitment or training, and what can Congress do to assist and help you reach that objective?

Secretary SPENCER. Congressman, that is a great observation, and it is happening throughout the whole shipbuilding industry, both sides of the Mississippi. But I am going to bring Maine out as a specific example. I was up there right after my confirmation hearing, visiting Bath, and the community colleges in the area there had no exposure or no plans to have a curriculum to support what the basic skill sets are, nor the high schools.

I was very encouraged on my last visit up a month ago to see that both the community college and the high schools are adopting primary skill sets and advanced curriculum in this area.

I mean, it is across the board in the U.S., I think we have to address this, because at the end of the day, a level three welder and/or any other artisan in the shipbuilding, aviation assembling field, it is a very nice career to have.

Admiral RICHARDSON. Sir, I will just pile on to what the Secretary said and add to my comments that this is really something that is exciting around the Nation at every one of our shipbuilding centers and ship repair centers as well, both public and private.

With respect to the public shipyards, you know, oftentimes, we are sort of drawing from the same pool, but it is really a team effort, right? We go out as a Navy and try and recruit. Some people want to ride and operate those ships as sailors. Some people want to design and build those ships as shipbuilders or ship repairers. But the apprentice programs, the teaming with the community colleges, even down to the high school level, they are really pulling out the stops, and they are responding to the demand signal for more shipbuilding, right? That is the thing that really is the most fundamental element of this.

And so as we continue to grow the Navy, build more ships, they are going to—they are going to have places to go after they go through this training. So that is the most important thing.

Mr. GOLDEN. All right. Thank you for those thoughts. And, you know, I think the community colleges in Maine are doing a good

job. And the unions have got some great apprenticeship training programs. They really make an investment in the workers and helping young people get set up for success. So I thank you for working to help them in any way that you can.

And there is some interesting work being done in Maine with some individuals that are starting to get into the business of trying to recruit for the shipyard and going down, traveling around to bases and other places to show people that there is a good career waiting for them up in Maine. So I think there is a lot of potential there.

Just real quickly, I wanted to give you an opportunity, Admiral. We heard from Vice Admiral Merz about the coming online of the Flight III DDG, and just wanted to hear your thoughts on what that is going to do to help the fleet, both in regards to new capabilities, but also your overall goal of getting to a fleet of 355.

Admiral RICHARDSON. I will tell you what, the capabilities on the Flight III DDG, its sensors, its weapons, the whole—it just has a battlespace control that is going to add a tremendous amount of capability, not only as a single ship, but in concert with the rest of the ships and the strike group and the fleet. And so as we think about distributing maritime operations, that type of capability is key. The fact that we are leveraging the learning curve that we have got already on the DDG 51 class and just modernizing that is also a benefit.

And then we are looking for the next thing as well. Because with the Flight III, the DDG is about maxed out. Not a whole lot more room to expand beyond that. And so working with industry, just as the Secretary said, to bring them in early, to make sure we have as smooth a transition to the next large surface combatant.

Mr. COURTNEY. Thank you.

Mr. BYRNE for 5 minutes.

Mr. BYRNE. Thank you, Mr. Chairman.

Admiral Richardson and General Neller, I just want to say how much I appreciate your service to our country, and I want to tell you how much I appreciate your work with this committee and with me personally. It has been an honor, a pleasure to know you and to work with you, and we wish you the best of luck in the years to come.

Mr. Secretary, you have been very gracious in all the time you spent with me as you have heard my worries about the small surface combatant program, and I am very pleased to see that we are making the shift to the frigate in this year's budget. So I know you have worked very hard on that, and thank you.

I do continue to be concerned about the price point, because we now, on the initial ship, are up to almost \$1.3 billion with additional requirements. And so what I worry about is, you know, when we start getting these defense—these acquisition programs, the costs up like this, we tend to cut back on the numbers. So are we still aiming for \$800 million on the follow-on ships and still trying to get to 20?

Secretary SPENCER. That is correct, Congressman. If anything—and I share your consternation. We have, as you know, five robust platforms that we are going to be entertaining, which makes this probably one of the most competitive platform acquisition programs

that we will have. So we are quite excited about that. We look at the learning curves on those hulls that are already out there, and they are very impressive.

The reason I pause for a second is that I read the latest GAO [U.S. Government Accountability Office] report on the *Columbia*, and one of the things the Navy is criticized for is not—not estimating the costs in an appropriate manner, that we underestimated. I am hoping, and I am pretty confident, that the number that we are projecting here is the first ship number, and it is going to be a conservative number, but we are definitely driving for the \$800 million number.

Mr. BYRNE. Well, good, because I don't think you are going to get to 20 if you jump it up much higher than 800. You know all the competition for the other ships that we are trying to construct. So please forgive me if I don't continue to bring that up. It is just a continued concern of mine.

Secretary SPENCER. Please do.

Mr. BYRNE. Yes, I will. I will.

General Neller, I had the privilege of leading the past group that went out to RIMPAC [Rim of the Pacific Exercise] last summer, and we were looking forward to getting under way on the *Bonhomme Richard*, but couldn't because it couldn't sail. We were also supposed to have the *Boxer* out there, but it couldn't participate. I am concerned about the amphibious program and our readiness. Do I have a legitimate concern? Do you have a concern about where we are on the amphib program?

General NELLER. We worked really hard with the Navy on the maintenance processes for amphib ships, and there is a—I believe the Navy has a backlog on a number of platforms for maintenance. So, yes, we are concerned about the availability of these platforms. This is not something that happened overnight. And we have been funding maintenance and readiness at a higher level. So we are hoping to see a better availability of these ships, but it is something that the CNO and I talk about, and he is tracking all this, as we are, making sure that the platforms we do have are available and they have the mods [modifications] and other changes they need. So we are not where we want to be, but we are continuing to work on it.

Mr. BYRNE. Thank you, General.

Admiral, we continue to hear more and more about China and its naval operations, and presently around an island that is in dispute or—an island or rock—that is in dispute between it and the Philippines. Can you enlighten us where we are on that.

Admiral RICHARDSON. Sir, I think the word for—the one word I would use to characterize that is consistency. Our actions are consistent with our words in that that is a very important body of water, the South China Sea. And about one-third of the world's trade goes through there, and so we have got tremendous national interest in making sure that that trade flows freely through there unthreatened.

We have been consistently present in that part of the world for 70 years, and we are going to remain consistently present there, and continue to advocate with our allies for free and open seas so that we fly, sail, and operate wherever international law allows.

Mr. BYRNE. And I assume that the shipbuilding plan that you have submitted is your best estimate about what you are going to need short term, near term, and long term, to keep up with or stay ahead of the threat from the Chinese?

Admiral RICHARDSON. It is exactly—addresses that strategy in every single hull. Right? It is a very strategically informed budget. And so all of—you know, the entire budget really is leaning in that direction, yes, sir.

Mr. BYRNE. Well, I thank you both—all three of you for what you do. I think it is tremendously important to the defense of the country. And I certainly want to give my full support to all of your efforts.

Thank you, Mr. Chairman. I yield back.

Mr. COURTNEY. Thank you, Mr. Byrne.

Mr. Norcross.

Mr. NORCROSS. Thank you, Chairman.

And I want to echo the previous statements of thanking all of you for your service, and wish you well as you move on in life. I know you won't go far.

Secretary Spencer and Admiral Richardson, according to naval aviation long-term tactical aircraft inventory plans, 50/50 split is the percentage you are looking at between fourth- and fifth-generation fighters with the F-35C. The rationale between that 50/50 split across the entire globe, can you explain to us why you came up with the 50/50 split?

Secretary SPENCER. I will take a first cut at that, Congressman, and then offer the CNO to dive in also.

In the job here that I wear, wearing the title 10 hat, it is portfolio management. Obviously, I would love to have every single thing that I asked for, but I can't have it. When it comes to bringing the F-35 into the Navy fight, this is the most efficient and effective way that we believe we could do it, which is basically to feather in the F-35 Charlie, augmented by the Super Hornets, and that is both Super Hornet new and the SLEP [service life extension program] program for the Super Hornet. So eventually we are getting to 100 percent fifth gen.

We also have to figure in that we have the next-generation fighter, which we are now just beginning to do some analysis on, and that should be brought into the argument also.

Mr. NORCROSS. After the F-35, you are actually doing that analysis 30 years ahead or 20 years?

Secretary SPENCER. Yes, we are starting it now.

Mr. NORCROSS. Admiral Richardson.

Admiral RICHARDSON. Sir, I would just echo what the Secretary said. I think he captured it completely. If you look at the capability of the future air wing, it is going to include that mixture of fourth and fifth gen, each of which contributes uniquely to the airpower of that air wing.

And then, of course, we are bringing in the unmanned tanker as well, so that we extend the range of that air wing and allow strike fighter aircraft to do the strike fighter mission instead of the tanking mission. And so it is really, you know, a whole air wing approach as we move forward.

Mr. NORCROSS. So as you move forward to 2030 and you start dealing with the near-peer competitors, particularly in the East China Sea, do you see that ratio changing over the course of the next 20 years?

Admiral RICHARDSON. We are going to stick with what we have got right now, sir, and we will learn as we go forward. And then as the Secretary said, we are already looking at what it is going to take to maintain air dominance, even beyond fifth generation, and so we have got to start introducing that capability in the 2030s, and so it is time to get thinking about that now.

Mr. NORCROSS. Thank you. I yield back.

Mr. COURTNEY. Thank you, Mr. Norcross.

Mr. Gallagher.

Mr. GALLAGHER. Thank you.

Secretary Spencer, your Navy cyber review, I believe, ID'd [identified] contractors as a huge vulnerability, really, the soft underbelly of Navy cybersecurity. Just to follow up on what Representative Langevin talked about, could you please comment on the severity of the contractor threat? And if you would also address, I believe you are proposing a fifth assistant secretary for cybersecurity. The Navy already obviously has a CIO [chief information officer]. You have an OPNAV [Office of the Chief of Naval Operations] cybersecurity division run by a two-star. So the proposal, I think, begs the question, what are those existing positions not empowered to do that you believe an assistant secretary for cyber would be able to do?

Secretary SPENCER. To answer your two questions, Congressman, yes, one of the most vulnerable Achilles' heels we have is our supplier base, and that—I think you appreciate that ranges from Fortune 100 companies, Fortune 50 companies, on down to—I will use the term “mom and pop,” the small business world. We have to be able to encompass and provide them avenues to protect our data.

One reason that we are going to the cloud, the cloud allows that ability to provide an avenue for some smaller organization to be encrypted, to be protected, without encumbering a lot of costs on them. That is one of the things we are after.

When it comes to the fifth assistant secretary, that will be the compilation of what we have in the organization already at the secretariat level. And to remind you, secretariat level is more a policy performer, and then the services themselves are the tactical and actors. So we will be a support mechanism for that, providing the structure and the gray matter needed to actually put the policy out there and assist in the creation of the infrastructure around it.

Mr. GALLAGHER. And just—yes, Admiral?

Admiral RICHARDSON. If I could, sir, I would just add on that we have taken some very near-term actions already, even before the cybersecurity study, in terms of tightening up the contractual relationship with a lot of those partners in the defense industrial base. And so encrypting their data at rest and in transit, two-person—two-method authentication, increasing the transparency into their systems, the oversight of those systems, the response of those systems, and so we are moving out with urgency here.

Mr. GALLAGHER. And, Admiral Richardson, if I could, the National Defense Strategy obviously has this massive conceptual shift

towards prioritizing great power competition: China, China, China, and then Russia a distant second. But contained within that is this further conceptual shift away from reliance primarily on deterrence by punishment to doing more of deterrence by denial. How has that changed—sort of that big conceptual shift in that document changed the way the Navy is doing business, and what role will the future frigate play in conducting deterrence by denial in the Indo-Pacific region?

Admiral RICHARDSON. Well, I would say that our conceptual approach to that, articulated in the Navy strategy, the design for maintaining maritime operations, is distributed maritime operations. And so the fundamental thesis of this is that we are going to complicate any adversary's targeting problem by distributing the platforms and the fleet, keeping that very distributed and dynamic, but having a network that would allow us to mass effects, whether—payloads, if you will, kinetic and nonkinetic.

I will tell you what, the frigate is going to contribute tremendously. It is going to pack a wallop, and it is going to allow us to get out there with a number of platforms and exercise this distributed maritime operations concept.

Mr. GALLAGHER. And then to follow up on that, General Neller, can you walk us through how you think U.S. withdrawal from the INF [Intermediate-Range Nuclear Forces] Treaty might affect your role in that fight and specifically your EABO [Expeditionary Advanced Base Operations] concepts?

General NELLER. If we have the ability to deliver surface fires beyond the range that we are restricted by in INF, that will put us in a better position vis-a-vis other adversaries out there. So in the EABO, Expeditionary Advanced Base Ops, we believe, in conjunction with fleet operations and a naval campaign, that we can use a land force to help control the maritime space. And so the longer range we have, the better opportunity we have to control greater pieces of the maritime space.

So if you look at the critical geography on the globe, whether they are maritime choke points, you know, and they are obviously where they are, if you control those and you have the ability to reach out and dominate the sea space from the land in support of the fleet, and from the air, I think it gives you an operational advantage, and that is what we are going to try to do with these capabilities that we are going to develop. So we are lockstep with a lot of the weaponry, development that the Army's doing, what the Navy's doing, with long-range anti-ship missiles and other things. There is capabilities out there, and we hope to field those and make that part of the naval campaign.

Mr. GALLAGHER. Thank you. I am out of time. But I think it also means we are going to have to teach a generation of young Marines what sea denial and sea control means and refresh that.

General NELLER. I think we will be able to do that, because historically, the seizure and securing of advanced naval bases in support of the naval campaign is what we have historically done. We haven't done it the last 17 years, as you rightly acknowledge and you know yourself, but I think that is going to be part of the education and training process, and we are moving out on that.

Mr. GALLAGHER. Absolutely. And thank you both for your service.

Mr. COURTNEY. Thank you, Mr. Gallagher.
Congresswoman Hill.

Ms. HILL. Thank you. And thank you all for being here. Great to see you.

Admiral Richardson, I hear a lot of talk about a bigger Navy and the need for the 355 ships, but I wanted to hear more about the creating a ready Navy, what is being done differently after the *McCain* and *Fitzgerald* incidents and, you know, to make sure that our destroyers are getting the maintenance they need. Can you talk a little bit about that?

Admiral RICHARDSON. Sure, yes, ma'am. First and foremost, with respect to the 7th Fleet, which is where we had our trouble, the most important thing we have done is just return schedule discipline to the force. Admiral Sawyer out there, the 7th Fleet commander, Admiral Aquilino, the Pacific Fleet commander, are supporting this with vigor.

And so what this really means practically is that we don't send a warship out to do a mission until it has been trained and certified to do that mission and we have provided adequate time and oversight to make sure that they are ready to go.

Backing that up, we stood up a new command out there in Japan, to make sure that there is an onsite advocate for force generation so that we get to that level of readiness, and that is stood up and working very well.

And then as we go into deeper matters, we have adjusted the training profile for each of those ships. We are moving simulators, high-end simulators out to each of the fleet concentration areas, especially and including our forward-deployed naval forces, and then we have changed the career path for surface warfare officers to make sure that they get better and more training as they go through their career.

Ms. HILL. So do you feel like the maintenance needs are being met for the destroyers or—

Admiral RICHARDSON. I will tell you, maintenance has been a topic of conversation here at the hearing all morning, and it is probably our remaining, most complicated Gordian knot to untie. And so we have got everything leaning into this. We are using the same practices that we used to improve in aircraft maintenance, going out into the private sector to look at best practices. We are starting to use a very data-centric approach. There has been some good progress made in maintenance, but we have still got a ways to go.

Ms. HILL. Thank you. Okay. So then this is in a different direction, but my brother is enlisted already. He is scheduled to go out for boot at the end of May, so very excited about that. But I was hoping you could talk about what the Navy's doing to hit its future recruitment targets. I know you mentioned earlier that there is as many as a 6,500-billet shortage. So anything you can talk about there?

Admiral RICHARDSON. I will tell you what, ma'am, knock on wood, but both the Commandant and I have enjoyed the fact that we have hit our recruiting targets for probably the last 12 years, and on a month-by-month basis. And I think that has a lot to do with the same factors that you are seeing in your family, in terms

of what draws our Nation's young people to the service. It is as competitive a space as I have got anywhere, is the competition for talent.

The recruiting team is doing great work. We are using some very new techniques, kind of web-based approaches to this. It is part of our transformation of our personnel and pay system. And that is—that is yielding some pretty good results. I will tell you what, also, once you arrive at boot camp, it is a completely different scenario. You are going to learn resilience. You are going to learn so many skills that we have actually made it tougher, but we have done it in a way that we are actually retaining more people. The graduation rate is higher, even after we have made those adjustments, because we are teaching people how to manage that stress in a much more effective way.

And then finally, we have to stay true to our values, which, I think, is the thing that attracts our young people more than anything else.

Ms. HILL. So if the recruitment targets are being met, where are those shortages coming from, the 6,500 shortages?

Admiral RICHARDSON. This is really a leftover, if you will, from a shortage that we experienced in recruiting in 2016. And so as you think about that divot moving through time, it is going to be with us until it passes through the senior ranks. But that is where we are. The most recent recruiting numbers have been much better. And we are going to see this recover, I think, in the next year or two.

Ms. HILL. Great. Thank you very much.

Mr. COURTNEY. Thank you, Ms. Hill.

And, Admiral, I was just out at Great Lakes Training Center and saw the transformation that Admiral Bernacchi has brought out there, and everything you described is absolutely true. The morale and enthusiasm was off the chart, and he was making it tougher.

Mr. Cook.

Mr. COOK. Thank you, Mr. Chairman.

General, Admiral, I am going to be sorry to see you retire. For General Neller, I understand you are going out to Las Vegas and with Buck Bedard open up a casino. Is that correct?

General NELLER. No, Congressman, that is not correct.

Mr. COOK. Just you, huh?

Anyway, I did want to talk about amphibious ships and the fact that two of them were cut out of the budget, correct me if I'm wrong, LPDs [amphibious transport dock ships]. How much of an impact is that going to have on commitments?

General NELLER. There was LPD Flight II and an LHA [amphibious assault ship], which were moved to the right in this—in the program. So we have discussed—and there was advanced procurement money provided by the Congress for both of those platforms. And so in discussions yesterday and with other hearings, we believe, with incremental funding, if that was permitted by the Congress, that we could probably bring those back to the left.

Are they important? Yes. We still have a requirement for 38 amphib ships, we believe 12 big decks and 26 LPD similar hull forms. And so we would like to get to 38 ships. And so—but there is other competing requirements, I understand that. Obviously, we

believe that amphibians obviously are critically important to Marines, but submarines are important to Marines, too, because if we don't have submarines, we are not going to get to the fight. And so I have to be, as a member of the Joint Chiefs, I have to be operationally intellectually honest about that. But as a Marine, we need both, more platforms, and we need more availability from the platforms we have.

So I believe if we work with the Congress on being able to spend this advanced procurement with some incremental funding, I think we can move for sure the LPD Flight II hull form, get it sooner than where it is in the program.

Admiral RICHARDSON. Sir, if I could just pile on to my partner here, is we see it the exact same way. Even with these adjustments, we are going to have 36 amphibious ships at the end of the 5-year program, in fiscal year 2024, against a requirement for 38. So we are taking this very seriously.

With that incremental funding authority, we could get started on that LPD as soon as we get those authorities and maybe even do better than that.

Mr. COOK. I wanted to address something that is often, I think, forgotten in the budget, and that is the Mountain Warfare Training Center. And you know this thing has been around since the fifties, a reaction to the Korean war. I think it is a great training area. I was there many, many years ago, and there is a certain part of my exterior that still hasn't thawed out since the sixties, I guess I was there.

The problem—I was there recently and very, very concerned about the fire danger. As you know, you can still see the red lines where the planes—it was very, very close. And the—the other problem is they had a great exercise up there, but I was concerned with the helicopters and everything else, because there is no security for those things. You got to have troops out there, that road that they have, that goes—it is like 50 miles away—or excuse me, it is like maybe 50, 100 meters away from where the helicopters were set for the evening during that exercise.

So I am just hoping that we can work with the Park Service, the Forestry Service, and straighten out that road, whether we have to get money or what have you. And if you could—I am going to be studying it more and more, and any suggestions you have, because it has been like that for too long. And sooner or later, we are going to have a problem there with fires or interlopers with some very expensive equipment. And they—great exercise, I thought it was fantastic. But any comments on that? I don't have—

General NELLER. Congressman, I was just up there and they briefed me on that northern part of the training area they want to open up and the particular road you are referring to. So I will get back to you with whatever particular initiatives that we need, and maybe you can help us with the Park Service to be able to improve that road and be able to open up that training area, at least for maneuver, and also, so we can get into the training area from a different direction in case we have an issue that we need to address. But I will owe you that, and I will get back to you on that.

Mr. COOK. I appreciate it. Thank you.

I yield back.

Mr. COURTNEY. Thank you, Mr. Cook.
Congresswoman Luria.

Mrs. LURIA. Well, thank you, gentlemen, for being here today. One of the things that strikes me the most when I look at the budget is the changes year over year to a 30-year shipbuilding plan, and I am just trying to wrap my head around why there are so many changes in just 1 year. A few examples. In last year's 30-year shipbuilding plan, we had no cruiser decommissionings through 2023, this year we have 6; we had 3 minesweeper decommissionings, now we have 11; we are going to decommission a carrier halfway through its 50-year life cycle; and the ship-to-shore connector, we have gone from 8 to zero.

I would assume when we generate a 30-year shipbuilding plan, that it would be pretty consistent year over year in the nearest years, and the way I see a 20-year shipbuilding plan at this point, it is like the Navy's vision 2050. And if that vision changes every year, do we really have a clear vision?

An example I will get from a hearing. In 2015, Rear Admiral Manazir, the air boss, said, and I quote, this force structure assessment—he was talking about the 2014 one—is sized for a U.S. Navy force to conduct a complex, multiphased campaign against a high-end adversary in one region and to deter or impose costs in another region. This force is designed to do that all the way to 2030.

So that force structure was 308. The next year in the new force structure assessment, we said it was 355. And as we know, we are pending a new force structure assessment which you have stated is going to even have a higher number. So why are there so many changes year over year? And do we really have a long-term vision towards 2050 for the Navy?

Admiral RICHARDSON. Ma'am, I think the answer to both of those questions is, yes, we have a long-term vision. What has happened since 2016, I think, is indicative of just exactly how fast and quickly our—both the security environment is changing and also the technology landscape is changing. So each one of those platforms that you mentioned has its own justification.

We are going to continue to assess the cruisers. We are going to not propose them for life extension, but we are going to take this year and study that to see if it is a good return on the taxpayers' investment, given the warfighting punch that they bring.

With respect to the mine countermeasure ships, we are going to—

Mrs. LURIA. So just in the interest of time, not to go line by line. It was really about a bigger vision, not—

Admiral RICHARDSON. We do have a vision, but we also are operating in an extremely dynamic security and technology environment. And so I think that is why we are doing the force structure assessment.

I would just say that I don't think I have predicted it is going to be higher or lower. I really am letting that run—

Mrs. LURIA. Okay. Well, I will look forward to those results.

So, Secretary Spencer, so one of the main things that concerns me is the continuous change and churn that we have within the Navy. In my own 20-year career, for example, the surface warfare training pipeline changed four times. Again, I think an indication

of no real vision. And, you know, we did have the terrible collisions in the Pacific in 2017, and we are implementing corrective actions for that part of our training. But I see the same thing in this year's budget and shipbuilding plan, more change, more churn. And I understand that technology changes, our potential adversaries change, as do their capabilities, but what do you think about the fact that it appears to the outside observer that the Navy doesn't have a shipbuilding plan that can stand for more than 1 year without significant changes?

Secretary SPENCER. It doesn't bother me whatsoever, Congresswoman, because the fact of the matter is, we are adapting to the changes around us. The fact that we have accidents in the Pacific and we make a change to correct it, that is change; I don't think that is churn. I would hope that you would want me to be running at full speed, and when I run at full speed, I am going to adapt and adopt and experiment as much as I can.

Mrs. LURIA. Okay. So, Admiral Richardson, with regards to the OFRP [Optimized Fleet Response Plan], CVN 77 [USS *George H.W. Bush* aircraft carrier] recently entered Norfolk Naval Shipyard for a 28-month availability. Was 28 months ever part of the planned OFRP cycle?

Admiral RICHARDSON. Ma'am, it was originally in for a 16-month. That is what it was planned for.

Mrs. LURIA. Okay. And so *Ike* also finished their maintenance availability a year late recently, and they were the first to go through an OFRP cycle. Is that correct?

Admiral RICHARDSON. They were one of the first. But I will tell you that this 28 is really a recognition that there is some emergent material issues that we have got to do that were not part of the original plan, and so we are recognizing that.

Mrs. LURIA. Are you able to consistently provide a two-plus-three carrier presence over the FYDP [Future Years Defense Program]?

Admiral RICHARDSON. For the most part, yes. Sometimes maintenance prevents us from doing that, but we are certainly striving towards that by the end of the FYDP.

Mrs. LURIA. So is the OFRP producing the deployed presence that was envisioned and testified to this committee in 2015? Because at that time, in the same hearing that we are having now, everyone affirmed the minimum number of carriers to produce an acceptable level of risk is 11. So why in the 30-year shipbuilding plan do you not maintain, as required by law, the 11 carriers?

Admiral RICHARDSON. I think that with respect to the *Truman* overhaul I think is where your question is centering, is we have to consider that as sort of a number of interrelated things. One is that we are biased towards naval power, and that that naval power may be maximized by some of these new technologies that are coming down right around the corner. The *Harry S. Truman* also delivers a tremendous amount of naval power. Resolving all that is being evaluated in this force structure assessment that you have referred to, as well as the combatant commanders updating their OPLANs. When we see those OPLANs and that assessment done, we are in a perfect position to respond to—

Mrs. LURIA. As I see, we are out of time.

Mr. COURTNEY. Thank you. Okay. I think our time's run out. So, thank you, Congresswoman.

Mr. Gaetz.

Mr. GAETZ. Thank you, Mr. Chairman.

Secretary Spencer, my constituents in Pensacola love their Blue Angels. I am hopeful that your budget fully supports the Blue Angels.

Secretary SPENCER. It does this time, sir, yes.

Mr. GAETZ. And would you comment about the role that the Blue Angels play and how important they are in the overall Navy?

Secretary SPENCER. Blue Angels are one of our key recruiting tools for the United States Navy. The Blue Angels, in concert with our TACDEMO [Tactical Demonstration] legacy flights, really are one of the go-getters when we go out to airshows to help the recruiting effort.

Mr. GAETZ. We are proud of them.

I would have to say, Admiral Richardson, I am a little less proud of how we have dealt with some of these physiological episodes and how we have dealt with some of the training deaths. Would you comment on how the budget we have now leans into a solution set so that we don't continue to have those, particularly on the [T-45] Goshawk.

Admiral RICHARDSON. Yeah. I think that—first, I want to come and brief you, because I think when you get the details, you would be proud that we have attacked this from a multidisciplinary approach, not only in the Navy, but we have employed NASA [National Aeronautics and Space Administration], the private industry, and just about everybody who can help us here. We have employed the diving community to help us understand this better.

It is about as complicated a problem as you can describe, the interface between a high-performance aircraft and a human body, but we are stepping through in a very disciplined way. We have seen, in general, the trend of those physiological episodes go down, in some cases almost being eliminated from certain type/model/series, and we look forward to making future progress.

Mr. GAETZ. I look forward to that briefing. One of the concerns I have is that when I visited NAS [Naval Air Station] Pensacola, only one of the training simulators had a hypoxia-enabled OBOG [On-Board Oxygen Generation] system. And what I heard from the leadership and the students there is that if all the students know that there is but one simulator that has the hypoxia simulation, then it misses the point of training students how to diagnose a physiological episode and then deal with their emergency protocols.

Is there any thought given to how we train those students to react to those symptoms? And is it your view that maybe having more than one trainer with the hypoxia-enabled OBOG system might assist in that training?

Admiral RICHARDSON. I will say that a consistent approach to us responding to this is to increase the training across the entire naval aviation enterprise in terms of how pilots recognize and respond to a potential physiological episode in the air. I am not sure exactly how the trainer in Florida relates to that—

Mr. GAETZ. Well, no. You would understand, though, that if there is sort of one system with that feature and the other systems don't

have that feature, then you would expect that feature in the system that you knew had it and not in the systems that didn't. Just as sort of a commonsense reaction from some of the students. So I hope you will take that into consideration as the Navy continues to address the problem.

I wanted to shift gears and follow up on Mr. Langevin's questions about climate change. Admiral Richardson, what elements in the budget that the Navy's presented would we look to to say that they acknowledge the challenges associated with climate change, that they lay out a strategy to deal with it?

Admiral RICHARDSON. Sir, thank you. I would point to our MILCON budget, first and foremost, and the guidance that we have put out that anything new that is built has to be considerate of potential sea-level rises and other factors of climate change. We are also working very closely, not just, you know, isolating to the on-base problem, but working closely with local communities. Because typically, we are right there with our neighbors in places like San Diego, Norfolk in particular, and other places.

Mr. GAETZ. Yeah.

Admiral RICHARDSON. So it is the MILCON budget where I would point you.

Mr. GAETZ. Appreciate that on basing. But for years, I have heard my colleague, Mr. Garamendi, mention the impacts of climate change on the permissibility of the environment in the Arctic. We have heard chiefs from the Air Force and the Army testify that climate change impacts the permissibility of various environments, and they specifically referenced the Arctic. Do you similarly hold that view, or is there a different view you hold?

Admiral RICHARDSON. No, I think we probably are first among equals in terms of the impact. Sea lanes are open now that weren't open before. Continental shelves are exposed now that weren't open before. The Arctic ice cap is as small as it has been in our lifetime. That is why we are invested up there. We took the *Harry S. Truman* strike group north of the Arctic Circle last year for the first time since 1991. We have had a consistent submarine program, including ICEX [Ice Exercise] last year, where we surfaced two U.S. submarines and a British submarine through the ice. We have a robust program of exercises that we have been conducting and plan to continue to conduct in the Arctic to make sure that we can operate up there.

Mr. GAETZ. Is it fair to say, then, that you are having to react to the impacts of climate change in real time as they impact environments that our adversaries are interested in?

Admiral RICHARDSON. Absolutely fair.

Mr. GAETZ. Thank you, Mr. Chairman. Yield back.

Mr. COURTNEY. Thank you, Mr. Gaetz.

Mr. Garamendi.

Mr. GARAMENDI. Mr. Gaetz, thank you for raising that issue, it saves me the time, and we do pay attention to polar security cutters. Thank you.

Secretary Spencer, thank you for sharing information and time.

Admiral Richardson, the same, you have been very forthcoming. I appreciate it.

General Neller, I think you and I—not you, but I will be visiting your folks at Lejeune a little later this afternoon, in fact, shortly after this question ends. With regard to Camp Lejeune, we have had a full discussion. We will have more as a result of the visit that we will—Mr. Lamborn and I will be making today.

General Neller, you have spoken to the issue of the deployment of your troops to the border wall and the readiness issues that have occurred as a result of that. I would appreciate, later, more information about specificity, specifically what you were referring to, both—

Now, with regard to the issue that Mr. Wilson raised with regard to sealift, we need to revisit the current NDAA [National Defense Authorization Act], as we prepare for the next NDAA, and be really drilling down on what ships are going to be needed sooner than later. You mentioned this, Admiral Richardson. A particular concern of mine is information that was given to us with regard to specialty ships that service other ships and that they seem to be aging out sooner than later. So I would like to have more full information on that and try to design that into the current NDAA and the timing issues surrounding that. So if you could give that information to us.

Finally, with regard to MILCON, there is no way that we can avoid the fact that \$6- to \$8 billion is likely to be taken out of the current MILCON programs if the President is successful with his program. We need to know soon, like now, what programs are at risk, given the President's desire to take that money and spend it on the border wall. So for all three of you, if you could immediately, like when we return after the Easter recess, have that information in hand.

We do know that a billion dollars has already been taken out of the defense budget to be used on four—three contracts. The legality of that is questionable, but nonetheless, that appears to have happened. We will be looking at that. So a billion dollars is already gone.

So I want to have very specific information, upon our return, as to what projects are at risk. And I think it is a fool's errand to assume that that money will be replaced in the coming appropriations. So that is money that is likely not to be available in the future, and we need to know the impact of it. With that, I yield back.

Mr. COURTNEY [presiding]. Thank you, Mr. Garamendi.

Mr. Waltz.

Mr. WALTZ. Thank you, Mr. Chairman.

And I specifically want to thank both of your families, Admiral, General, for—you know, thank you—it is probably safe to say you are both in your dream jobs right now but your families have borne the brunt of your service, and I always want to keep the families in mind.

I want to talk a bit about the submarine threat, Admiral Richardson. The evolution of the Chinese and Russian, my understanding in simple terms, Chinese are really ramping up production in numbers, the Russians in terms of approaching parity in quality.

Can you share with us some of the successes you have had in tracking the recent out-of-area submarine deployments by the Chinese and the Russians? I understand that the P-8 has been instru-

mental, its sonobuoy processing capabilities are critical to that success. And then if you could talk to me about sonobuoys in your funded and in your unfunded priorities.

Admiral RICHARDSON. Sir, I mean, what I think I need to do is come back and give you a classified brief on that. It is almost impossible to talk about that in an unclassified forum.

Mr. WALTZ. Fair enough.

Admiral RICHARDSON. But I will say that, in this venue, that ASW [anti-submarine warfare] has really become a team sport. It involves not only submarines but also surface ships, their towed array sonars, their radars. And then as you mentioned, the P-8s and their sonobuoys. It all works together as a team. And we are getting more and more participation with our allies who can keep with us at that high end as well.

With respect to sonobuoys, it is like every other—it is like a piece of ordnance. You know, you expend it and it is done, and you need to kind of keep replenishing that. And as we continue to ramp up our capability, we are finding that we need to replace those sonobuoys at an increasing rate, and so our budget supports that.

Mr. WALTZ. Great. In terms of—again, sticking to the Chinese and where they are going, a number of studies that I have read, they are producing—and setting the qualitative parts of this aside, we are looking at two to three ships to one in terms of their production. I mean, that is one of the largest shipbuilding—they have one of the largest shipbuilding capabilities in the world by far. As you are looking at your studies and in your study on the force structure, isn't there kind of a quality to quantity in and of itself in looking at the high-low mix and looking at the cost savings of refurbishing frigates, in particular at a fraction of the cost? So if these trends continue, do you agree with the assessments that, quantitatively, the Chinese will be on parity by 2030 and qualitatively—actually, I would say quantitatively exceed, qualitatively approaching parity by 2030?

Admiral RICHARDSON. Well, certainly, they are the number one shipbuilder in the world, right? And so from a quantitative standpoint, it is, you know—

Mr. WALTZ. Maybe you can just add to your comment. You had mentioned some incentives that you are looking at increasing our shipbuilding, domestic shipbuilding capability.

Admiral RICHARDSON. I would be willing to participate in a discussion to do everything we can to incentivize and increase domestic shipbuilding for—I think it is a national strategic imperative. And so there is a number of things that we might be able to do. And, you know, I would look forward to the discussion, sir.

And then with respect to the qualitative, I think we are going to continue to do our best to stay ahead, from a qualitative standpoint, from any other navy in the world.

Secretary SPENCER. Congressman, just to add some of that that is going to inform our discussions. Our acquisition and sustainment arm, through Secretary Geurts, is actually doing a what happens when the balloon goes up with industry? We are having a forum that read, you know, America's arsenal of the Freedom—the Freedom's Forge. It is that whole concept of what would happen to capacity and what could our suppliers expect to do if, in fact, we real-

ly surged the demand. That is happening the end of May. It is going to be interesting. We will let you know.

Mr. WALTZ. [Inaudible] new investments in modernizing the Reserve Fleet which is sitting around 40 to 45 years. How are we going to address that and how is the Navy—I mean, I understand it is not the sexy end of shipbuilding. But just assure this committee that you are taking that seriously.

Secretary SPENCER. Totally. This is square in my wheelhouse. Again, it comes to portfolio management. And I don't say that apologetically. That is how we are trying to balance this whole investment process, Congressman. The CNO gave you the overview.

One of the things that I would love to plant as an ask is the ability to buy more foreign, used. Yes, we need to get our shipbuilding muscles back in shape. But in the immediacy, you have given me the ability to buy two and then go forward with CHAMPs [Common Hull Auxiliary Multi-mission Platforms], and then I can buy three more.

I would like to have more of the ability to have X dollars in an account and go out to the marketplace and buy as much as I could with that money.

Mr. COURTNEY. Great. Thank you, Mr. Waltz.

And the MARAD [Maritime Administration] actually is going to be coming out with its maritime policy, which hasn't been updated since the 1930s. And we are certainly going to have a hearing at Seapower when that day comes, shortly, hopefully.

Now I would like to recognize the ranking member on the Seapower Subcommittee, my friend Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

Secretary Spencer, Admiral Richardson, General Neller, thank you so much for joining us. And, Admiral Richardson, General Neller, thanks so much for your leadership, for your vision, and for your direction in your tenures there as chiefs. We appreciate that tremendously. I think you have really moved the ball forward for our Nation's Navy and Marines Corps, and we appreciate that. Created a legacy for many years to come.

General Neller, I want to build on some comments that you have made concerning the devastation at Camp Lejeune from Hurricane Florence. As you pointed out, significant impact there; \$3.6 billion of damage, \$2 billion going towards demolition and rebuilding of those buildings, \$1.3 billion going to fixing existing buildings, and about \$300,000 going to fix IT [information technology] systems and other repairs. So pretty significant.

Your comment was this specifically. You said, if the Marine Corps had to fund that through its existing military construction budget, it would take that budget in its entirety for about 4 years. That is a tremendous impact.

I want to get your perspective. Where does that leave not only Camp Lejeune operationally, but where does it leave the operational capability of II MEF [Marine Expeditionary Force] in its ability to respond to crises? Because, you know, we can look at buildings and those sorts of things and really just make it about bricks and mortar, or we can really talk about what does it do to affect operational capabilities. So could you give us that perspective on where things are with the Marines Corps?

General NELLER. Well, Congressman, I appreciate the question. Obviously, II MEF remains in operational capable headquarters in a command element and the Marines and their families that live and train and operate out of there are ready to go today. They are operating in a degraded environment, and we expect to do that when we forward deploy in an expeditionary scenario. We don't necessarily expect to do that when we are at home station.

So over a period of time, I think it will—it could affect a lot of things. It could affect retention. It could affect our ability—some of the ranges and training areas have been degraded, the beach area and access to the beach. You know, the shoreline on the east coast is changing over time because of all the storms we have had. So it affects our ability to use that beach, because that is a training beach. So some of the range areas, I think, are back in business, because we had to clear some areas.

So the impact on the New River and the Cherry Point side, you are operating in hangars where the office spaces and the planning spaces are degraded. And so, you know, we expect our folks, when they forward deploy, to operate in austere conditions. We don't necessarily expect them to operate in that environment when they're at home station.

So they are willing to put up with it for a while if they know there is a remedy coming, and we need to be able to offer them that remedy. This is not just an All-Volunteer Force. It is an all-recruited and all-retained force, and we need to provide them some level of capability at home station. It doesn't have to be perfect, but it has got to be better than what we got down at Lejeune right now.

Mr. WITTMAN. Very good. Thank you, General Neller.

Secretary Spencer, I wanted to get your perspective on some comments that have been made by members of this committee with some concerns about what has happened recently. Their comments have been about taking away reprogramming authority. And as we know, reprogramming authority gives some flexibility, and we were just talking about the impact of the storms on Camp Lejeune, on Tyndall Air Force Base. So I wanted to get your perspective.

How would you see the impact in your role and your capability there in making the necessary adjustments for a Navy-Marine Corps team if that reprogramming authority was completely taken away from you?

Secretary SPENCER. Congressman, as I know you appreciate, because we walked through this before, when we assemble the budget, we try to make it as tight and as focused as possible. But in the ever-changing world that we deal with, there is continual adjustments that have to be made, whether it be the purchase of armaments, whether it be maintenance, which is one of my biggest reprogramming drivers. It would be devastating to lose the reprogramming capability, sir.

Mr. WITTMAN. Gotcha. Very good.

Admiral Richardson, I wanted to build a little bit on your comments on the fiscal year 2020 budget and how your focus is on preserving the industrial base. I think that is absolutely critical. But if you look at that, you see that there are no requests for additional

construction for amphibious ships. Ship-to-shore connectors were taken out; we heard that referred to earlier. CVN 75 refueling.

So the question becomes, if we are really about maintaining the industrial base as well as building that capacity, it does seem to be somewhat of a contradiction with those missing elements of what is in the budget request to your efforts to say that, you know, we want to make sure that we are multipurposing in this effort to assure we have industrial capacity and capability at the same time that we are rebuilding the proper components of the fleet. So I just want to get your perspective on that.

Mr. COURTNEY. And if you could make it sort of a shortened version, that would be—

Admiral RICHARDSON. Abbreviated version.

Sir, I mean, we build 12 ships over—in this budget, 55 over the FYDP. With some authorities, we could get started on the amphib ship and bring it back in and get started on that as quickly as we can. And so I think we do show a commitment there to shipbuilding and the national treasure that is the shipbuilding industrial base.

Mr. WITTMAN. Thank you, Mr. Chairman.

Mr. COURTNEY. Thank you, Mr. Wittman. Thank you to the witnesses for your endurance.

There actually is a request for a couple follow-up questions by some of the members. And, again, at this point, I just want to yield to Mr. Thornberry, ranking member.

Mr. THORNBERRY. Thank you, Mr. Chairman.

Mr. Secretary and Admiral, Mrs. Luria kind of started down this road, but nobody has really pressed you all on why the administration request is walking away from 25 years left of a carrier life. So I think we need to hear that explanation. And then the part B of that is if we—and I think the prevailing opinion in this committee is to refuel the carrier. Okay. If that is our decision, then what are you not able to do in the future given the budgets that you assume are coming?

Secretary SPENCER. Congressman, let me walk you through the thought process. When we sat down to create the budget, then-Deputy Secretary Shanahan really had us go through what I consider a very healthy assessment of where we are. And if you look at United States Navy, which probably has the largest installed base of capital assets, there are three buckets that we have, which is our legacy systems; the modernization of our legacy systems; and then the funding of what I am going to call R&D [research and development] and/or force 2.0, those weapons that are being developed now and those to come that we have to invest in.

If we look at the two-carrier buy combined with the nonrefueling of the *Truman*, the thought process was as follows. One, and I think this is lost in some of the conversations, the *Ford*-class carrier is not a *Nimitz* in any way. It has a 30 percent higher projection of sortie launch, 25 percent fewer people to man it. We are expecting maintenance to be less. That will be proven out.

If that is the case, we are modernizing the fleet. I look at, again, outside the wire, anywhere from oil industry to aviation to trucking. When, in fact, a new platform is presented to anyone who is modernizing in the 20 percent improvement range, people abandon

assets to make the case to move towards more effective, more efficient, in our case, more lethal platforms.

So this is not a one-to-one trade. This is modernizing the fleet with three platforms right off the bat that are more lethal. That was the thought process behind the *Truman*.

Walking away from 25 years, abandoning an asset is not an easy decision. In the where we are right now in the actual process, we can still come back to address it. The Joint Chiefs are doing studies, so are we, as far as requirement goes.

But as far as a modernization argument, we believed it was a way to put the statement forward that we can take those moneys and invest in force 2.0, whether that be more submarines, whether that be advanced systems, whether that be future weapons that we don't have yet that we have to invest in.

Mr. THORNBERRY. We are obviously going to have a fair number of *Nimitz*-class carriers out in—on the seas. So I take your point. A new carrier is better than an old carrier, but an old carrier has substantial value, don't you think?

Secretary SPENCER. It has value, sir, but the business case is to what investment to what I get on the other side of investing in new weapons.

Mr. THORNBERRY. Okay. And, Admiral, I would appreciate your comments. But also, the second part of my question is, if we disagree and we say you are going to refuel the carrier, then what budget implications does that have for you all in the coming years?

Admiral RICHARDSON. Sir, I will just echo what the Secretary said, that, one, the budget submission is about addressing the strategic priorities, which place a great responsibility on maximizing naval power and how we do that going forward. First of all, the investment in the *Ford* class, I think, to me, says that the aircraft carrier continues to be a relevant part of delivering naval power into the future. So there has been a lot of conversations about the vulnerability of the aircraft carrier, et cetera. A competently run aircraft carrier in a distributed maritime operations environment is a very lethal platform. And it is not the carrier itself, although this carrier is much better than the other. It is actually—innovation takes place on the air wing, and that is the striking power of the aircraft carrier.

With respect to the balance between the *Nimitz* class and new technology, I think that is why we have to study this, which is why we have these studies going on in parallel to this. And also the industrial base, which has been mentioned a number of times. What is the impact on the industrial base of these decisions?

And so it is about that balance, just as the Secretary articulated. Whether we move forward and invest in some of these technologies or whether we deliver on, you know, a proven platform that will deliver new technologies through its air wing. And so I think we are in a position that, wherever those studies take us in parallel with this decision, we can respond.

If you were to restore the overhaul of the carrier, then we would just adjust our investments into some of those other parts of the budget. I think if it was consistent with the logic, we would draw off of some of that new technology investment. It would be a con-

siderable amount remaining, and we will look for other less lethal places to find that money.

Mr. THORNBERRY. Okay. I would just say, my sense is we ought to be having those conversations. And I understand your point. But if that is the way it goes, then it may have implications that we need to talk about.

Thank you, Mr. Chairman. I yield back.

Mr. COURTNEY. Thank you, Mr. Thornberry.

So, again, just kind of get situational awareness here. We have got two members who have follow-up questions. We have already had one pass through. But we have been joined by Mr. Banks who, again, was not able to be here for his first round of questioning.

So, Mr. Banks, for 5 minutes.

Mr. BANKS. Thank you, Mr. Chairman.

Secretary Spencer, I recently introduced a piece of legislation to create military education savings accounts for military families. I don't know about you, but I have heard from so many military families and our men and women in uniform who go through that difficult process of moving from one installation to another, having their children placed in a good school in one place but finding poor education options when they move to a new location.

I wonder, do you hear those same complaints from families? There was a recent military time study that suggested that nearly half of our service members have either left the service or thought about leaving the service because of poor education options for their children. I don't know if you could have any remarks about that.

Secretary SPENCER. Congressman, yes. The way that I hear it is the inconsistency of the education available to those that are transferred around. There is a lack of consistency.

Mr. BANKS. So you do hear from our sailors about the difficulty of that?

Secretary SPENCER. Yes.

Mr. BANKS. I understand that you have been in contact with the Department of Education about that—about the—

Secretary SPENCER. Yes, we have.

Mr. BANKS [continuing]. Education savings accounts? And is that a concept that appeals to you that you think would—

Secretary SPENCER. Appeals.

Mr. BANKS [continuing]. Appeal to our families, our military families across the country?

Secretary SPENCER. To those that are educated on it on a launch basis, yes.

Mr. BANKS. Okay. I appreciate your brevity. But is there a good way to—with your business experience, is there a good way to create a path toward creating an option like that for our families through the DOD? And would the Department of Navy potentially be interested in a pilot program that—empowering the Navy to create—

Secretary SPENCER. I will turn it over to the CNO. But as far as a businessman wearing my title 10 hat, would love to see the option available.

Admiral RICHARDSON. Sir, I will tell you, one of the—probably one of the most exciting parts of what is going on in the Navy right

now is how we are transforming the way we do our human resourcing. And so we are very soon, with the Congress' support in terms of revolutionizing this, are going to be able to understand the individual priorities of every one of our sailors, which would include their families and their education. And so we will know better that if a sailor wants to achieve some geographic stability because he wants to put his kids through school, we will have some options that we can appreciate and offer him as a part of his compensation package.

It is really becoming a much more dynamic marketplace with the sailors increasingly participating in their future destiny, all the while meeting the needs of the Navy and the Nation. And so this is an exciting part. If a pilot program that would further enhance a sailor's ability to control their own destiny, educate their children, we would be excited to participate in something like that. As I end 37 years, we have 5 children, we have moved 21 times, we have experienced this personally, and it is something that we need to make as smooth as possible.

Mr. BANKS. I appreciate that very much.

As the NDAA soon approaches us, perhaps we could work with you to see if the Navy might be the best home for such a pilot program to support our military families as they face this difficult issue.

I don't have more, Mr. Chairman. I will yield back with that. But this is an important subject, something that I hear from so many families about is, as they make that tough journey in their service and faced—our military families are the—they are the last families that should be faced with the stress of choosing whether to send their children to a bad school or poor-performing school because they are moved to a new station, and it is something I think this committee ought to do a lot more about.

With that, I yield back.

Mr. COURTNEY. Thank you, Mr. Banks.
Congresswoman Luria.

Mrs. LURIA. Well, thank you.

And I wanted to pick up, Admiral Richardson, where we left off, because the current law says that we need to have 11 aircraft carriers. But you are bringing us a budget that actually is asking us in your 30 ship—your shipbuilding plan to never attain that goal.

So can you explain the disconnect? Are you coming to us and asking us to change the law about the number of carriers that we need?

Admiral RICHARDSON. I am not aware of any legislative proposal to change the law there yet. I mean, it takes a while to get up to 12. It is outside the 30-year shipbuilding plan by the time we reach 12.

Mrs. LURIA. Well, I understand that. But we voluntarily let ourselves dip to 9 when we could have been at 10 during those timeframes.

My next question, and this is something that Chairman Forbes asked during a previous hearing when he was still here. Has the United States Navy ever made the determination that the presence of an aircraft carrier strike group has had a significant role in deterring a conflict from going from phase 0 to phase 3?

Admiral RICHARDSON. The answer to that is yes.

Mrs. LURIA. Okay.

Admiral RICHARDSON. I mean, it is a tremendously cost-imposing thing. That is kind of a—that is a difficult question to answer briefly. And deterrence is a difficult thing to measure, in general, you know, how did something not happen, but—

Mrs. LURIA. So Secretary Stackley's response at the time was that he would go as far to say that it is the cornerstone or our maritime strategy. Do you, in principle, agree with that assessment?

Admiral RICHARDSON. It is the fundamental fighting element of the United States Navy right now.

Mrs. LURIA. Okay. And, Secretary Spencer, you quoted some efficiencies that we gained through the *Ford*-class aircraft carrier. And one of those is that you assess that the maintenance costs go down by 20 percent.

So the *Ford*-class carrier cycle, and this was also previously reported in a hearing before the Congress, is that that cycle is 43 months versus the 36 months that we have for the *Nimitz*-class, which would allow the ship to deploy more frequently over its life cycle and only have to dry-dock once every 12 years and result in this overall 20 percent reduction in maintenance.

However, we are still planning to operate on a 36-month cycle. So it doesn't appear that, although we have built an efficiency of having a 43-month cycle, more availability to deploy and more presence, that we are actually planning to execute to that and take advantage of the 20 percent reduction in maintenance that this should afford us.

Can you explain that disconnect?

Secretary SPENCER. I think you will see us work that into the plan.

Mrs. LURIA. So then would the OFRP change and all surface combatant cycles would extend to 43 months?

Secretary SPENCER. I will let the CNO address that. But if, in fact, we have the efficiencies, I don't know why we wouldn't accept and avail ourselves to them. But it is not universal across all forums.

Admiral RICHARDSON. Ma'am, as you alluded, we are going to have to take a look at the escorts, the auxiliary ships, and everything that supports that strike group, the air wing. And so it really is a force that deploys together. The fact that we designed in 20 percent less maintenance cost, we certainly intend to take advantage of that, whether it is a 36 or a longer month OFRP.

Mrs. LURIA. Okay.

Admiral RICHARDSON. And the OFRP, in general, is designed to be dynamic. We have changed it several times, as you and I have discussed. I mean, this is not something that, you know, is written in stone. It will change as well to respond to circumstances.

Mrs. LURIA. Thank you.

And so over the course of several hearings that we have had on this topic, both in the full hearing as well as within Seapower, I have, you know, tried to distill the difference between actual presence versus availability to deploy and surge capability that you are creating with the OFRP.

And I just wanted to close out my comments with something that Secretary Mabus said during his last hearing before this committee. His quote is: While there has been discussion about posture versus presence, the simple fact is that, for the Navy and Marine Corps, our posture is presence. And there is no next best thing to being there. Maintaining that presence requires gray hulls on the horizon.

And have you changed in views, Mr. Secretary, from your predecessor as far as the importance of presence? And we seem to have emphasized surge capability over presence. Can you comment on that?

Secretary SPENCER. A policeman on every corner will deter crime. I would love to have a gray hull on every corner. I do not have that luxury. So it is a portfolio management, risk management model that I must deal with.

Yes, posture is presence, and, yes, that is a deterrent. I have to use it judiciously, or I could produce it judiciously for the COCOMs [combatant commands] to use judiciously.

Mrs. LURIA. Okay. And why is it that they are not getting the requested amount? I have had the opportunity to ask three COCOMs before this committee what percentage of presence they are getting versus their request, and CENTCOM [U.S. Central Command] said about one-fifth, EUCOM [U.S. European Command] one-third, and PACOM [U.S. Indo-Pacific Command], obviously, they have the additional presence of the carrier on station in 7th Fleet, said about 70 percent.

So is there something—is there a disconnect in the process by which the COCOMs are requesting this but we are not providing that? Or do we need to look at the realism of the request that they are making versus off the threats in their theater?

Secretary SPENCER. I will let the CNO dive in here also. But, I mean, it is a supply-demand. And we try to do the best we can, obviously, you know, managing the risk that we have.

I am sure, as the combatant commander, the balancing threat versus asset is a model they have to deal with. They feed it into the machine. They feed it into our request. We have the assets that we can provide to them.

Admiral RICHARDSON. If I could just pile on to that. General Neller and I both worked in the part of the Joint Staff that sort of did this math over time. I think historically we meet about 50 percent of the combatant commanders' requests as a joint force, and that would include the Navy if you average everything out.

And it goes exactly to what the Secretary said. It is a matter of what forces are available versus the demand. The difference in that is risk. And we prioritize our presence so that we can minimize our global risk. That, again, is a very dynamic scenario, and so we work that continuously. But every year, you know, they redo the entire plan.

And so one thing we have to also address is that we don't overdrive the force employment part of the equation so that we underdrive the maintenance, training, and certification parts of the equation, or we will find ourselves back into the same imbalance that led to the unreadiness in 7th Fleet.

General NELLER. Let me just add on that. I don't want to get into too much information here in a public setting. But there is about 10 capabilities that the Department of Defense has that are never met for the COCOMs. And they are unconstrained in their requests. They can say this is what I believe I require to do my mission. And so we meet that.

But naval forces, submarines, cruiser/destroyers, carrier strike groups, amphib ready groups, ARG [amphibious ready group]/MEUs [Marine expeditionary units] are always deficient, which is a capacity. And so we do the very best to meet that. And that is the tension between the COCOM and the force provider.

So that is why we have the discussions about how large a Navy do we need to have to meet this. And I think—I am not going to put words in Secretary Mabus' mouth, but I believe what he was trying to do at that time was to say we need to have enough presence, which means we need to have a larger Navy.

Mrs. LURIA. Okay.

Admiral RICHARDSON. Which our 30-year shipbuilding plan supports.

Mrs. LURIA. So we need—Commandant, you said we need to do the most we can do to meet that, yet I will go back to my very first question I asked earlier in the hearing. We are planning to decommission 6 cruisers, no investment in the ship-to-shore connector, decommission an aircraft carrier halfway through its life cycle, and decommission 11 minesweepers, yet we are doing everything we can do to meet that, yet we are voluntarily reducing our capability and the number of ships that we have over the next several years?

Secretary SPENCER. That has to be balanced, Congressman, with what it costs. It might not be economically worthwhile with the risk balance to keep those cruisers going versus where those dollars can be placed for more effective deterrence in some other asset.

Mr. COURTNEY. Great. Okay. Well, thank you, gentlemen. It was a good exchange.

Final word, Mr. Gallagher.

Mr. GALLAGHER. Well, let me follow up on that. I think I would like to associate myself with the thrust of Mrs. Luria's line of questioning, which is to say if you—there simply is no way to do deterrence by denial, particularly in the INDOPACOM [U.S. Indo-Pacific Command] theater, unless we find a way to get more Navy-Marine Corps tooth into the blunt and contact layers, right? But then the question becomes, to your point, Mr. Secretary, what is the right mix of tooth? What is the right mix of ships and sailors and Marines, and what is the overall cost, because it doesn't need to be all carriers, obviously. We have a lot of tools at our disposal.

And I would just like to push on that. Admiral Richardson, in your Design for Maintaining Maritime Superiority 2.0, you argue that Chinese and Russian actions may imperil the, quote, diplomatic, economic, and military bonds that link the United States to its allies and partners.

And if I understood your answer to my previous question, you believe that the future frigate will play a critical role in the contact and the blunt layers in preventing this from happening and in strengthening these diplomatic, economic, and military bonds.

So to get to the issue, this sort of tradeoff that we have to make, I appreciate the desire to control cost. I understand that the Navy can't afford a "DDG lite." But, Secretary Spencer, can you walk me through what went into lowering the projected cost of the second FFG(X) from 950 to 800? In other words, what specific costs and capabilities did you remove from the program?

Secretary SPENCER. Didn't remove anything, Congressman. That is a great question. That is learning curve. You build something once, you know how to build it. You build it twice, you know to build it better. Three, four, five, you come down the industrial learning curve. That is what you are witnessing for the 800. No capability or capacity reduction.

Mr. GALLAGHER. And then, obviously, the frigate has an aggressive detail design and construction award timeline. And if we sort of fall behind that timeline, it is going to result in, you know, a loss of thousands of jobs.

Do you believe you are on track to execute this contract by the end of fiscal year 2020?

Secretary SPENCER. We are. And I want to make sure that you understand, when we say aggressive, it is aggressive on a historical basis. These are all proven form designs.

Mr. GALLAGHER. Sure. And, Admiral Richardson, if you would comment.

Admiral RICHARDSON. It goes to what the Secretary has talked about in terms of bringing industry in early on into the requirements process. And so that has been a tremendously informative discussion. And it enhances the confidence that we are going to be moving into the frigate with more mature technology, proven hull designs, leveraging combat systems, the latest versions. And really just—now, it comes down to integration of that technology. And so we have good confidence. The request for proposals went out just a little bit early, and so we are stepping through this on pace.

Mr. GALLAGHER. Yeah. And, again, I would like to just get back to my colleague's line of questioning. I mean, I think, again, we can have a debate about the right mix of ships. But I think in any analysis, particularly as you look at the first island chain in the priority theater, I mean, it will require more ships. Now, we could have a higher degree of autonomous ships. We can do creative things with those ships like put LRASMs [long-range anti-ship missiles] on Mark VI patrol boats and things like that. So we have to think creatively.

But I think we all want to execute a plan with as much urgency and alacrity as humanly possible. And if we keep sort of changing the plan and timelines get delayed, then I think that is where a lot of us get frustrated.

Admiral RICHARDSON. Sir, I think one of the biggest changes of last year's 30-year shipbuilding plan to this year's is that, one, we all agree a bigger Navy is what the Nation needs. That is why we are building towards 355 ships. This year's plan gets to 355 20 years earlier than last year's plan. And so I think these are changes that the Nation would be in favor of to reach our goal 20 years earlier.

Mr. GALLAGHER. And I will betray my bias in a closing comment here, as a Marine and as a navalist, as I read the NDS [National

Defense Strategy] and NSS [National Security Strategy], and I have tried to read it closely, I think it is asking the Navy and the Marine Corps to do a lot more and play a unique role. I mean, if you just look at, again, the priority theater and the shift to deterrence by denial—and I don't mean that as a knock on the Army and the Air Force and everyone we work with; they have a critical role. But I think in particular, that Navy-Marine Corps team is going to be critical if we are going to actually implement the National Defense Strategy.

It is remarkable to me that we actually have a bipartisan agreement on this major conceptual shift contained within those documents. But implementing it is a whole other story. And that is going to be a task for all of us here. And it is a budget process. It is a strategy process. And so I just hope to work with all of you as we try and simply implement the National Defense Strategy. And if nothing else, that we don't slide backwards over the next 2 years after having 2 years of success in this committee.

And with that, I yield my remaining 8 seconds.

Mr. COURTNEY. Here, here. Thank you, Mr. Gallagher. So I think we did it.

I just want to again thank the witnesses for your endurance, again. And, obviously, we had the delay because of the votes. But I really appreciate you hanging in there with us and being patient to answer all the questions.

And with that, I declare the hearing closed.

[Whereupon, at 1:20 p.m., the committee was adjourned.]

A P P E N D I X

APRIL 10, 2019

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

APRIL 10, 2019

Chairman Adam Smith
Opening Statement (As Prepared)
Hearing on
The Fiscal Year 2020 National Defense Authorization
Budget Request for the Department of the Navy
April 10, 2019

Thank you to each of our witnesses for joining us today. I'd like to welcome Secretary of the Navy, Richard Spencer, Chief of Naval Operations (CNO), Admiral John Richardson, and Commandant of the Marine Corps, General Robert Neller. I understand Admiral Richardson and General Neller are also retiring this summer. As we may not have the opportunity to hear them testify again, I wish to thank them for their service to our country.

In recent years, significant progress has been made in joint integration of the Navy and the Marine Corps. I have been pleased to see these efforts and interested to hear more regarding their work to strengthen ties and integrate. Additionally, like last week, I'm looking forward to our witness' insight into modernization plans, the state of our readiness, and the well-being of our military personnel and their families.

The committee continues to review the President's Fiscal Year (FY) 2020 budget request to inform the development of the FY2020 National Defense Authorization Act (NDAA). As a part of this review, the committee is taking a close look at the Navy's shipbuilding plans. The President's budget request includes strong support for shipbuilding including stable platforms like Virginia-class submarines and Arleigh Burke destroyers. However, there are concerning aspects of the Navy's plans.

The Navy is currently in the process or is about to launch several new classes of ships. These new classes are needed and will replace the workhorses of the fleet like the Arleigh Burke class destroyers. As the Navy begins this process, I am concerned that we do not repeat the mistakes of the past. For example, the Navy is developing a new Large Surface Combatant and the CNO has already stated he wants to see that ship begin construction as early as 2023. I appreciate the desire to integrate this new capability rapidly. Yet, this date appears to be arbitrary and setting an arbitrary date has had disastrous results in the past. The Littoral Combat Ship (LCS) and Unmanned Carrier-Launched Airborne Surveillance and Strike (UCLASS) aircraft are prime examples of what could go wrong. Further, the Initial Capabilities Document looks very similar to CG(X) cruiser program, which was later cancelled. The last two new design surface combatants—DDG-1000 and CG(X)—that were initiated were either truncated or cancelled outright. I'd like to know why things are different now. Is the Navy headed for a repeat of past mistakes?

The Navy also indicated a desire to purchase and field unmanned surface

vessels as soon as possible. The President's budget request would begin serial production of ten new vessels at two per year for the next five years in an effort to field that capability quickly—without any requirements review, understanding of the concept of operations, or how to employ weapons on an unmanned vessel, including the application of the law of armed conflict. The last example of the Navy proceeding directly to serial production of a ship without clear requirements was the LCS. The entire class of that ship has been authorized and, yet, the Navy still hasn't deployed one with a full capability and likely won't for at least another year. The block buy was authorized over 10 years ago. We've seen from lessons learned that speed in shipbuilding typically means fielding late.

The Navy and Marine Corps plans for equipment modernization and recapitalization reflect the capabilities they must sustain or achieve as a modern force, ready for the challenges by strategic competition and to align with the new National Defense Strategy (NDS). This morning we want to learn more about modernization plans and the programmatic health of the Navy and Marine Corps F-35B and C fighters, the CH-53K King Stallion heavy helicopter, the Amphibious Combat Vehicle, as well as ground-based air defense systems. We also want to learn about any new modernization initiatives in the budget request, how those programs directly support the goals and objectives of the NDS, and how programmatic trade-offs, if any, will affect those goals.

I'm also concerned with ship maintenance and fleet readiness. In the President's budget request, ship depot maintenance is funded at the same level as it was in FY2018. Flat funding would fund roughly 92 percent of the overall requirement. Nuclear work, like that for the CVNs and submarines, traditionally end up funding 100 percent of their requirement. At the same time, the Navy is also seeing about 5 percent growth work. That would leave the surface ships at roughly 79 percent. If both new and growth work are factored for surface vessels, they could receive funding for less than 75 percent of their requirement and that is probably a best-case scenario. How is the service serious about getting after Navy surface readiness in the wake of Fitzgerald and McCain? It is not apparent from the prioritization within their budget.

The Navy also continues to point to their force generation model—the Optimized Fleet Response Plan (OFRP)—as the way they will generate readiness. That plan makes assumptions that major carrier maintenance availabilities, around which the model is built, will last 16 months. Recently, almost all carrier maintenance availabilities have taken longer than that. For instance, the USS George H.W. Bush, was originally planned for 16 months, grew to 20 months due to new work added by the fleet, and finally grew again to 28 months due to other priorities in the shipyard. This seems to be flawed assumptions and I'd like to know practically how the Navy will generate readiness.

The Navy has also been challenged since 2012 to fill sea duty billets on ships with the correct rating and rank. The Navy is currently 6,500 personnel short at sea. If the Navy is meeting its current end strength requirement, I am concerned that this is a process or management problem and not putting the right people in the

right place. This problem could be exacerbated as the Navy attempt to increase ships in the fleet over the next 5 to 10 years.

Finally, and egregiously, the Marine Corps installations have billions of dollars in damage as a result of Hurricane Florence but funding for the President's unnecessary border wall has been prioritized over military construction funding for these critical installations. The Marines are facing unacceptable risk. Assistance to staunch current readiness risks and long-term damaging impacts to "Marine Corps combat readiness and solvency" is being caused, in part, by the Department's inaction in addressing the full scope of disaster recovery required by the Marine Corps, border security funding transfers, and "unplanned/unbudgeted southwest border operations."

I look forward to discussing these important issues and receiving today's testimony.

NOT FOR PUBLICATION
UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

THE HONORABLE RICHARD V. SPENCER
SECRETARY OF THE NAVY

ON FISCAL YEAR 2020 DEPARTMENT OF THE NAVY BUDGET

BEFORE THE
HOUSE ARMED SERVICES COMMITTEE

APRIL 10, 2019

NOT FOR PUBLICATION
UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Chairman Smith, Ranking Member Thornberry, distinguished committee members. On behalf of our Sailors, Marines and civilian teammates, thank you for your bipartisan efforts to restore funding stability to the Department of the Navy. The foundation for restoring readiness and increasing lethality has been set. Now we must build on that foundation with a sense of urgency. While we have much to do, we are well underway, and I will highlight some of our progress.

Where We Were

At my confirmation hearing in July 2017, I stated my intent to expeditiously assess the current situation, develop the tools needed to enhance its ability to fight, and to deliver on the Title 10 responsibilities of the Office of the Secretary the Navy. My priorities for accomplishing these goals centered on three key areas: people, capabilities, and processes.

I expressed my determination to recruit, train and retain the best of our nation for our military and civilian ranks, and to create a flat, lean and agile organization where those who manage critical situations have the ability to make decisions to solve the problems in front of them.

I committed to rebuild the readiness and lethality of our capabilities, citing cumulative effects of 16 years of wartime operational tempo, unpredictable funding, and challenges to our warfighting advantage as we return to a geostrategic environment dominated by great power competition.

And as a businessman, I expressed my determination to improve our processes across the portfolio, analyzing all systems and platforms to extract additional efficiencies, incorporating private sector best practices, and migrating to a true continual learning enterprise.

Where We Are

Over the past year and a half, Admiral Richardson, General Neller and I have attacked these goals with a sense of urgency by investing in our people, capabilities and processes.

To build the strength of our people, we've invested in a ready, relevant and responsive force: A Marine Corps force with 186,200 active personnel and 38,500 reservists; the Targeted Reentry Program to enable key former personnel a streamlined return into active-duty; quality of life and retention efforts like the MyNavy Career Center, which provides Sailors with human resource services around the clock; and the military parental leave program. We've used the increased Defense Officer Personnel Management Act (DOPMA) flexibility from the FY19 NDAA to support dynamic changes and requirements in technical expertise, agility and innovation in our officers. We've invested in our civilian workforce, including enhanced hiring and training at our public shipyards to reach our FY20 goal of 36,100 personnel one year earlier than originally planned.

We've enhanced our capabilities, through targeted investments in the lethality and readiness of our weapons platforms and munitions. We have accomplished this through strengthening our partnerships with the private sector. We've gleaned commercial best practices to increase efficiency and flow in our ship, ground and aviation maintenance facilities. The Navy has added 22 Battle Force Ships over FY17 and FY18, while decommissioning nine, for a net addition of 13 ships. The Marine Corps has reset 99% of ground equipment and returned 72% of our equipment to the operating forces. We have also enabled personnel to "fix it forward" through

technologies such as additive manufacturing, including the procurement of 160 3D printers capable of producing over 125 ground and 83 NAVAIR-approved parts on demand.

We've also significantly improved our operational processes, through the Comprehensive Review (CR) and Strategic Readiness Review (SRR). Over the past year, the Readiness Reform and Oversight Council has examined 111 recommendations from the review process. 91 have been adjudicated and 83 have now been implemented. Business processes were also reviewed and remediated after our first ever top-to-bottom audit of the Department of the Navy, and we're using this information to streamline our operations and reimagine how support functions can be modernized in real time to drive greater readiness, lethality and efficiency. Through the development and implementation of the Navy Business Operations Plan and our Performance to Plan tool, we are beginning to accurately track the output impacts of our efforts.

It must also be noted that the Marine Corps is contending with the unprecedented double impact of Hurricanes Florence and Matthew, which together damaged or destroyed more than \$3.7B in infrastructure across many of our east coast installations. Camp Lejeune is a primary force generator for the Naval Services, directly contributing to the capacity and readiness of our force. The Marine Corps continues to feel the immediate impacts of these storms through lost and delayed training time; delayed deployments and redeployments; and daily quality of life challenges including the displacement of thousands of personnel and their families. Recovering from these disasters will require sustained investment and the ongoing support of this committee.

Where We Are Going

Now that the foundation for readiness and lethality has been set, we continue to move forward with a sense of urgency, continually thinking of how to deliver the people, capabilities and processes needed by the Navy - Marine Corps Team. The Naval Services have developed plans informed by the National Defense Strategy, which mandates increased lethality, strengthened alliances and partnerships, and improved business processes. Now we are aligning those plans with the right leaders, tools, budget and technology advancements.

This budget request invests in our people with the education and resources necessary to develop and retain the human capital we need to confront a changing world. We'll expand hiring for areas of critical need, such as cyber security specialists, aviation technicians, scientists and engineers, human resource specialists, and digital warfare officers. We'll add end strength to the Marine Corps Special Operations Command. We'll complete the rollout of Sailor 2025, updating policies, procedures and systems to improve retention and readiness.

Education is a key component to developing the warfighter the Navy and Marine Corps Team needs. We will be effecting the blueprint developed by the recently released Education for Seapower Review, aligning and enhancing our educational institutions and distributed learning venues. And earlier this month, along with Secretary Esper and Secretary Wilson, I hosted University and College Presidents and other education leaders from across the country for a summit at the US Naval Academy dedicated to eliminating the scourge of campus sexual assault and sexual harassment.

We are constantly mindful that we recruit the individual, but we retain the family. And without the family, we are not operating at full capacity. As I stated before this committee last month, upon reviewing the issues surrounding Public-Private Venture (PPV) military housing, it is clear that in some cases we have fallen woefully short of our obligations, and there is culpability around the table. We have identified the problems, and are focusing resources on the solutions. We will correct bad practices and return private military housing to a premium product. This budget supports these efforts, with a request of \$21.975 million for the oversight of the Department's PPV housing worldwide.

As we move from rebuilding readiness to owning the next fight, this budget prioritizes a balanced and strategy-driven approach, to provide for a bigger, better trained, and more ready force. It invests in our Force 2.0 capabilities in emerging areas such as applied artificial intelligence, machine learning, quantum computing, additive manufacturing, directed energy and more. We will continue to build the fleet in pursuit of the 355 ship Navy, manned and unmanned, to include the Columbia-class submarine, Next Generation Frigate, and remotely piloted platforms such as Sea Hunter and Orca, as well as one Ford class aircraft carrier, three Virginia Class submarines and three Arleigh Burke Class destroyers.

Driven by the Marine Corps Force 2025 capability investment strategy, we will continue to modernize the Marine Corps with a 21st Century Marine Air-Ground Task Force (MAGTF) by focusing on six key priorities:

- C2 in a degraded environment;
- Long range and precision fires;

- Operations in the Information Environment (OIE);
- Air defense;
- Protected mobility and enhanced maneuver; and
- Logistics.

This budget invests in Networking on the Move (NOTM) capabilities, close combat equipment, loitering munitions, unmanned logistic systems, ground-based anti-ship missiles, Ground/Air Task Oriented Radar (G/ATOR), the Joint Light Tactical Vehicle, and the Amphibious Combat Vehicle to ensure the Marine Corps continues to adapt to meet the demands of the future operating environment and maintain our competitive advantage.

We will operate with data-informed end to end processes and incorporate leading practices to inform how we fight. To achieve the goal of 80% mission capable aircraft in our Fleet Strike Fighter squadrons, this budget funds the Fleet Readiness Centers (FRCs) to the maximum executable levels, realigns investments to spares, aviation engineering and logistics support, while pursuing reforms such as the Navy Sustainment System, which incorporates best practices from commercial airline maintenance leaders. We will also incorporate the lessons of private industry as we invest in shipyard infrastructure and training to improve performance and throughput.

These are just a few examples of how General Neller, Admiral Richardson, the entire Navy Marine Corps Team and I are building on the foundation of restored readiness and increasing lethality. We will continue to promote a culture of problem solving at every level, transform

from a culture of risk removal to one of understanding and managing risk, and hold ourselves accountable for how and where we invest. Every day, we work with a sense of urgency driven by the knowledge that the American taxpayers provide us with their hard-earned treasure, and trust us to protect them from a dangerous world. We owe it to them to ensure that every dollar is invested in the most effective manner possible to fulfill our sacred oath. I'm proud to work with this committee to ensure that we keep that promise. Thank you.

Richard V. Spencer

Richard V. Spencer of Wyoming was sworn in as the 76th secretary of the Navy Aug. 3, 2017.

A Connecticut native, Spencer graduated from Rollins College in 1976 with a Bachelor of Arts in Economics. Upon graduation he joined the United States Marine Corps and proudly served as an H-46 pilot until 1981 before departing active duty to enter the private finance sector.

Spencer worked on Wall Street for 16 years with responsibilities centered on investment banking services and a particular focus on strategic advisory services and capital market underwriting. After three years as president of Crossroads Investment Management LLC, a leading venture capital and private equity fund-of-funds investment firm, Spencer joined Intercontinental Exchange, Inc. (NYSE-ICE), the leading electronic commodity futures exchange, as chief financial officer. ICE introduced transparency and risk management to the global derivatives markets. As vice chairman he was responsible for the transition of the company from private to public, including initial board of directors recruitment, the initial public offering and the subsequent three secondary offerings, financial reporting, strategy development and implementation, and human resources management.

From 2007 to 2017 Spencer was the managing director of Fall Creek Management, LLC.

Spencer served on the Board of Directors of Global Atlantic Financial Group, ENGAGEex LLC, 86Borders LLC and StarPound Technologies. His charitable activities include board service on the Marine Corps Heritage Foundation, The Community Foundation of Jackson Hole, Teton County Search & Rescue Foundation, Veterans Campaign/Center for Second Service, and Honoring Our Vets. Spencer served on the Defense Business Board and the Chief of Naval Operations Executive Panel.

NOT FOR PUBLICATION
UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT
OF
ADMIRAL JOHN M. RICHARDSON
CHIEF OF NAVAL OPERATIONS
BEFORE THE
HOUSE ARMED SERVICES COMMITTEE
ON
FISCAL YEAR 2020 NAVY BUDGET
10 APRIL 2019

NOT FOR PUBLICATION
UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

Chairman Smith, Ranking Member Thornberry, and distinguished members of the committee, thank you for the opportunity to testify today on the Navy's Fiscal Year 2020 budget.

To place this budget in its appropriate tactical, operational, and strategic context, we must understand what America stands for in the world so we don't forget it or, worse, take it for granted; the U.S. Navy's unique and historic connection to those core tenets; the challenges to those principles and our national interests by competitors like China and Russia—and our Navy's response; and the investments made in the President's FY-20 Budget to deliver, operate, sustain, and maintain a Navy that is bigger, better, and more ready to sail anywhere and do anything in defense of our country.

We Are a Maritime Nation—We Rely on Freedom of the Seas

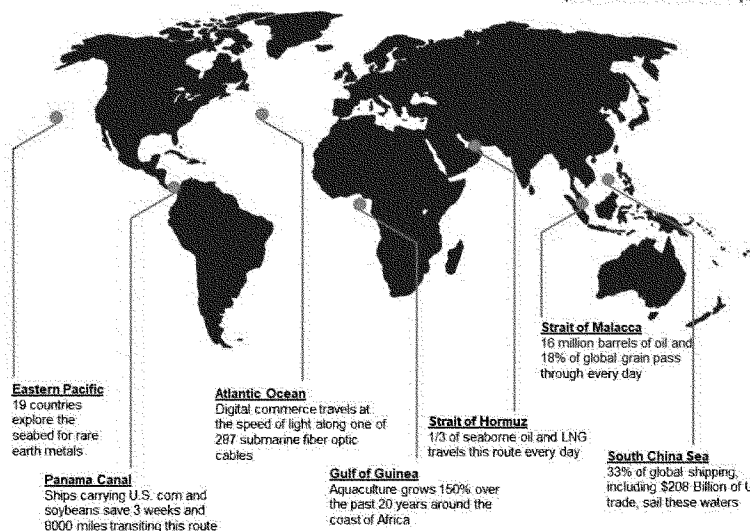
Our first President, George Washington, best captured the value a Navy provides to the American people when he said: "It follows then as certain as that night succeeds the day, that without a decisive naval force we can do nothing definitive, and with it, everything honorable and glorious."

Over 600,000 active and reserve Sailors and Navy civilians—alongside our partners in the Congress, academia, industry, and around the world—devote much of their lives to designing, producing, and operating a "decisive" naval force. Our decisive naval force operates around the world, defends our national interests, stands ready to fight if called upon, and de-escalates tensions on our terms. The President's FY-20 Budget delivers and sustains this decisive force and the investments contained therein will keep our Navy on a true course and making best speed to, as our oath declares, "support and defend the Constitution of the United States and the country whose course it directs."

Our founding values, as well as our livelihoods and collective national security, are tied to the world's oceans. The seas are a prime facilitator of our prosperity as a people. But prosperity does not and cannot exist in a vacuum. It is the result of secure and orderly conditions that enable the flow of goods and services, access to markets via open oceans and critical waterways, and the ability to move unimpeded across the seas.

America Depends on the Seas

\$1.5 trillion U.S. exports
\$2.4 trillion U.S. imports



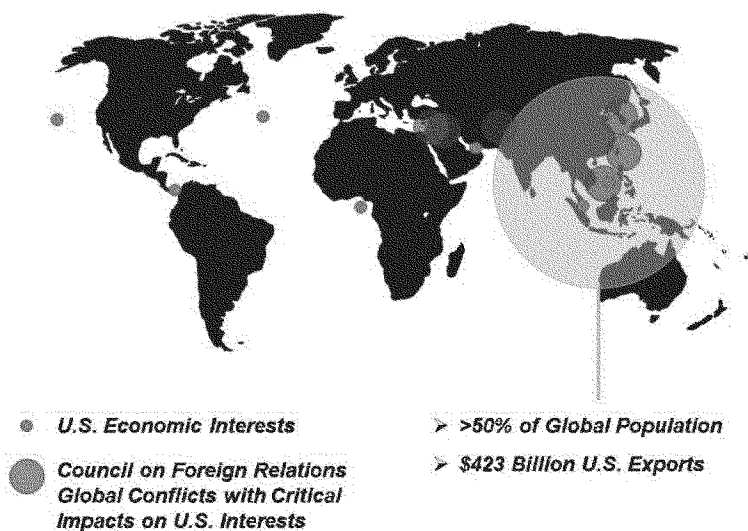
The seas present both challenges and opportunities—and the rapid changes in the maritime environment are stark and profound. More than 90 percent of all international trade travels by sea—60 percent of that by value sails in containerized vessels. In recent years, approximately 735 million containers were shipped worldwide annually. If placed end-to-end, those containers would encircle the globe at the Equator more than 11 times. Beyond the numbers on trade, the global economy's reliance on the seas for resources—rare earth minerals for advanced technology, energy, or aquaculture—increase their economic and strategic importance. The seabed also plays host to 287 undersea fiber-optic cables through which 99 percent of global internet traffic passes, fueling the modern economy.

Each of these developments serve to make the seas even more congested—and more vital.

Challenges to the United States and the International Order

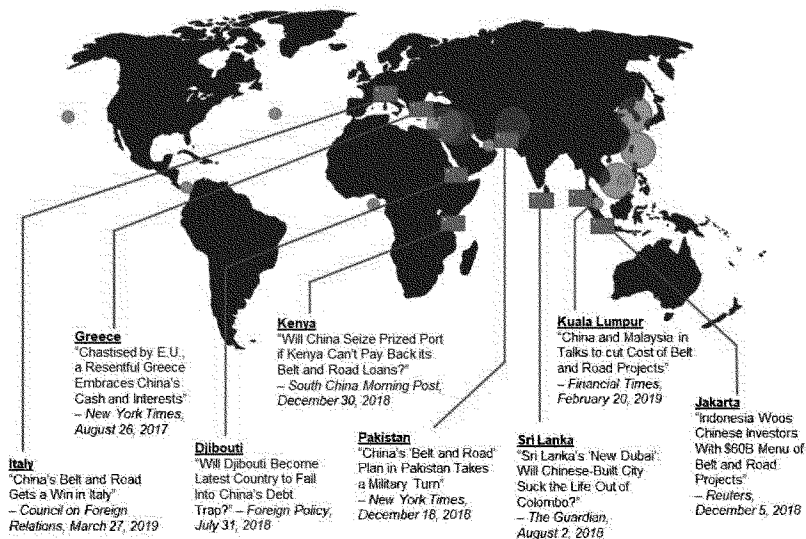
Despite the United States' persistent work over two centuries to keep the seas open to every nation and every mariner, there are those who seek to upend this free and open order and stem the tide that has steadily lifted all boats. As discussed in the 2018 National Defense Strategy (NDS), China and Russia are deploying all elements of their national power to achieve their global ambitions. China and Russia seek to accumulate power at America's expense and may imperil the diplomatic, economic, and military bonds that link the United States to its allies and partners. And these actions are not only directed at the United States: China and Russia are working to redefine the norms of the entire international system on terms more favorable to themselves.

Eurasian Hotspots Threaten Critical U.S. Interests



China and Russia are determined to replace the current free and open world order with an insular system. They are attempting to impose unilateral rules, re-draw territorial boundaries, and redefine exclusive economic zones so they can regulate who comes and who goes, who sails through and who sails around. These countries' actions are undermining international security. This behavior breeds distrust and harms our most vital national interests.

China's Belt and Road Initiative: Maritime Expansion



China's Belt and Road Initiative in particular is blending diplomatic, economic, military, and social elements of its national power in an attempt to create its own globally decisive naval force. China's *modus operandi* preys off nations' financial vulnerabilities. They contract to build commercial ports, promise to upgrade domestic facilities, and invest in national infrastructure projects. Slowly, as the belt tightens, these commercial ports transition to dual uses, doubling as military bases that dot strategic waterways. Then, the belt is cinched as China leverages debt to gain control and access. In the final analysis, these unfavorable deals strangle a nation's sovereignty—like an anaconda enwrapping its next meal. Scenes like this are expanding westward from China through Sri Lanka, Pakistan, Djibouti and now to our NATO treaty allies, Greece and Italy.

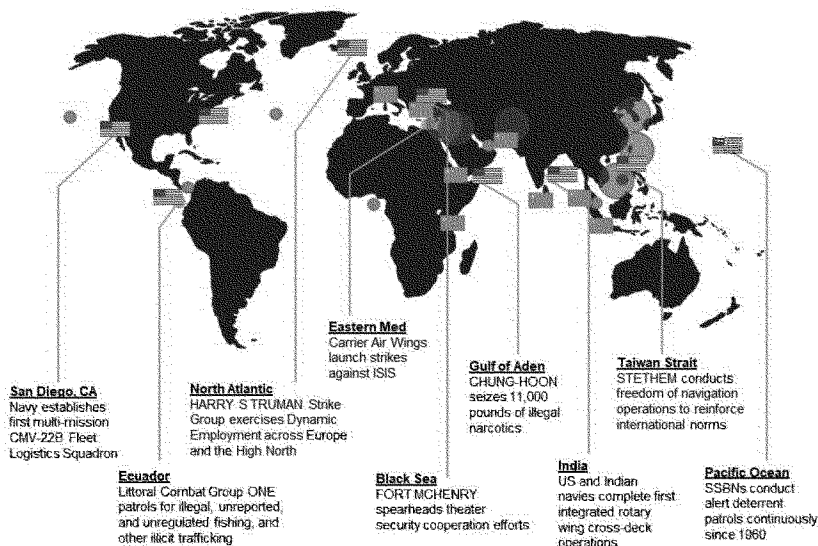
The U.S. Navy Responding to Challenges Around the World

The U.S. Navy is responding to this changing security dynamic by playing to our strengths: deploying all around the globe, regularly enforcing common principles, strengthening the conditions that have enabled mutual prosperity, and protecting our national interests. As you read these words, more than 60,000 Sailors are deployed on board nearly 100 ships and

submarines to enforce a free and open order that enables this unprecedented flow of goods and services.

As the National Defense Strategy makes clear, the U.S. Navy will compete aggressively to shape our modern maritime environment, ensuring that order and security continue to underpin our prosperity. We do so by harnessing the myriad forces at play—the increasing use of the maritime domain; the rise of global information systems and the role of data-driven decision-making; and the increasing rate of technological creation and adoption. We remain committed to challenging excessive maritime claims, strengthening relationships with allies and partners, and upholding time-tested values.

The U.S. Navy Deployed Around the World



How can we maintain this worldwide posture and compete given these strategic realities? How must we invest in order to build, sustain, organize, and strengthen ourselves so that we can continue harnessing the global maneuver power inherent in naval forces? The answers lie in the President's FY-20 Budget (PB-20), a submission firmly rooted in addressing Great Power Competition and moving boldly and swiftly into the future.

Importantly, the single most effective way to maintain the strategic momentum started in FY-17 is to enact the President's FY-20 Budget prior to the *start* of the fiscal year. This funding

will help us fulfill our responsibilities in the National Defense Strategy by building the Navy the Nation Needs: a balanced force that will increase America’s naval power and safeguard our economic, diplomatic, and military interests around the world.

A Bigger, Better, More Ready Navy

PB-20 seeks \$160 billion for the U.S. Navy. For perspective, this request represents approximately three percent of the federal budget. According to the Congressional Budget Office, this investment represents approximately half of the amount currently expended on servicing the national debt and one-third of current expenditures on Medicaid.

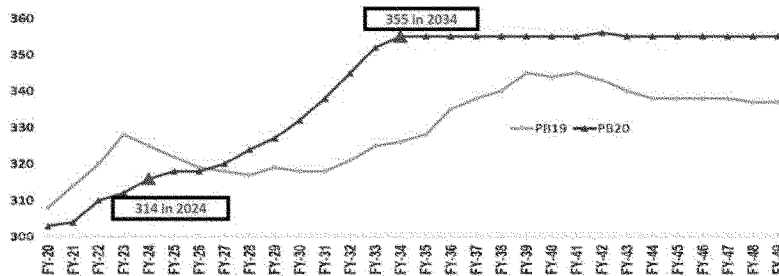
This budget request preserves our industrial base and establishes an aggressive, forward-looking, competitive posture. Our industrial partners are counting on us for consistent and continuous commitments. Absent this behavior, we may perpetuate, rather than end, the “boom-and-bust” cycles we have experienced in the past. Coincident with this aim to steadily grow the force and preserve our industrial base is the responsibility to “own” the additional inventory when it arrives. PB-20 embraces future capabilities while judiciously stewarding our current force.

The guiding principle of our budget request is to balance naval power across its many dimensions. Naval power is not a choice between increased capacity or better capability—it is a combination of both. Naval power is not a choice between readiness and modernization—it requires a balance of both. Naval power is not a choice between more complex stand-alone technologies or networked systems—it is achieved through both. The talent to operate and sustain a larger and more lethal force is not a choice between more people or better training—it must draw from both.

Bigger

An ongoing force structure assessment will conclude by the end of 2019. While data-driven analysis may ultimately change the details of our long-term fleet architecture, all force structure analyses agree in one respect: *we must build a bigger Navy.*

A Bigger Navy: PB-20 vs PB-19 Shipbuilding Comparison



To increase America's naval power, we will build more platforms like ships, submarines, and aircraft, and expand our special operations forces. In 2018, Congress made a 355-ship Navy the law of the land, and this increased capacity will strengthen our ability to prevail in any warfighting contingencies, meet demand signals from Combatant Commanders, expand global influence, and support American prosperity by safeguarding access to critical markets, waterways, and chokepoints.

The FY-20 budget requests nearly \$24 billion in ship construction accounts to fund one nuclear-powered aircraft carrier, three fast attack submarines, three large surface combatants, one small surface combatant, two combat logistics force ships, and two auxiliary support ships. Expanded across the Future Years Defense Program (FYDP), PB-20 funds construction of 55 battle force ships to achieve a 301-ship Navy in FY-20 and a 314-ship Navy in FY-24. Along with class-wide service life extensions, this puts us on pace to reach a 355-ship Navy in FY-34 (approximately 20 years sooner than PB-19). The *Annual Long Range Plan for Construction of Naval Vessels* (also referred to as the "Thirty Year Shipbuilding Plan") accompanies this budget request.

There is no more existential imperative than deterring a nuclear attack on the homeland. PB-20 fully funds the *COLUMBIA*-class ballistic missile submarine program to do just that. Fully funding this request now will ensure that the lead ship's construction commences on time in FY-21, delivers in 2028, and conducts its first alert patrol in CY 2030. The *COLUMBIA*-class will guarantee continuity of the most survivable leg of the strategic deterrent triad into the 2080s. This budget also procures 373 fixed and rotary wing aircraft (including 84 Block 3 F/A-18E/F Super Hornets), 226 unmanned systems, and over 17,000 weapons and munitions across the FYDP.

The recently approved block buy of two *GERALD R. FORD*-class aircraft carriers (CVNs 80 and 81) saves American taxpayers approximately \$4 billion. It also maintains our trajectory towards the requirement of 12 more survivable and powerful aircraft carriers, and it gives our industrial partners much-needed predictability. It also represents an investment in future technologies that solidifies the nuclear-powered aircraft carrier as a centerpiece of national defense through the rest of the century.

Finally, PB-20 funds an additional 5,100 Sailors in FY-20 (and 18,600 over the FYDP) on top of FY-19 end strength levels to recruit, man, maintain, operate, and fight these added ships, submarines, and aircraft. Filling gapped billets at sea remains our top manning priority, and we are committed to operating safely, effectively, and sustainably over time as the battle force grows.

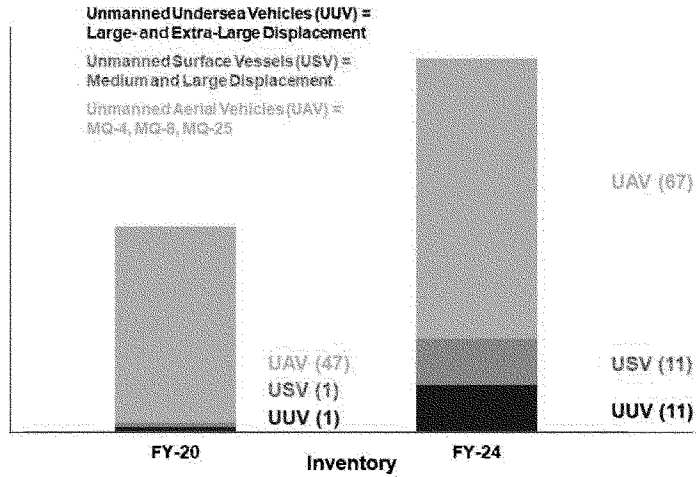
Better

To increase America's naval power, we will build a **better fleet**—one that is more capable, agile, networked, and resilient across all of our naval platforms. This means fielding state-of-the-art systems and continually modernizing legacy equipment. In addition to other modernization efforts, the FY-20 budget includes \$18 billion for research and development—an increase of \$1.4 billion over FY-19 enacted levels.

For example, PB-20 includes \$4 billion across the FYDP to modernize 19 guided missile destroyers. This includes critical upgrades to AEGIS Baseline 9, enabling them to simultaneously perform Integrated Air and Missile Defense (IAMD) and Ballistic Missile Defense (BMD) operations. As well, improvements to Naval Integrated Fire Control Counter Air (NIFC-CA) will allow networked ships to share identification, targeting, and fire control data. PB-20 funds 160 F/A-18E/F Super Hornet Service Life Modifications (SLM) across the FYDP, equipping these aircraft with more lethality at greater ranges, improved signatures, and advanced networks.

The budget also increases investments in long-range offensive ship-, sub-, and air-launched weapon systems, including: Tomahawk Land Attack and Maritime Strike missile, Long-Range Anti-Ship Missile (LRASM), Standard Missile (SM) 6, Joint Standoff Weapon Extended Range (JSOW-ER), Harpoon Block II+, as well as investments in Conventional Prompt Strike hypersonics. The budget augments investments for acoustic superiority modernization by requesting \$93 million in FY-20 (\$633 million across the FYDP) to improve submarine quieting and sensor performance. To deliver capability faster, we are also leveraging accelerated acquisition and rapid prototyping by investing \$1.3 billion in FY-20 (\$4 billion across the FYDP) for the Navy Laser family of systems, SM-2/6 weapons, MQ-25 Stingray carrier-based unmanned aerial system, and Unmanned Underwater Vehicles.

A Better Navy: Delivering Unmanned Capability



Note: This chart represents platform deliveries and therefore may include platforms procured in earlier budgets.

The FY-20 budget builds on the progress made in FY-19 by pursuing near-term Naval Tactical Grid development and investing \$50 million in FY-20 (\$236 million across the FYDP) for the newly-established Digital Warfare Office to design and implement a comprehensive operational architecture to support emerging Distributed Maritime Operations concepts. The Navy will also invest \$440 million in FY-20 (and more than \$2 billion across the FYDP) to fund Fleet and industrial base cyber security, and hardening of ship hull, mechanical, and electrical systems among others.

As these investments indicate, the Navy is focused on controlling the high-end fight. Nuclear-powered aircraft carriers are, and will continue to be, central to this effort. *FORD* was designed to deliver more capability for today's airwing and to provide growth opportunity for tomorrow's airwing—more lethal systems, and increased power generation. *FORD* is also proving more cost effective with a 30 percent higher sortie rate with a 20 percent smaller crew than her *NIMITZ*-class predecessors. This translates into \$4B savings over the life of the *FORD* class when compared to *NIMITZ* class: in other words, more naval power for less cost.

FORD is innovation on a grand scale, offering a host of new technologies that will greatly improve the combat power of strike groups. As with naval innovations of the past, we didn't get everything right on the first try. We have learned with each test and most of the new systems are now operating. And we will continue to learn, iterate, and improve: the second *FORD*-class ship is being built with 18 percent fewer man hours. Despite this aggressive approach to adopt new technologies, *FORD* was delivered with less lead-ship cost growth than several other ship classes. *FORD* and her successors will set a new standard for afloat performance and combat power projection well into the second half of the century.

We are also making tough calls about the capabilities we need to tackle future challenges. PB-20 removes funding for USS *HARRY S TRUMAN*'s (CVN 75) Refueling and Complex Overhaul (RCOH)—\$3.4 billion over the FYDP. We are applying the funds from the RCOH decision to field cost-imposing advanced technologies faster. In parallel, we continue to validate this decision through a rigorous program of studies, wargames and experimentation to analytically validate the best way forward. We remain postured to respond to what our studies show us and to adjust pace in-stride, including reversing the CVN 75 decision, if needed.

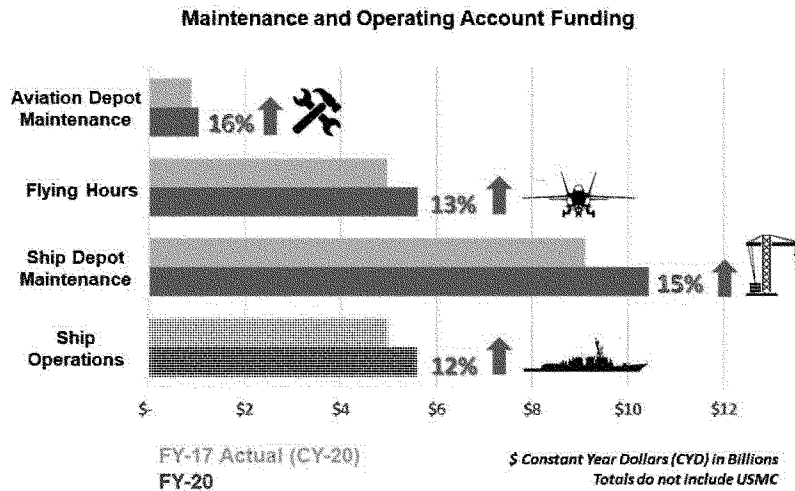
Ready

To increase America's naval power, we will build a **ready fleet**. This means steaming days to exercise at sea, flying hours to train in the air, sufficient quantities of ammunition and spares, and the resources to conduct emergent and planned maintenance—not only for today but also for the future as the Fleet grows in size. And it's not just about *buying* more parts: PB-20 includes \$23 million in FY-20 (\$66 million across the FYDP) to research and develop additive manufacturing (AM) capabilities. Among other AM goals—such as expanding this capability at sea to additional ships and beginning to network AM across the enterprise—we intend to produce 1,000 unique end-use components for Fleet installation and

operation by the end of 2019. Readiness—both materiel and training proficiency—transforms our Navy’s *potential* power into *actual* power. The knowledge and efficiency gained from the Department of Defense-wide audit will ensure that we do so as effectively as possible.

The FY-20 budget continues the readiness and wholeness commitments we made in FY-17, FY-18, and FY-19 by funding ship and aviation readiness and enabler accounts. The FY-20 budget increases maritime and aviation spares funding compared to FY-19. Additionally, the FY-20 budget stabilizes and incentivizes the industrial base by funding 62 ship availabilities in public and private shipyards, shifting two attack submarine availabilities to private yards, and infusing \$546 million in FY-20 for naval shipyard infrastructure optimization. Finally, the budget includes capital investments of 12 percent in public shipyard depot facilities and 10 percent in Fleet Readiness Centers, exceeding the six percent legislative requirement and underscoring our commitment to increase our capacity to maintain and modernize our fleet.

A Ready Navy: Fixing, Flying and Steaming More



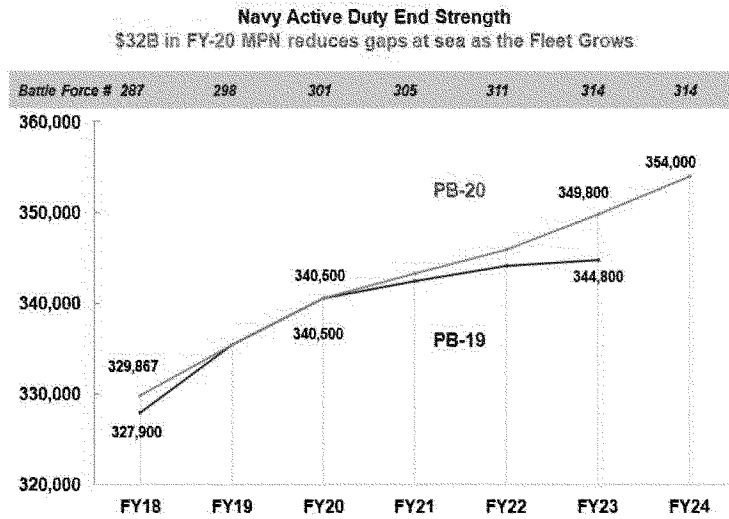
These investments will help on-time maintenance execution—aircraft and ship availabilities—which in turn gives our Sailors the time they need at sea to build proficiency and confidence; not simply to operate safely but to prevail at the high-end of maritime conflict.

Recognizing the inherent link between readiness and lethality, we continue to modernize our logistics capabilities to better refuel, rearm, resupply, revive, and repair operational forces. At sea, we are prioritizing the recapitalization of auxiliaries and sealift capabilities to sustain the Fleet’s enduring global posture and support mobility of the Joint Force. PB-20 includes an

initial \$8 million research and development investment in the Common Hull Auxiliary Multi-mission Platform (CHAMP) for concept design. Ashore, we recognize that readiness is an enabler for force projection; in addition to investing in our shipyards, PB-20 increases investment in facilities sustainment, restoration, and modernization (FSRM) to \$3.1 billion (from 80 to 87 percent of the sustainment requirement).

Of course, ships, aircraft, and weapons are not, by themselves, sufficient to respond to today's complex challenges. The readiness of these platforms and systems depends on talented and well-trained Sailors, led by commanders of competence and character. Our Sailors are the glue that binds our Navy team together. This is our Polaris. It is also why we established the College of Leadership and Ethics at the U.S. Naval War College in April 2018. Just as we have done throughout our history, we will continue to develop and empower leaders who are driven to build winning teams.

Manning a Bigger, Better, More Ready Navy

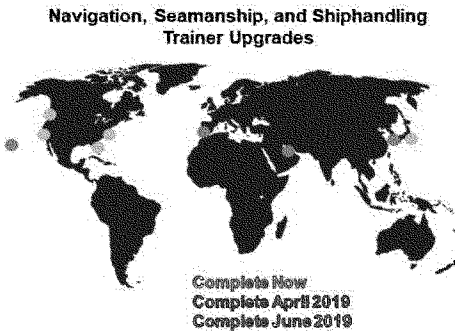
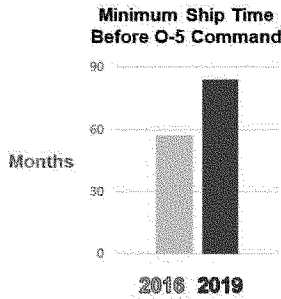
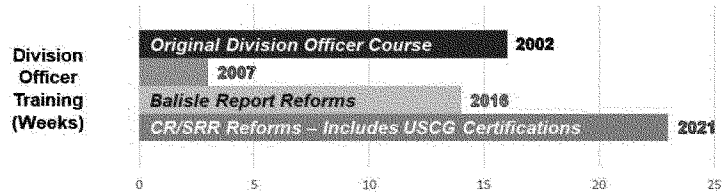


The FY-20 budget continues our generational transformation of the Navy's manpower and personnel systems. We are investing \$235 million in a modern cloud-based personnel and pay system, while creating an expanded assignment marketplace and increasing career flexibility. For example, we are exercising the authorities granted to us in the reform of the Defense Officer Personnel Management Act (DOPMA) to make better use of investments in training and increase career opportunities and flexibility for our officer corps. These initiatives leverage state-of-the-art practices to put more control into the hands of our Sailors. This

includes more transparency regarding their career options. The Sailor 2025 suite of programs will make today's burdensome and time-consuming process for executing orders—from updating pay and benefits to finding new housing and moving household goods—as easy as scanning a Quick Response (QR) code on a smartphone. Not only will this make the frequent relocations associated with military service easier for Sailors and their families, it will minimize distractions so they can focus on warfighting.

And we continue to tackle the recommendations listed in the Comprehensive Review (CR) and Strategic Readiness Review (SRR). PB-20 assigns the highest funding priority to CR/SRR-related investments—\$346 million in FY-20 and \$1.1 billion over the FYDP—including construction of new Mariner Skills Training Program centers and simulators and programmatic commitments for the Next Generation Surface Search Radar. Additionally, we remain committed to assessing our ships and crews, understanding the impact of fatigue and other human factors, filling personnel gaps for ships on deployment or in sustainment, and dedicating time to maintain our forward-deployed Fleet. As of February 2019, 20 of the 111 recommendations remain to be adjudicated. While we are on track to begin implementation of these remaining items by the end of the fiscal year, we will continue to analyze the effectiveness of our new programs and iteratively improve them over the FYDP.

A Ready Navy: Surface Warfare Training



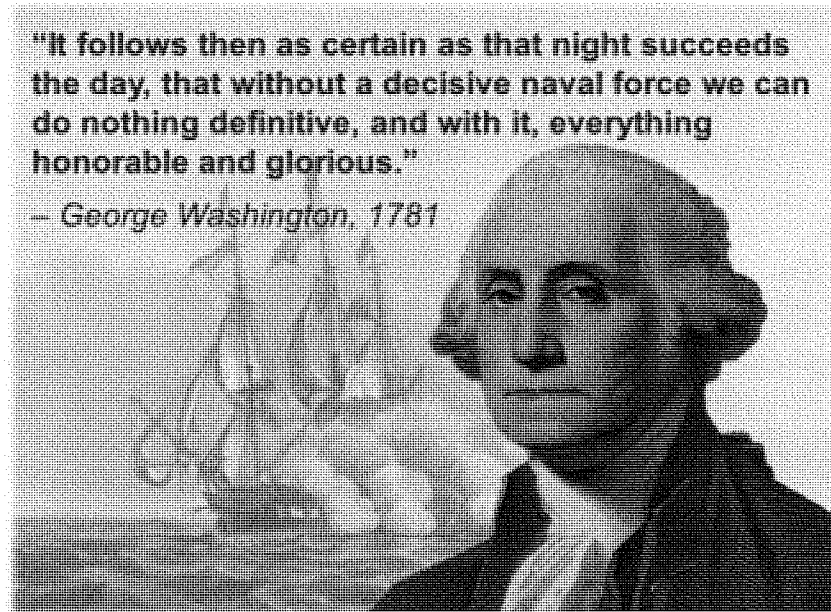
Finally, we remain committed to recruiting and retaining diverse shipmates. In a time when evolving artificial intelligence and machine learning are factoring into future military capabilities, our Sailors must bring creativity, innovation, and context to tactical and strategic decisions. This potent combination will make us more competitive and operationally effective. And it is the diversity of their backgrounds and viewpoints that will catalyze the speed and quality of decisions we need to outperform our adversaries.

Continuing Our Budgetary Momentum

These realities highlight the importance of partnerships and a recognition that together we can do so much more. This past year's on-time budget put our Navy on a steady course making best speed. Prior to last year, when the FY-19 National Defense Authorization Act (NDAA) was enacted on August 13, a defense authorization bill had not been enacted prior to the start of the fiscal year since FY-97; the last time a defense appropriation was enacted by October 1 was FY-09. This meant nine years of continuing resolutions that averaged one-third of the fiscal year. This uncertain financial footing resulted in fluctuating topline and interruptions to government operations and services.

The Navy looks forward to working with the 116th Congress to continue the momentum developed in FY-19. Stable and predictable funding solidifies strategic planning, incentivizes our commercial partners, strengthens our industrial base, safeguards our Sailors, and bolsters the interests of your constituents. And most importantly, stable and predictable funding mitigates operational risk by maximizing our planning and execution time.

With timely, stable, and predictable investments, the U.S. Navy will be bigger, better, and more ready to work every day—in every ocean—to set the conditions that allow Americans and all the citizens of the world to flourish and prosper.

The Navy's Connection to American Principles and Power

The Navy has always maintained a strong connection to the flourishing and prosperity of the American people. President Washington's phrase—"everything honorable and glorious"—hearkens to American values that are derived from the inalienable rights outlined in the Declaration of Independence: "That among these are Life, Liberty, and the Pursuit of Happiness."

This last value has commonly been understood as the right to materially improve our circumstances. The Navy also maintains a deep and historic connection to America's economic strength, the engine that makes our country a global power. The Navy was founded to protect vital sea lanes like Gibraltar and combat piracy off the North African coast—a mission to safeguard free movement of trade and free access to markets that continues in earnest today.

"Honorable and glorious" also characterizes the mission of the United States Navy and the selfless service of more than 600,000 Sailors and civilians, and their families. The U.S. Navy is a definitive military force in world events but the Navy also connects with every other element of our national power. The Navy is the face of the nation and often the first point of

contact between the United States and other peoples. U.S. Navy ships have shuttled American diplomats across all seven seas: think of the paddle-wheeled steam frigate USS *MISSISSIPPI* transporting Commodore Matthew Perry to Japan in the early 1850s; the Great White Fleet circumnavigating the globe at the turn of the Twentieth Century; and the USS *QUINCY* (CA 71) carrying President Franklin D. Roosevelt to Malta in 1945. And our ships have hosted international events of the highest consequence that have shaped the global security environment, such as the Japanese surrender aboard the USS *MISSOURI* (BB 63), anchored in Tokyo Bay, which formally ended the Second World War. The Navy brings sovereign United States territory to the shores of other nations, fostering connections to extend American assistance to those who would be our friends and demonstrating resolve to those who may oppose us.

And ingrained in every mariner is the notion that we will never sail past another mariner in distress. We will continue to provide humanitarian assistance and disaster relief to our fellow citizens and neighbors wherever and whenever they are in need.

Conclusion

This hearing comes at a critical time to both our Navy and our nation. The challenges we face are varied and are growing more dynamic by the day. Let there be no doubt: America is a maritime nation and a maritime power. Our way of life and our economic prosperity have always been linked to the sea. For 243 years—through war and peace, uncertainty and stability, turmoil and prosperity—the United States Navy has validated founding father Thomas Paine’s maxim that “a Navy when finished is worth more than it cost.”

In the competitive environment we face now and in the future, we must increase naval power in a balanced approach to meet our national strategic goals. The President’s FY-20 Budget ensures that the Navy and the nation can continue to do everything honorable and glorious, as Washington intended.

I am grateful to this committee and to your colleagues in the Congress for starting this important work, and we look forward to sailing alongside you to build and deliver the Navy the Nation Needs.

Admiral John Richardson

Admiral John Richardson graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science in Physics. He holds master's degrees in electrical engineering from the Massachusetts Institute of Technology and Woods Hole Oceanographic Institution, and National Security Strategy from the National War College.

At sea, Richardson served on USS Parche (SSN 683), USS George C. Marshall (SSBN 654) and USS Salt Lake City (SSN 716). He commanded USS Honolulu (SSN 718) in Pearl Harbor, Hawaii.

Richardson also served as commodore of Submarine Development Squadron (DEVRON) 12; commander, Submarine Group 8; commander, Submarine Allied Naval Forces South; deputy commander, U.S. 6th Fleet; chief of staff, U.S. Naval Forces Europe and U.S. Naval Forces Africa; commander, Naval Submarine Forces, and director of Naval Reactors.

His staff assignments include duty in the attack submarine division on the Chief of Naval Operations staff; naval aide to the President; prospective commanding officer instructor for Commander, Submarine Forces, U.S. Pacific Fleet; assistant deputy director for Regional Operations on the Joint Staff; and director of Strategy and Policy at U.S. Joint Forces Command.

Richardson served on teams that have been awarded the Presidential Unit Citation, the Joint Meritorious Unit Award, the Navy Unit Commendation, and the Navy "E" Ribbon. He was awarded the Vice Admiral Stockdale Award for his time in command of USS Honolulu.

Richardson began serving as the 31st Chief of Naval Operations September 18, 2015.

General Robert B. Neller
Commandant of the Marine Corps

General Robert B. Neller is the 37th Commandant of the United States Marine Corps. Prior to his current assignment, he served as the Commander, Marine Forces Command from July 2014 to September 2015 and Commander, Marine Forces Central Command from September 2012 to June 2014.

A native of East Lansing, Michigan, General Neller graduated from the University of Virginia and was commissioned in 1975. He has served as an infantry officer at all levels, including command of Marine Security Force Company Panama during Operations JUST CAUSE and PROMOTE LIBERTY; 3d Light Armored Infantry Battalion during Operation RESTORE HOPE; 6th Marine Regiment; and 3d Marine Division.

General Neller also served as Deputy Commanding General, I Marine Expeditionary Force (Forward) during Operation IRAQI FREEDOM (05-07); Assistant Division Commander for 1st and 2d Marine Divisions; and President of Marine Corps University.

His Joint assignments include service in the Policy Division of Supreme Headquarters Allied Powers Europe (SHAPE) in Casteau, Belgium, and as the Director of Operations (J-3) of the Joint Staff in Washington, D.C.

General Neller is a graduate of the Armor Officer Advanced Course, Marine Corps Command and Staff College, NATO Defense College, and the Armed Forces Staff College. He holds a master's degree in Human Resource Management from Pepperdine University.

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

APRIL 10, 2019

QUESTION SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. I appreciate the Department recognizing the critical need for a third *Virginia*-class submarine in its FY20 budget request. However, I am concerned that the *Virginia* Payload Module (VPM) is not funded along with the third submarine. What are the implications of removing a VPM from the FY20 and FY21 budgets, especially as it pertains to shipbuilding and the supply base?

Admiral RICHARDSON. There would be one non-VPM Blk V VCS in FY20, and one non-VPM Blk V VCS FY21. While this decompresses stressed vendors and reduces vendor construction risk, it requires additional design effort to create a non-VPM Blk V design. The development of the required design change to the 20-1 ship will begin efforts in June 2019 to support a FY20 construction start, in conjunction with completing the VPM design. Disruption to the supply base will be minimal as suppliers will continue to provide many VPM-related components, such as 520-ton air conditioning plants, circuit-D, internal communications system and impressed current cathodic protection system, that will be used to build these non-VPM Blk V ships. Removal of a VPM ship in FY20 provides relief to the payload tube component and assembly vendors who are late to the just-in-time planned deliveries. According to initial government assessments, the payload tubes are projected to be seven months late to a 19-2 ship construction start in September 2019 (first VPM hull), but supports the current critical path build plans, albeit with a slow start to payload module integration.

QUESTIONS SUBMITTED BY MR. LARSEN

Mr. LARSEN. Secretary Spencer, what steps is the Navy taking to address the current and projected shortfall? Does this strategy address issues dealing with both supply (limited number of schoolhouse spots and training hours) and demand (heavy recruitment from private sector)? On which types of aircraft is the pilot shortfall particularly acute?

Secretary SPENCER. Naval Aviation's inventory and accessions (tactical, maritime, and rotary wing combined) remain sufficient to meet operational requirements. However, declining retention of mid and senior grade officers in some communities—particularly acute among strike fighter and electronic attack pilots—present challenges to aviation's long-term health. We are fully engaged in reversing these adverse trends along multiple fronts, including: increasing production, establishment of a readiness recovery team, enhanced monetary and non-monetary incentives, and personnel modernization initiatives. The readiness recovery team is addressing maintenance, personnel retention and training issues, spare parts availability, and depot-level maintenance challenges contributing to decreased strike fighter aircraft availability—a primary quality-of-service dissatisfier for strike fighter pilots. The readiness team is identifying solutions in systemic supply, maintenance, manning, and facilities shortfalls. Consistent and full funding of readiness accounts across the Future Years Defense Program will be key to success. Bonus and flight pay adjustments have been well-received, and initial “take rates” are a leading indicator of improving retention and manning readiness. Sustained support for readiness enabler accounts, including flight hour and aircraft spare parts, is critical to improving the quality of aviation service.

Additionally, aviators have consistently expressed interest in enhanced career path flexibility, opportunities for personal and professional development, and flexible, merit-based, competitive, monetary incentives. Accordingly, Navy has:

- increased options for graduate school and fellowships through initiatives, such as Tours-with-Industry and the Career Intermission Program.
- implemented changes in the legacy aviation career path to offer options, such as permanent flight instructor assignments.
- increased the Aviation Bonus (for department head and command assignments) and Aviation Incentive Pay (flight pay), synchronizing targeted increases in flight pay and bonuses, in a mutually supportive fashion, upon attainment of major aviation leadership milestones (i.e., Department Head, Command and Major Command).

We remain optimistic that this multi-faceted approach will effectively address issues contributing to aviators leaving the Navy. We are closely monitoring the impact and effectiveness of these initiatives, and will make further changes as necessary.

Mr. LARSEN. Admiral Richardson, to what do you attribute the number of PEs in the EA-18G aircraft, and what steps are you taking to address pilot safety concerns about that airframe specifically?

Admiral RICHARDSON. The majority of physiological episode (PE) events in the EA-18G have been attributed to an icing condition that can occur inside the Avionics Flow Valve, in large part due to Naval Air Station (NAS) Whidbey Island late fall/winter environmental conditions and EA-18G operating profiles. Two primary efforts have been underway to address this condition. The first is a revision to Environmental Control System (ECS) software, which was quickly fielded as an interim solution, and has provided a significant reduction in EA-18G icing-related PE instances in the short time since implementation. A more definitive solution to the icing issue is incorporation of an ECS Duct Heater, which is currently undergoing development. Upon completion of successful testing, scheduled for this Summer, component production will commence with aircraft installations planned to begin at NAS Whidbey Island Fall 2019.

QUESTIONS SUBMITTED BY MR. TURNER

Mr. TURNER. Why do events such as the *Fitzgerald* and *McCain* Navy mishaps continue to increase year after year and what actions are being done to arrest this negative trend? Could you speak about the mishap review and oversight process? Learning the right lessons so we don't repeat the past is important—can you tell us how you take lessons you have learned from your safety investigations and use them to make recommendations that would stop future accidents from occurring? And further, do you currently have a significant backlog of mishap safety investigation recommendations which have not been closed? What are your plans to immediately address this backlog?

Secretary SPENCER and Admiral RICHARDSON. 1) *Why do events such as the Fitzgerald and McCain Navy mishaps continue to increase year after year and what actions are being done to arrest this negative trend?* Based on data collected by the Navy Safety Center (NAVSAFECEN) to date, numbers of the most severe category of Afloat Class A Mishaps (defined as total property damage of \$2 million or more and/or fatality or permanent total disability to personnel) did not increase following the 2017 FITZGERALD and JOHN S. MCCAIN incidents. In 2017, there were five and in 2018 there were five. In 2019 there has been one. Afloat Class B Mishaps went from 18 in 2017 to 21 in 2018, with nine currently in 2019. This trend coincides with a Navy-wide commitment to increasing/improving mishap reporting.

2) *Could you speak about the mishap review and oversight process?* Class A mishap boards are convened by the controlling custodian/command, the Navy or Marine Corps Flag or General Officer who is responsible for achieving readiness and safety standards while optimizing total resource requirements. The mishap board reviews three types of evidence: People (witnesses, survivors), Physical (wreckage, tools and equipment, facilities), and Documentation (records and logbooks, photos and video, electronic media). There is no standard safety investigation timeline. These investigations vary based on factors such as the severity of the mishap, whether or not the wreckage can be recovered or reconstructed, and whether there were survivors to make statements. The report is due 30 days from the date of the mishap, but extensions are often requested and approved due to the length of some engineering investigations and other extenuating circumstances. Once the mishap safety investigation is complete, the board produces a report detailing whether each causal factor is accepted or rejected. When a hazard is discovered during the safety investigation or at any point in the process, a non-privileged hazard report (HAZREP) is often released to provide timely notification to the fleet and program managers. These HAZREPS allow systems commands to decide if groundings, deadlines, inspections, or other mitigating actions are necessary before the continued employment of the type of aircraft or equipment involved is permitted.

3) *Learning the right lessons so we don't repeat the past is important—can you tell us how you take lessons you have learned from your safety investigations and use them to make recommendations that would stop future accidents from occurring?* The primary purpose of the mishap review and oversight process is to prevent recurrence. After a mishap investigation is finalized, every causal factor is required to have at least one corrective action or recommendation with which it is associated. The Naval Safety Center (NAVSAFECEN) tracks all open Mishap Recommendations

(MISRECs) and hazard recommendations (HAZRECs). NAVSAFECEN centralized and strengthened its lessons learned program office with the sole focus of developing products aimed at various fleet audiences. Sharing this type of information across communities is essential, because the true extent of many safety problems go well beyond the mishap unit or platform. NAVSAFECEN also produces periodic Safety Gram, FLASH, and Safety Bulletins, messages for their community safety representatives. The messages provide community safety trends, contain relevant and recent mishap investigation and hazard reports, and distribute type/model/series community lessons learned and best practices across all stakeholders. In addition to the Safety messages, NAVSAFECEN publishes periodic magazines and safety related posters promoting safe practices and relevant processes to enforce a culture of safety. The analysis of data collected from mishap safety investigations is key to understanding and communicating mishap information. However, NAVSAFECEN is working to get ahead of mishaps with preventive and prescriptive mishap data analysis and informed risk identification through strategic partnerships that perform in-depth studies to gain a better understanding of the human and materiel factors that lead to mishaps so mitigations can be developed to stop a mishap before it happens. NAVSAFECEN works with the fleet and type commanders to develop mutually beneficial data sharing agreements that will allow for improvements in risk and hazard identification and analysis. This “deep dive” analysis should eventually allow for the identification of risk trends that become a predictive and preventative tool, and increases the need for an analytical workforce, leading to a development of sophisticated risk models using these new data streams and growing organic capabilities and capacity. To enhance the analytical ties to the fleet, NAVSAFECEN modified the Afloat Safety Assessments to capture common factors related to all afloat mishaps, focus on unit culture, and use every opportunity to directly engage the fleet Sailor via face-to-face interaction and safety seminars at every major fleet concentration area.

4) *And further, do you currently have a significant backlog of mishap safety investigation recommendations which have not been closed? What are your plans to immediately address this backlog? NAVSAFECEN works closely with commands so that MISRECs and HAZRECs backlogs are reduced, while aggressively promoting faster completion of recommendations. NAVSAFECEN is currently tracking 538 open aviation, afloat, shore based, and off-duty/recreational mishap or hazard recommendations. To put this number in context, the Naval Enterprise has averaged 2,850 MISREC/HAZREC closeouts per year for the past eight years and 1,762 MISRECs/HAZRECs have been closed out thus far in FY19. These recommendations can range from procedural or programmatic changes to aircraft redesign or technology procurement. Complex engineering solutions and time to fund and implement improvements across the fleet can impede the resolution of outstanding MISRECs/HAZRECs as does the continual flow of new MISRECs/HAZRECs into the system.*

Mr. TURNER. What impacts would a return to sequestration funding levels have on the Navy’s readiness and modernization? Additionally, what impacts would a CR have on these plans?

Secretary SPENCER and Admiral RICHARDSON. If Budget Control Act caps are left in place, and sequestration were to occur in FY 2020, without Overseas Contingency Operations increases, there would be severe impacts to the Navy’s readiness recovery and its path to a larger, more capable fleet. This will result in a smaller, less lethal force requiring a revision of the National Defense Strategy. The Navy would be hard pressed to meet current operational requirements or plan for future contingencies. Budget uncertainty is highly detrimental to the Navy. We must be able to outpace our competition and act in real time to defend our nation’s interests in a rapidly changing global security environment. The budget uncertainty that would result from a Continuing Resolution (CR) in FY 2020, of any length, will erode and in some cases reverse the Department’s readiness recovery effort that began in 2017. Given the strategic environment and the pace by which our adversaries are modernizing and expanding, any setback in the ability to recover readiness and modernize will pass additional risk to Combatant Commander validated needs. A CR will also directly and adversely impact our people and their families in an environment where the competition for talent is a critical enabler for current and future readiness. Typically, CRs lock the Department into last year’s budget with last year’s priorities. CRs prohibit new starts and production rate increases above previous year levels, and the movement of funds between appropriations is constrained. A CR in FY 2020 would induce risk in our readiness to conduct operations by deferring maintenance, inhibit modernization of our critical weapons systems, and slow procurement of weapons, ships and aircraft needed to stay ahead of our adversaries in an era of great power competition.

Mr. TURNER. What strategic advantages does the continued development of low-yield SLCM provide the Navy to counter threats and support the National Defense Strategy?

Secretary SPENCER and Admiral RICHARDSON. Low yield nuclear weapons fulfill the defense objectives outlined in the 2018 National Defense Strategy of defending the homeland from attack, defending allies from military aggression, and bolstering partners against coercion. These weapons also support the 2018 Nuclear Posture Review goals of providing a range of arms control compliant response to our adversaries. Our nuclear deterrent must dissuade any adversary from mistakenly believing it could credibly coerce the United States. Modifying a small number of submarine-launched nuclear warheads and the eventual fielding of a sea-launched cruise missile (SLCM) raise the nuclear threshold in the face of Russian and others' limited use doctrines and capabilities. Low yield weapons and SLCM address the growing disparity in non-strategic nuclear weapons between Russia and the United States, thereby creating incentives for Russian participation in future rounds of arms control. These capabilities assure European and Asian allies by demonstrating the United States can credibly and decisively respond to any deterrence scenario. They ensure the nuclear threshold remains high, and that deterrence remains effective.

Mr. TURNER. The rate of pilots experiencing physiological episodes (PE) is back on the rise this year. The Navy has yet to pinpoint a cause for the PEs—air contamination has already been ruled out. Mr. Secretary, could you touch on this subject for a minute and talk about what is being done by the Navy to address PEs and ensure the safety of our pilots? There is evidently much work to be done as the rates of pilots experiencing PEs are rising, not decreasing.

Secretary SPENCER. To answer this question, we are looking at three separate categories: Hornets and Super Hornets, training aircraft, and aircrew systems: In aggregate, F/A-18 physiological episodes (PE) rates are trending downward, although there have been seasonal and type/model/series variances. For example, F/A-18A/B/C/D model aircraft PE events have decreased while F/A-18E/F/G rates increased over the cold weather months, which has historically been seen and is being addressed through revision to Environmental Control System (ECS) software and incorporation of an ECS Duct Heater. Overall, the rate of PE is down 17% since the November 2017 peak. As the result of failure analysis and root cause and corrective action (RCCA) efforts conducted during 2018–2019, five significant changes to the F/A-18 will be fielded in the next year that address PE. These are: Cockpit Pressure and Onboard Oxygen Generation System (OBOGS) Monitoring System, Secondary Bleed Air Regulating valve revision, Primary Bleed Air Regulating valve revision, ECS Duct Heater, and Cabin Air Exit System Removal. Additional efforts and improvements include: 1) the Hornet Health Assessment and Readiness Tool, a near real time ECS data analysis program, which has begun fleet wide monitoring to preventatively warn squadrons of ECS system deviation; implementation of a revision to aircrew breathing strategies and 2) the fielding of an ECS Control Software Revision (Phase II) in 2020, which is a major ECS software update that involves over 30 changes to improve reliability, fault detection, recovery, and component interoperability. The Physiological Episode Action Team (PEAT) has also completed a study with the Naval Experimental Diving Unit and is now moving to Phase 2 of that effort, and has two other studies underway with Brooks Labs and Naval Medical Research Unit—Dayton, with results expected by early Calendar Year 2020. These studies are critical to further understanding root causes for PE.

The Navy has met with measured success in reducing PE rates in training aircraft. The T-45 average PE rate has decreased over the past year and has improved dramatically since Fiscal Year (FY) 2017, falling from a high of 63.1 events per 100,000 flight hours to 7.3 events per 100,000 flight hours in FY 2019. The Navy has implemented a number of changes to improve pressure and oxygen concentration provided by the OBOGS. These improvements include an increase to the engine idle setting, elimination of obsolete components, and increased system maintenance. Future modifications include an additional caution light to advise of oxygen system degradation, and an Automatic Backup Oxygen System to provide supplemental oxygen in case of momentary reductions in system performance. Both designs are nearing completion, and activities leading to test and production are well under way. The Navy T-6 PE reporting rate has also decreased from a high of 5.8 events per 100,000 flight hours to 4.7 events per 100,000 flight hours in FY 2019. The Navy T-6 PE events from FY 2017 and FY 2018 were attributed to hardware or equipment failures. The Navy T-6 PE events in 2019 were traced to component failures due to the age of the failed components and the overall age of the aircraft. The affected aircraft have been repaired, tested, and returned to service. Navy engineers and scientists developed and deployed a sensor to collect system performance data

and a new oxygen concentrator has been procured to improve reliability and provide a data logging capability. A new oxygen concentrator has been procured to improve reliability and provide a data logging capability. The concentrators are currently being installed.

The Navy continues to coordinate with the Air Force and share data, findings, recommendations, and component upgrade efforts. The Navy, Air Force, and industry have engaged in multiple lines of effort to mitigate and solve PEs. We have raised awareness to fleet aircrew and maintainers through direct fleet engagement via the PEAT and Fleet Air Introduction Liaison Survival Aircrew Flight Equipment (FAILSAFE) team. Navy flight equipment experts from FAILSAFE are providing on-site refresher training for all Navy and Marine Corps tactical aircraft squadrons in order to address gear fit issues identified as potential contributors to PE and will continue to do so on a recurring schedule. All fleet tactical aircraft aeromedical safety officers will receive refresher training on identifying common fit issues during the annual FAILSAFE working meeting this August and the Aircrew Systems Program Office (PMA202) is working with the Naval Survival Training Institute to ensure aircrew understand the difference between proper and poor fit. There is an on-going surveillance program of specific materials in the OBOGS, which have found no issues to date. In support of the RCCA branch closeout, we have engaged in multiple efforts, such as the Joint Combined Aircrew System Tester, to check mask fit and pre-flight integrity of oxygen flow; the Enhanced Emergency Oxygen System, to increase the emergency oxygen available to aircrew in the event of an in-flight PE; an upgrade to the T-45 OBOGS; an evaluation of alternate oxygen masks to improve the ease of mask fit and aircrew mask comfort; and multiple physiological monitoring products that identify aircrew physiological state for real time alerts to aircrew and overall data analysis of physiological performance inflight.

Mr. TURNER. The Navy has identified strike fighter shortfall of 54 aircraft, which amounts to one carrier wing. Admiral Richardson, what impact does this shortfall have on current Navy readiness, and what actions are being taken now with this budget request to mitigate the shortfall?

Admiral RICHARDSON. Strike Fighter Inventory Management (SFIM) is focused on ensuring the Navy has the Tactical Aviation assets required to support National Defense Strategy (NDS) guidance, and is dependent upon three key factors:

- Procurement of new strike fighters,
- Depot maintenance capacity to sustain, modernize, and extend the service life of the existing inventory, and
- Manage aircraft utilization rates (e.g. manage the shortfall)

The President's Budget (PB) for FY-20 reduces the Department's strike fighter shortfall to single digits by the end of the Future Years Defense Plan (FYDP) by:

- Procuring 24 F/A-18E/Fs (84 total across the FYDP),
- Procuring 10 F-35Cs (92 total across the FYDP),
- Procuring 15 F/A-18E/F Service Life Modification kits (160 total kits across the FYDP).
- Funding \$42.5 million in infrastructure investments to procure modern equipment and tooling in Naval Aviation Fleet Readiness Centers.

In addition to procurement efforts in PB-20, the Naval Sustainment System (NSS) is a comprehensive approach of industry best practices to address F/A-18 and other platform readiness shortfalls at the Depot, Intermediate, and Operational levels. NSS focuses on:

- Fleet Readiness Center reform,
- Operational Level Maintenance reform,
- Supply Chain reform,
- Engineering reform,
- Governance and accountability, and
- "Aircraft On the Ground" cell:
 - Prioritization of supply and maintenance actions to get more flight-line aircraft into MC status sooner.
 - Reduce turnaround time, increase predictability, and encourage more productive organizations.

Finally, aircraft utilization rates are managed, and thus strike fighter shortfall is managed, via the assignment of a reduced number of aircraft to squadrons early in their turnaround training cycles (e.g. maintenance phase, aircraft in depot, etc.) when fewer training hours are required to meet reduced readiness standards. This resultant shortage in available aircraft, and lower readiness, to those squadrons in "garrison" directly equates to their inability to rapidly deploy, should the need arise. All squadrons assigned to Carrier Air Wings in readiness sustainment or on deployment are assigned a full complement of Strike Fighters.

Mr. TURNER. The Marine Corps is requesting 10 fewer F-35B aircraft in FY20 than was planned in the FY19 budget, but increased the procurement of F-35C aircraft by four, for a total of 10 F-35C aircraft in FY20. The Navy is requesting 2 fewer F-35C aircraft in FY20 than was planned in the FY19 budget. Why is the current projected mix of Marine F-35B and F-35C aircraft optimal to support achieving the goals of the National Defense Strategy?

General NELLER. The U.S. Marine Corps (USMC) continues to evaluate the proper ratio of its F-35B and F-35C aircraft based on the pacing threat and steady-state requirements across the conflict continuum. The current program of record (POR) of 67 F-35Cs and 353 F-35Bs is proportionally correct for the USMC at this point in the plan. Today's F-35C procurement plan allows the USMC to sustain four squadrons. The plan meets the Tactical Air Integration (TAI) commitment the USMC has with the USN to include the Navy Master Aviation Plan (MAP) deployment requirements on CVN Carrier Strike Groups. The aircraft are also used for deployments in support of all USMC global force commitments. The F-35C brings added capabilities to the USMC and the Marine Air-Ground Task Force (MAGTF) in the form of increased range, payloads and lethality. The F-35B brings the vertical landing capability that provides critical support to the Marine Expeditionary Unit (MEU) deployments aboard L-Class ships, a mission that cannot be performed by the F-35C. With a mixture of 10 and 16 plane F-35B squadrons, the current transition plan allows MAGTF commanders the flexibility to deploy a 6-plane MEU detachment all the way up to a full 16-plane squadron.

Mr. TURNER. Marine ground units are almost wholly without an effective organic air defense system except for the man-portable Stinger missile system and a small number of ground based air defense systems protecting deployed forces. Please provide the committee an update on Marine Corps plans to develop a family of systems that can defend against UAS, aircraft, cruise missiles, and other airborne threats? Please describe if or how these plans are nested with the Army's efforts to field similar systems.

General NELLER. The Marine Corps is presently developing and fielding the Marine Air Defense Integrated System (MADIS) Family of Systems (FoS) to address UAS and aircraft threats against operational forces as well as installation counter-UAS requirements. MADIS' open architecture design integrates 'best of breed' components among state-of-the-art detect, track, identify, and defeat technologies. This approach maximizes and simplifies testing, integration, training, and system upgrades via the Program Executive Office-Land Systems (PEO-LS) Ground Based Air Defense (GBAD) Program Office. In addition to the C-UAS mission, the MADIS improves on the Stinger missile capability by incorporating a vehicle mounted launcher enabling a more responsive engagement timeline. Initial Operational Capability (IOC) for the MADIS is FY21. Our GBAD efforts are nested closely with the Army's Maneuver-Short Range Air Defense (M-SHORAD) as well as the greater Joint and inter-agency community of interest to ensure the most promising technologies are integrated into the MADIS program of record. While the final design is still under development, it is anticipated most major components will be shared by multiple services. Building upon Marine Corps defense in depth, our cruise missile defense (CMD) effort is in its early stages and moving forward as we analyze existing capabilities from partner nations with the intent to integrate existing Marine Corps sensors and C2 programs to complete the system. In Aug 2019, we will be conducting a live-fire demonstration at White Sands Missile Range to test the Skyhunter launcher/Tamir Missile integrated with the Common Aviation Command and Control System (CAC2S) and the AN/TPS-80 Radar (G/ATOR). Concurrently, modeling and simulation of the missile is being conducted to inform leadership of the system's capabilities and limitations. Upon completion of the demonstration and simulations, a decision will be made on the way forward. In addition to Skyhunter, the Marine Corps is closely monitoring the Army's Indirect Fire Protection Capability (IFPC) efforts.

Mr. TURNER. What strategic advantages does the continued development of low-yield SLCM provide the Navy to counter threats and support the National Defense Strategy?

General NELLER. I defer to the Navy as Ship Launched Cruise Missiles (SLCM) is a U.S. Navy program.

QUESTIONS SUBMITTED BY MR. CONAWAY

Mr. CONAWAY. Thank you for your time in appearing before the Committee. Knowing that the DOD has been tasked with completing a full financial audit, I am interested in the following:

a. Is the USN committed to obtaining a full, unqualified audit opinion of the USN?

b. Will you hold the incoming CNO chief accountable for his/her responsibility to moving the USN to a full unqualified audit opinion? Will you get the incoming CNO's commitment before confirmation by the Senate?

c. Will you continue to dedicate adequate resources to the USN's audit efforts?

d. Other information regarding the USN's efforts to achieve an unqualified audit opinion that you may believe helpful to answering the aforementioned questions, is welcome.

Secretary SPENCER. A. Yes, the Navy is fully committed to obtaining a full, unqualified audit opinion.

B. The nominee for Chief of Naval Operations (CNO) has proven his commitment to the Navy obtaining a clean audit opinion during his tenure as Vice CNO, where he has co-chaired the Department of the Navy Audit Committee (with the Under Secretary of the Navy and Assistant Commandant of the Marine Corps). His leadership has been pivotal in the Navy completing the audit and in executing corrective actions to resolve audit findings. He has demonstrated his commitment to the audit by holding subordinate commanders accountable for results, which has enabled the Navy to complete a full inventory of Real Property this year. He is fully engaged with the audit and regularly receives briefings from organizational leadership on their progress.

C. We will continue to dedicate resources to the Navy's audit efforts and request your continued support for our request for additional funding in Fiscal Year 2020 to support audit remediation and the transition off legacy systems. These areas provide a strong return on investment as they will reduce manual data entry, increase data transparency and usability, and support operational transformation efforts.

QUESTION SUBMITTED BY MR. BROWN

Mr. BROWN. In a written statement provided to this committee last spring, Assistant Navy Secretary "Hondo" Guertz said, "The proliferation and technological progression of readily available Unmanned Aircraft Systems (UAS) to state and non-state actors have advanced at an unprecedented pace." As these adversaries become more sophisticated and use drones to conduct surveillance on our troops, disrupt critical missions or worse yet, harm our service members, the military, especially the Navy, needs a robust counter-UAS capability. What is the Navy doing to counter this threat in the near-term to protect our troops now and how is the Navy utilizing programs like the Rapid Prototyping, Experimentation, and Demonstration Program to acquire tested, commercially available counter-UAS technology?

Secretary SPENCER. The Navy, in coordination with the other Services and the Department of Defense, is pursuing an integrated Counter-UAS family of systems to protect high value and critical naval assets afloat and ashore. The Navy is rapidly fielding an initial capability, to be followed up by implementation of more robust and integrated solutions. The initial capability consists of existing commercial and government systems. The Navy is also pursuing refinement of material and non-material solutions, threat assessments, and development of advanced target discrimination and defeat capabilities. Systems fielded ashore include CORIAN (a commercial system), NINJA (developed by Air Force Research Laboratories), and Drone Defender (a commercial system). Systems fielded afloat include Drone Restricted Access using Known Electronic Warfare (DRAKE), Drone Defender, and existing ship's electronic warfare systems. Pending formal documentation, the Navy is also using the Maritime Accelerated Acquisition process to develop MK38 gun weapon system improvements to increase lethality against UAS as well as other threats.

QUESTIONS SUBMITTED BY MR. CISNEROS

Mr. CISNEROS. We have spent billions of dollars to develop the *Zumwalt*-class destroyer, yet we are no longer procuring the ammunition for its primary weapon system and we will only have 3 *Zumwalt*-class ships as opposed to the original 32. What is the Navy doing to find a new mission for this ship as they're delivered over the next 3 years so we get something for the significant investment that has been made?

Secretary SPENCER and Admiral RICHARDSON. In November 2017, after a comprehensive review of ZUMWALT Class requirements, the Navy refocused the primary mission of the Class from Land Attack to Offensive Surface Strike. The low observable characteristics of the hull form provides the Combatant Commander a unique capability not seen with other classes of surface combatants. Prior invest-

ments in stealth technology, power distribution, and capacity make the ZUMWALT Class ideal in fulfilling the Surface Strike mission in the era of Great Power Competition. The FY 2019 budget provided funding to integrate Maritime Strike Tomahawk (MST) and SM-6 Block 1A missiles to the class. Both are existing programs of record, and will combine to add long-range offensive capabilities. SM-6 Block 1A is scheduled to achieve Initial Operational Capability (IOC) on USS ZUMWALT in FY 2021. MST is scheduled to IOC in FY 2025. The Navy continues to explore additional options and emerging technologies to further enhance ZUMWALT Class lethality.

Mr. CISNEROS. I asked Chairman Dunford 2 weeks ago about statements you had reportedly made about the impact of the Southern Border deployments on the Marine Corps readiness. The Chairman replied that it wasn't the Southern Border deployment itself that is a problem, rather it is the unanticipated bill of the Southern Border deployment—along with many other unanticipated bills—that taken together are making it difficult for the Marine Corps to fund other priorities. Is the southern border deployment creating readiness challenges for the Marine Corps? And if it just another bill among many, is it a bill that makes it harder to pay for other priorities, like rebuilding Camp Lejeune or executing the Integrated Training Exercise at Twentynine Palms, California?

General NELLER. Although South West Border (SWB) operations have impacted some of the units providing support to the border, in the aggregate, the readiness impacts have been manageable. The Service has been able to mitigate readiness impacts through unit and personnel rotations. If the requirements to support the mission continue into the foreseeable future, the Marine Corps will continue to mitigate impacts to readiness through similar measures. To date, SWB mission has not significantly impacted our ability to meet our global commitments. In terms of funding; No, the bill associated with Southern Border deployment is not making it harder to pay for other priorities. There is a cost there, a small cost compared to others. We have a shortfall of just under \$300 million of which the border mission is less than two percent, not including Hurricane Recovery shortfalls. The cost of supporting Southern Border deployment is one of many unplanned and unbudgeted factors that in total have created unprecedented budget shortfall challenges in our current fiscal year. The inability for the Marine Corps to reprogram money and the lack of a supplemental for Hurricane recovery efforts for the first six months of the fiscal year had forced the Marine Corps to cancel Alaska Exercise Midnight Sun and reduce participation in Exercise Northern Edge, as well as cancel participation by II Marine Expeditionary Force units in Integrated Training Exercise 3-19 and Scotland Exercise Joint Warrior 1-19. In order to address our immediate fiscal challenges and prevent further risk to readiness, the Marine Corps has pursued reprogramming and supplemental relief actions. The Marine Corps is grateful to Congress for the recently approved reprogramming and Disaster Relief supplemental and greatly appreciates continued Congressional assistance on these efforts.

