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Subcommittee on Seapower

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON NAVY SHIPBUILDING PROGRAMS IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2020 AND THE FUTURE YEARS DEFENSE PROGRAM

Wednesday, March 27, 2019

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9	U.S. Senate
10	Subcommittee on Seapower
11	Committee on Armed Services
12	Washington, D.C.
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14	The subcommittee met, pursuant to notice, at 10:00 a.m.
15	in Room SR-232A, Russell Senate Office Building, Hon. David
16	Perdue, chairman of the subcommittee, presiding.
17	Subcommittee Members Present: Senators Perdue
18	[presiding], Wicker, Cotton, Ernst, Hawley, Hirono, Shaheen,
19	Blumenthal, Kaine, and King.
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OPENING STATEMENT OF HON. DAVID PERDUE, U.S. SENATOR
 FROM GEORGIA

3 Senator Perdue: We will come to order and go ahead and 4 get started.

5 The Senate Armed Services Subcommittee on Seapower 6 convenes this morning to examine Navy shipbuilding programs 7 in review of the defense authorization request for fiscal 8 year 2020 and the future years defense program.

9 We welcome our three distinguished witnesses this 10 morning: the Honorable James F. Geurts, Assistant Secretary 11 of the Navy for Research, Development, and Acquisition. 12 Good morning. Vice Admiral William Merz, Deputy Chief of 13 Naval Operations for Warfare Systems; and Lieutenant General 14 David Berger, Deputy Commandant of the Marine Corps for 15 Combat Development and Integration.

16 General, congratulations on your nomination to be the 17 next Commandant of the Marine Corps.

18 Delighted to have you three here today. Thank you for 19 your time and effort.

This is my first public meeting as the chairman of the Seapower Subcommittee. I am humbled to be leading this subcommittee and will do all I can to support our men and women in uniform.

Today we have the smallest Army since World War II, the smallest Navy since World War I, and the oldest and smallest

Air Force ever. At the same time, we face complex threats
 from China, North Korea, Russia, and Iran. A robust naval
 fleet is critical to deter aggression worldwide, project
 power, and support our allies.

5 The Subcommittee on Seapower will provide vital 6 oversight and support for our Navy and Marine Corps as they 7 work to meet this increasing demand for global missions. I 8 want to thank Senator Wicker and Senator Hirono for their 9 leadership over the past 4 years. I hope this subcommittee 10 will continue to work in a bipartisan manner. I fully 11 expect that.

12 Earlier this month, the subcommittee received a classified threat assessment and learned how our Navy and 13 14 Marine Corps plan to operate in the face of these ever-15 growing new threats. As we begin consideration of the 16 budget request, this briefing was very helpful in providing 17 context for our next series of budget-focused hearings on 18 shipbuilding, naval aviation, and Marine Corps ground 19 systems. Thank you again, Admiral Merz and General Berger, 20 for your participation in that and for the private briefings 21 that you guys have given us.

In 2016, the Navy increased its minimum requirement to 355 battle force ships, a reflection of the strategic shift to great power competition. Today, the Navy stands at just 289 battle force ships. While I understand the Navy is

reassessing the fleet size requirement, I believe the need
 for a larger, more capable fleet is clear. I look forward
 to hearing from our witnesses today about the Navy and
 Marine Corps plans to achieve these requirements as soon as
 possible.

In addition to a global security crisis, we also have a national debt crisis. Last month, our national debt topped \$22 trillion. General Mattis and others have called the debt the greatest threat to our national security, and I agree. It is no secret that Congress' failure to pass a budget on time hamstrings our military and limits our ability to plan for future missions.

13 While there are many factors beyond the control of this 14 subcommittee, the Secretary of the Navy's comments caught my 15 attention in December 2017 when he said -- and I quote --16 continuing resolutions have cost the Department of the Navy roughly \$4 billion. Since 2011, we have put \$4 billion in 17 18 the trashcan, put lighter fluid on top of it, and burned it. 19 End quote. I wish I had been smart enough to make that 20 quote. That is pretty good.

Budgeting by CRs is no way to run the government, and Congress must do better. In this regard, I would like to hear from our witnesses today regarding the budgetary and operational impacts of continuing resolutions and the return of sequestration in fiscal year 2020 potentially.

1 Additionally, I would like to review a number of other shipbuilding-related topics, including the ongoing force 2 structure assessment and the factors that led the Navy to 3 conduct this assessment, greater clarity on the long-term 4 5 funding plan and challenges related to welding and quality assurance with the Columbia class submarine program; б 7 aircraft carrier programs, including the Department's 8 proposal to inactivate the USS Harry S. Truman more than 2 9 decades early, as well as testing challenges in the lead 10 ship of the Ford class USS Gerald R. Ford; the Navy's plan 11 to recapitalize the nation's strategic sealift fleet; and 12 options to improve acquisition performance on lead ships. 13 This subcommittee will continue to work with the Navy 14 and Marine Corps to build a larger, more capable fleet while

15 at the same time demanding the best of our every taxpayer 16 dollar.

I look forward to our witnesses' testimony, and I now recognize Senator Hirono and thank her for her steadfast commitment to this committee over the last 4 years.

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1 STATEMENT OF HON. MAZIE K. HIRONO, U.S. SENATOR FROM
2 HAWAII

Senator Hirono: My steadfast commitment will continue with you at the helm. And, of course, congratulations to you who are chairing this very important subcommittee. Of course, I look forward to working with you as we conduct active exchanges and dialogues with the Department in order to reach the best solutions to the issues facing our sailors and marines and their families.

I want to welcome our witnesses, and of course, I have my congratulations to General Berger for being nominated to head up the Marine Corps.

We are grateful to each of you for your service to the nation and for the truly professional service of the men and women under your command. We also pay tribute to their families because, of course, we always say that the families are a very critical part of the success of the men and women in our armed services.

Today, our witnesses face difficult decisions as you try to balance the need to modernize and maintain our technological advantage against the need to support ongoing operations and sustain current readiness. The threats we face around the world require us to consider how best to get the Navy and Marine Corps the resources that we need, but we must make sure that any increase in resources does not come

at the expense of important domestic programs that families,
 including our military families, rely on every day.

Last year, we had the benefit of an early budget deal 3 that included increases in the DOD top line. This year, we 4 are again facing the constraints of the caps in the Budget 5 б Control Act. The President's budget attempts to finesse the 7 caps for DOD by moving a large portion of the base budget 8 into the overseas contingency operations, or OCO, accounts 9 that are exempt from the caps. I do not support such a 10 gimmick and hope we can move quickly to achieve a deal on 11 the budget resolution for fiscal year 2020 that avoids 12 delays in getting the necessary resources to the Department 13 and to other parts of the U.S. Government.

14 Today's hearing deals with various aspects of Navy 15 shipbuilding. These Navy programs play a critical role in 16 supporting and advancing our country's strategic interests in the Indo-Asia-Pacific region, including from bases in 17 18 Hawaii. With that in mind, the subcommittee has been 19 focused on how we improve our acquisition, stewardship and 20 thereby ensure that we are getting good value for every shipbuilding dollar that we spend. 21

22 2 years ago, the Chief of Naval Operations presented us 23 with a new force structure assessment. The Navy's 30-year 24 shipbuilding plan last year would have increased the size of 25 the fleet but would not have met the 355-ship goal.

1 This year, the 30-year shipbuilding plan indicates the 2 Navy would achieve that goal in 2034. The attack submarine force goal of 66 boats would be achieved in 2048, the same 3 as last year. The goal for large surface combatants would 4 be achieved in 2029. The surface force would remain at or 5 б above the level through the remainder of the 30-year plan. 7 Last year's plan would have achieved the goal of 104 large 8 surface combatants for only 1 year during the 30-year 9 period, the year 2024.

10 Despite having a requirement of 12 aircraft carriers, 11 this year's plan has a force of nine aircraft carriers for a 12 little over a quarter of the 30-year plan. This is a significant reduction from last year's plan, which had at 13 14 least 10 carriers for all but 1 year of the 30-year plan. 15 Some of this erosion in carrier levels undoubtedly relates 16 to the proposal to cancel the refueling complex overhaul of 17 the USS Harry Truman, which I am sure we will hear more 18 And we have already had some discussions with you. about. 19 Last year, section 915 of the National Defense 20 Authorization Act for Fiscal Year 2019 expanded the duties of Secretary Geurts' position to include acquisition and 21 22 sustainment, including maintenance matters.

I am very encouraged that the Navy is not ignoring a vital component of maintaining a ready and capable fleet: our national shipyards. And, of course, Hawaii has one of

them. These facilities, including the Pearl Harbor Naval Shipyard on Oahu, are essential for maintaining a ready and capable fleet. I am encouraged that the Navy has gotten serious about these critical assets that have been neglected, as far as I am concerned, for far too long. б I look forward to hearing from you this morning about how the fiscal year 2020 budget supports this plan. I also look forward to working with the Navy to ensure that the shipyard modernization program stays on track. Thank you, Mr. Chairman. Senator Perdue: Thank you, Senator Hirono. Now we will hear from our witnesses. Secretary, I believe you are up first.

1 STATEMENT OF HON. JAMES F. GEURTS, ASSISTANT SECRETARY 2 OF THE NAVY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION; VICE 3 ADMIRAL WILLIAM R. MERZ, USN, DEPUTY CHIEF OF NAVAL 4 OPERATIONS FOR WARFARE SYSTEMS; AND LIEUTENANT GENERAL DAVID 5 H. BERGER, USMC, COMMANDING GENERAL, MARINE CORPS COMBAT 6 DEVELOPMENT COMMAND AND DEPUTY COMMANDANT FOR COMBAT 7 DEVELOPMENT AND INTEGRATION

8 Mr. Geurts: Yes, sir. Chairman Perdue, Ranking Member 9 Hirono, distinguished members of the subcommittee, thank you 10 for the opportunity to appear before you today to address 11 the Department of the Navy's fiscal year 2020 budget 12 request.

Joining me today are Vice Admiral Bill Merz, Deputy Chief of Naval Operations for Warfare Systems, and Lieutenant General Dave Berger, Deputy Commandant for Combat Development and Integration.

Sir, with your permission, I intend to provide a few brief remarks for the three of us and enter our formal statement in the record.

20 Senator Perdue: Yes, sir.

21 Mr. Geurts: I would like to start by thanking the 22 subcommittee and all of Congress for passing the fiscal year 23 2019 budget on time. The on-time receipt of the full budget 24 allowed us to expedite the delivery of lethality and 25 readiness to our sailors and marines while achieving cost

savings through much more efficient contracting. It also
 helped stabilize the industrial workforce and our supplier
 base, both of which are critical to our success.

The 2019 budget allowed us to continue to build the navy and the naval force the nation needs. This year, we will commission 12 ships compared to an average of five ships per year over the last 20 years. By the end of the year, we will have 296 ships in our battle force inventory. Not only are we building more ships, but their quality and capability continues to increase with each delivery.

We continue to improve the acquisition and contracting strategies to maximize the output for every taxpayer dollar, including saving more than \$4 billion for the construction of the third and fourth Ford class carrier and saving over \$700 million on our next set of destroyers.

16 Our fiscal year 2020 request continues our commitment 17 to build a 355-ship Navy, as well as the other capabilities 18 the Navy and the Marine Corps require to meet the National 19 Defense Strategy. Our request is the largest shipbuilding 20 request in over 20 years and funds 12 battle force ships in fiscal year 2020, reflecting the critical role the Navy and 21 22 the Marine Corps play in our National Defense Strategy. Ιt 23 funds 55 battle force ships within the future year defense 24 program and results in a smooth and continuous ramp to 25 achieving 355 ships in 2034, a 20-year acceleration from

1 last year's plan.

2 This year's shipbuilding plan continues to reinforce 3 the powerful combination of a strong and stable industrial base and predictable funding, as well as provides our 4 initial estimates on the enduring cost of sustaining a 5 larger Navy after 40 years of progressively smaller navies. 6 7 Recognizing that effective and efficient sustainment of the fleet is absolutely critical, we have also submitted the 8 9 first-ever 30-year long-range plan for the maintenance and 10 modernization of the fleet. This complements our 30-year 11 shipbuilding plan. It outlines the growing maintenance 12 requirements and the many initiatives the Navy is executing to improve the on-time completion of maintenance activities. 13 14 It complements the many other actions the Navy and the 15 Marine Corps are taking to improve the readiness of the 16 entire force.

Finally, the Department of the Navy continues to place a priority on fielding new technologies and capabilities, those needed to compete and win in the future. These include a wide range of unmanned capabilities in the air, on the sea, and below the surface, as well as new capabilities enabled by directed energy, hypersonics, artificial intelligence, and advanced sensor systems.

Thank you for the strong support this subcommittee has always provided our sailors and marines, and thank you for

1	the opportunity to appear before you today. We look forward
2	to answering your questions.
3	[The prepared statement of Mr. Geurts, Admiral Merz,
4	and General Berger follows:]
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Senator Perdue: Thank you, sir.

2 We will now start the round of questioning. We will do 3 5 minutes in the first round, and then time allowing, we 4 will go into potentially a second round. I will start off 5 and then we will move to Senator Hirono.

б Secretary Geurts, following up on my opening statement 7 today -- and you referred to it in yours as well --8 regarding budget stability, in a private conversation you 9 have said this is a key success factor to our Navy and 10 Marines out there today. The Secretary of the Navy also 11 stated in testimony that a return to sequestration in fiscal 12 year 2020 could mean a \$26 billion cut to the Department of the Navy, and he provided a graphic. I think at each of our 13 14 places this graphic is here. Thank you for that. Showing 15 the impact of what that would mean in the procuring of six 16 new ships and in the operation of our Navy and Marine Corps. 17 Would you talk about the impact of that potential 18 Budget Control Act, which is the law of the land? If that 19 were to really take place, what would that do to our 20 procurement plan?

And then also as an adjunct, I would like each of you, if you have a comment, to talk about how CRs impact your area of responsibility. And we have had 2 years now where we have avoided them. We are halfway through this fiscal year and we are facing the gun barrel right now of another

potential for a CR September 30th of this year. And I would
 like you to tell this subcommittee how dangerous that could
 be for your area of operations.

Mr. Geurts: Yes, sir. I will start out and then ask
my two compatriots here to give their perspective.

б From the Budget Control Act, it would be devastating. 7 We have really done well by having smooth, efficient 8 production lines well planned out. All the work we have 9 done over the last couple years would be completely 10 devastated if we went into Budget Control Act, one, because 11 of the magnitude of the act, and then it is further 12 compounded because we would have to apply that, under normal 13 circumstances, to each line item, which means each 14 individual ship, since they are line-item appropriated. So 15 the dollar amount would be devastating. The impact would 16 actually impact every ship because we could not actually 17 even balance the dollars as we go forward.

18 So as we look at that from a shipbuilding perspective, 19 all we have done to get out of the boom and bust and have a 20 repeatable, efficient, effective program plan would all be kind of thrown in there. And as we have seen, it has taken 21 us decades to recover from gaps we had in submarine 22 23 construction from Katrina impacts. And so you would 24 essentially undo everything we have done over the last 25 couple years to rebuild the Navy in an efficient manner.

Senator Perdue: Is it safe to say that future
 acquisition costs would go up?

3 Mr. Geurts: Yes, and it is not just acquisition. It4 will also be on the readiness and the maintenance.

5 On the CR impact, if I look over the last 10 years, by 6 my accounting the average is we have been about a third of 7 the year in a CR as an average over the last 10 years. And 8 what does that draw? That draws huge uncertainty.

9 I mean, I can talk about it at the program level. I 10 would ask General Berger and Admiral Merz to talk about it 11 kind of at the deckplate level.

But with that uncertainty, then I have to create multiple versions of contracts. Everything we are doing on ship maintenance to move planning early gets thrown out because now you have to continually replan. We did 258,000 contracts last year in the Department of Navy, \$110 billion worth of work. They will now have to do that once, twice, three times.

And then in particular with the 2020 budget where we have got increases in ship counts, those will all have to be rolled back. Increases in personnel to man the ships we are fielding -- those will all be impacted. And then new starts like our new frigate -- all of that would have to go on hiatus.

25 And the real issue is uncertainty. If you knew it was

1 going to be for 82 days, you could plan around that. You do
2 not know when the CR is going to end, so you are kind of in
3 an endless replan.

And then I would ask my two teammates here to providetheir input.

6 Senator Perdue: Yes. We have about a minute left. We 7 will come back to this later if we need more time, but I 8 would like to hear from these two commanders as well.

9 Admiral Merz: Yes, sir, Mr. Chairman. I will speak 10 quickly here.

I think Secretary Geurts covered it. But in the simplest terms, it impedes virtually every area of our operation, and it is a crushing impact on morale for the forward-deployed force.

15 Under your oversight, we applied industry best 16 practices and we have tried to improve our efficiency. And 17 we found the impacts even worse than we thought. And 18 unfortunately, we have real data here over 10 years of CRs. 19 This is not anecdotal. Through the renegotiation of about 20 10,000 contracts, a 6-month CR in 2018 costs us \$5.8 billion 21 in buying power. In real terms, that is the equivalent of 22 about three destroyers that we were unable to execute. 23 There is a GAO report in March that reinforces our

24 assessment. The impacts I think as Secretary Geurts 25 covered, for fiscal year 2020, but a loss of \$2 billion of

reprogramming or shifting funding to the MILPERS accounts,
 \$4 billion in operations and maintenance, nearly another \$6
 billion in shipbuilding that we will be unable to execute.

So last year, we have seen a return to good behavior and the high productivity. We got away from the bad shortterm behavior, what we call survival tactics. And we just cannot go back if we expect to win.

8 Senator Perdue: General Berger?

9 General Berger: Sir, it is an oversimplification, but 10 I think at the title X level where we work, we are going to 11 trade modernization to pay for readiness because that is 12 what we must do. All the progress that they noted that we 13 have all seen with on-time budgets goes backwards because we 14 will absolutely make sure the next units to deploy are ready 15 to go, as we have in the past.

16 At the unit level where I came from in August, just 30 seconds on that where Senator Hirono and I first met. 17 Those 18 commanders out there plan their whole training and education 19 plan, their deployments, their exercises based on the budget 20 they think they are going to get. And it is not even flow over 12 months. So if they do not know, if they go into 21 sequestration or a CR, that unpredictability that the 22 Secretary mentioned at their level -- they do not know 23 24 whether they are going to Thailand or the Philippines or 25 Australia or whether they can afford that. They have to

write the contracts. They have to lay in the airlift a
 couple months in advance. We lost a lot of money when we
 were in a CR buying airplanes, scheduling maintenance,
 laying contracts in for things that did not happen.

5 Senator Perdue: So to put it bluntly Russia and China 6 do not face this sort of financial constraint with regard to 7 their planning. Is that correct?

8 General Berger: I am not qualified to answer that. I9 just know the impact it has on us. It is not good.

10 Senator Perdue: Thank you.

11 Senator Hirono?

12 Senator Hirono: Thank you very much, Mr. Chairman.

I appreciate the fact that you continue to focus on the 13 14 damage done by CRs, and in fact, some of you probably know 15 that the chairman and I were part of a joint House-Senate 16 special committee to address the budget and appropriations 17 issues, and both of us shared the concern about continuing 18 to resort the CRs. But we were not able to come to a 19 resolution or appropriate recommendations, which just goes 20 to show how intractable this problem is. But certainly 21 putting a large part of the base budget into OCO funds is 22 not the answer either.

23 So I want to get to the public shipyard modernization 24 issue, Secretary Geurts, because that is something that, as 25 you know, I have been really focused on.

1 So I do applaud the Navy for establishing a plan for 2 modernizing the public shipyards because up to now, we have 3 been in, pretty much, fits and starts without a

4 comprehensive plan.

5 Does the Navy's fiscal year 2020 budget fully fund the 6 shipyard modernization plan? Because the fiscal year CNO's 7 unfunded priority list is silent on shipyard modernization. 8 So I want to know whether you are fully funded to do what 9 you --

Mr. Geurts: Yes, ma'am. It is fully funded. We have put a lot of resources in it. And just to foot stomp your issue, the average age of our dry docks across all of our yards is 62 years old. And so that is just one element of where we need to modernize the shipyard, both recapitalize that, as well as recapitalize equipment and facilities.

16 Senator Hirono: Yes. We know that there are major 17 needs for modernization. So I just want to be assured that 18 you actually have money to proceed with that.

Are you considering any changes to the plan to accelerate specific capability expansion or specific productivity enhancements in view of the ship maintenance problems that you are facing?

23 Mr. Geurts: Yes, ma'am. We are working to look at 24 that. The shipyard plan kind of has three major lines of 25 activity. One is recapitalizing dry docks. The second is

productivity improvements by re-laying out the yard. We believe that will get us 65 percent more efficiency just in terms of moving workers closer to the work. And then the third is recapitalizing tools and machinery in the shipyards themselves. All three of those are underway.

Additionally, we have started master planning, and so at Pearl Harbor in particular is our first where we have hired a master planner to help work through the details. We are going to do that in all four of the yards to work through all the detailed planning of how exactly to lay out the yard to get us to the efficiency we want.

My end goal is as the number of ships goes up, we get the efficiency in the public yards so that we stabilize the workforce there, we can deliver the increased demand through efficiencies in the yard versus having to hire additional folks to meet that growing demand in the out-years.

Senator Hirono: Well, you also face the challenge of 17 18 having workers who are retiring in large numbers, and you 19 have a lot of people in the shipyards who are doing the 20 necessary work with fewer than 5 years of experience. So there is that. You can move the people closer to where the 21 22 work is to enhance the efficiencies, but you have the overall concern about where the workers are coming from. 23 24 Mr. Geurts: Absolutely.

25 Senator Hirono: What are you doing on that --

1 Mr. Geurts: Yes, ma'am. So we have accelerated our 2 hiring, and so we are at the level of workforce, 36,700, we 3 want in all the four public yards. We have achieved that a 4 year early. As you indicate, about 57 percent of those 5 right now have less than 5 years experience. And so we are б employing a whole host of technologies, apprentice programs, 7 and they are taking best practices from around the world to 8 get that workforce trained, capable, and stable so that as we improve the facilities, we will leverage the foundation 9 10 of a strong workforce that we have put in place.

11 Senator Hirono: I have been to our apprenticeship 12 programs, and I am seeing more women getting into those 13 programs. Is that a potential source of really good 14 workers? Are you doing any kind of particular outreach to 15 women to work in our shipyards?

Mr. Geurts: Yes, ma'am. I will have a follow-up to give you kind of a more specific answer to that. I would say in the time here, we are looking for the best workers and fully leverage diversity wherever they come from. It is a great opportunity to help the nation out. They are stable, really important jobs for us, and we are looking to actively recruit and maintain that workforce.

23 Senator Hirono: I look forward to talking with you24 more about that.

25 So moving on, for either you, Mr. Secretary, or Admiral

Merz, the Navy is requesting funds for three Virginia class 1 boats -- I know my time is almost up, but could I finish my 2 3 question -- in fiscal year 2020 instead of the two planned 4 for fiscal year 2020 at this time last year. And the Navy budget justification material says that since the normal 5 б advance procurement funds were not budgeted before now, the 7 third boat in the fiscal year 2020 request will not begin 8 construction until fiscal year 2023.

9 I would also note that last year, the Navy's 30-year 10 shipbuilding plan through 2048 did not ramp up production of 11 three Virginia class boats at all. And this year, the 12 Navy's 30-year shipbuilding plan includes the third boat in 13 fiscal year 2020 but does not include a third boat in any 14 other year in the 30-year plan. So it is a little bit 15 mystifying to me.

I can understand that you would request advance procurement for an additional attack submarine in fiscal year 2020, but why would you ask for full funding for a boat that cannot be built in fiscal year 2020?

20 Mr. Geurts: Yes, ma'am. I will start out, and if 21 Admiral Merz wants to jump in or we can come back around to 22 it.

As we discussed last year in the committee, our biggest shortfall in your opening statement as well noted is in attack submarines. And that situation will get worse before

it gets better. And so we are looking for any opportunity 1 2 to accelerate that versus the other fleets we had, and while 3 normally we would have just done the advance procurement, since this is outside of the block buy and because of the 4 5 criticality of adding the submarines and trying to get that б left of the Columbia production ramp-up, we chose to fully 7 fund that in 2020 when we made the hard decision to fully 8 fund that in 2020 versus over a couple of years.

9 Senator Hirono: Okay. I may have further questions.10 But thank you, Mr. Chairman.

11 Senator Perdue: Senator Hawley?

12 Senator Hawley: Thank you, Mr. Chairman.

13 Thank you, gentlemen, each of you, for being here 14 today.

Let me start with the 355 ship target, which I understand is a result of the force structure assessment in 2016. Is that correct, Mr. Secretary? Admiral, I will direct it to you.

19 Admiral Merz: Yes, sir, it is.

20 Senator Hawley: Now, I understand, based on testimony 21 last year, that the Navy is currently looking again at the 22 force structure assessment and updating that, Admiral. Is 23 that correct?

Admiral Merz: We are and that will be completed by the end of the year.

1 Senator Hawley: Completed by the end of this year. 2 I wonder if you can give us a preview. I mean, a lot 3 has changed since the last force structure assessment was 4 finished. I am thinking of, in particular, the National 5 Defense Strategy, which represents a significant shift, б obviously strategically and otherwise. Can you give us some 7 thinking on how the NDS may impact the force structure 8 assessment update and where you are on that?

9 Admiral Merz: Yes, sir. So I have not had a preview 10 of the force structure assessment, but I can certainly 11 comment on some of the complex variables we are inserting 12 into the ongoing assessment.

13 We typically do a force structure assessment every 2 to 3 years. The services are about 2 to 3 budget cycles. And 14 15 it is driven by a significant change in threat, a change in 16 guidance as the National Defense Strategy, which actually 17 covers both. And then we work it through with the combatant 18 commanders, the OPLAN analysis, the campaign analysis. Ιt 19 is typically founded on the capabilities we have on how we 20 would fight with the projection into the future. It does not typically identify new capabilities we need, best 21 22 employment of what we have or what we are projected to have. 23 Some of the things we have entered into a churn of this 24 force structure assessment is the shift -- I will say shift 25 back to distributed maritime operations, which is very

1 reflective of a peer or near-peer type of competition we might face. Along with that came a recognition that we will 2 3 likely have to change force mix, not necessarily types of 4 ships, but the numbers on either side; a strong look at logistics on how we would support a distributed maritime 5 б operation. We just finished the sealift report 18 of March, 7 and that showed that the sealift requirement is about 8 correct, but how we distribute that into a contested 9 environment is under review and that will be part of the 10 assessment.

11 So all that has created quite a few moving parts for 12 this force structure assessment. We were asked recently do 13 we expect the number to go up or down. I certainly do not 14 expect it to go any lower. I would not be surprised if it 15 goes up on several categories.

16 Senator Hawley: Thank you very much.

17 Let me ask you about modernization. China, obviously, 18 a major focus, the major focus perhaps, of the NDS. We know 19 that China is in a rapid buildup of sea power. It can 20 exceed 400 ships by some estimates soon. The statistic that is perhaps more alarming to me, however, is the statistic 21 22 that at least as of 2017, 70 percent of China's navy was 23 considered modern, outfitted with the latest technology, 24 including AI.

25 Can you give us some visibility, Admiral, into steps

1 that the Navy is taking to make sure that our fleet is not 2 only large, of sufficient size, but also that we are, 3 indeed, incorporating the latest technologies, including AI 4 and others, to make sure that we are on equal footing or 5 better than our Chinese counterparts?

Admiral Merz: Yes, sir. So not surprising, it will besomewhat of a similar answer.

8 So on the front end of our assessment are the OPLAN 9 analyses by the combatant commanders who keep a very close 10 eye on the threat. I will tell you we are very impressed 11 with China's commitment to modernization, their commitment 12 to maintenance. Maybe some insight to the chairman's 13 question on them, do they face the same type of budget 14 constraints? We do not know but we do know they follow our 15 models and in some cases are executing better than we are. 16 This is part of our recovery and our recommitment.

Artificial intelligence, machine learning, this all goes into how we would employ the force, and it will have an impact on the type of force that we buy.

20 Some of these vectors are a little bit hard to track 21 now. A lot of this technology is very new. But along with 22 the last force structure assessment, the defense committees 23 also directed us to do an additional assessment. Every 24 single one of them has identified the new technologies we 25 have to pursue, open the aperture, more distributed

lethality, cost-imposing, attritable, which includes machine
 learning, artificial intelligence.

All these factors are coming together for a
reevaluation of how this force mix might look.
Senator Hawley: Thank you very much.
Thank you, Mr. Chairman.

7 Go ahead, Mr. Geurts.

8 Mr. Geurts: If I could just add in we are absolutely, 9 I would say, on the acquisition technology side really 10 focused on how do we stream new capabilities into both our 11 existing fleet and future fleet much more quickly. There 12 are some really exciting stuff on architecture, and whatnot. 13 So perhaps I can give you an update on that in a little more 14 detail because we are really -- I would say the Navy is on 15 the front end of bringing new capabilities into ships much 16 more quickly, and I can probably give you some examples of 17 that.

18 Senator Hawley: I would appreciate that. Thank you.

19 Thank you, Mr. Chairman.

20 Senator Perdue: Senator King?

21 Senator King: Thank you, Mr. Chairman.

By virtue of my service on several other committees, I just want to share something that I think is a rising problem that I think could be very important, and that is cyber attacks through subs of major contractors. We are

1 seeing that in the utility field. We are seeing it also in 2 the military. And I hope it is something you can really 3 have some urgency on. You can have a five-person 4 engineering head hunting firm that gets into the system of 5 their general contractor and thereby can steal intellectual 6 property. And I think it is something we are now seeing 7 more of, and I hope you can put the fear of God into some of 8 these people and not just rely on the big guys having good 9 security but the subs that have access into their system. 10 That is just a point I wanted to mention.

I am a little worried about the timing of the Columbia Class. Tell me about how that is coming. I understand it is getting tighter. There have been some problems and the schedule is shrinking.

Mr. Geurts: Yes, sir. So Columbia's schedule has not changed. As you know, we were fairly proactive in looking at critical technologies, demonstrating and prototyping those to the left of when we would traditionally do it in a program, learning some of the lessons of some of our other lead ships where we had technical challenges that drove delivery of that.

But the area that has probably gotten the most kind of visibility and has actually showed us we have work to do is on the missile tubes, large, complex welds, finding the quality, understanding how we inspect those for quality. We

had some of those issues pop up last year. That has eroded
 some of the margin but has not impacted the schedule.

Senator King: You are still within the --

3

Mr. Geurts: Yes, sir. We still have an 11 months' 4 margin to the need date for those. So we are going to 5 б continue our prototyping activities to beat down any of the 7 areas where we see risk in terms of construction. In terms 8 of the program overall, they are close on their design 9 curves and maturity. We are going to have a higher design 10 drawing completion on that ship than any submarine we have 11 ever produced before.

So everything we are trying to do is to maintain margin, beat out the risk as early as we can, and then position that program for success because, as you know, we do not have a lot of schedule margin on the back end of that program to get it into the STRATCOM fleet to --

Senator King: Because there is a potential gap on the other end with the retirement of the Ohios.

Mr. Geurts: Yes, sir. We are tight. There is not a gap yet, but we do not have a lot of --

21 Senator King: Potential gap.

Mr. Geurts: Yes, sir. We do not have a lot of margin on the back end. So Columbia is our number one program. We are doing everything we know how to continue to drive risk out and deliver that on schedule.

1 Senator King: Good. Thank you.

Admiral, how are we doing with the integration with the Admiral, how are we doing with the integration with the Flight III DDGs coming in? Is that going smoothly? Are we on schedule? Does it look like it is going to be a smooth transition?

Admiral Merz: Yes, sir. We are on schedule. The first one delivers in fiscal year 2023. The last hurdle really for the phased integration of the capability we need was the final test on the radar, and that was just recently completed and the radar did fine.

11 Senator King: So that is ready.

12 Admiral Merz: Yes, sir.

13 Senator King: Maintenance plan. You talked about 14 maintenance. And I think I heard you say, at least 15 implicitly, more aggressive work on maintenance, better 16 scheduling, shorter periods because if we can do a better 17 job on maintenance, we have more ships at sea. Give me a 18 little more detail on what your plans are on maintenance. 19 Mr. Geurts: Yes, sir. And I would say my largest 20 focus area over the last 6 months has been on the maintenance side. We have some issues in some of the new 21 22 construction. We are not delivering yet to the degree I would want to the fleet in maintenance. My end goal is 23 24 ships come in on time, ships go out on time.

25 Senator King: Do you have data on sea readiness per

ship? It would be nice to know. Are they ready to be at
 sea? Are they at 82 percent or 62 percent or 90 percent?
 Mr. Geurts: Yes, sir. We can pull all that data for
 you.

5 Senator King: For the record, I would like to see it. б Mr. Geurts: Yes, sir. Where I am focused on -- we 7 have talked some on the public yard side of things. I am 8 also really focused on the private yard maintenance where we 9 do most of our non-nuclear, in fact, all of our non-nuclear, 10 surface maintenance and doing a couple different things 11 We are really taking a hard look, putting commercial there. 12 best practices on inspections the government does. We have reduced those on our availabilities by 30 percent. 13 My 14 target is 50 percent. So we can operate as efficiently as 15 we can in the private yards.

Senator King: Because that equals more ships.
Mr. Geurts: Yes, sir. We got to get them out on time
because if we do not get them out on time, that just ripples
all the way through the force.

The second piece is relooking at our contract strategy. We tended to award ships one at a time with not a lot of planning window, which made it really tough on industry to operate efficiently. So right now, we are moving our award dates 90 days before the availability. My goal is to get those to 180 days.

1 And then the third is reduce -- we were doing a lot of higher headquarters contract changes versus allowing folks 2 3 to fix things on the waterfront. We have already put those in so that changes under \$25,000, negotiate on the spot. 4 That is also driving a lot of efficiency. 5 б Senator King: Thank you. 7 Thank you, Mr. Chairman. 8 Senator Perdue: Senator Ernst? 9 Senator Ernst: Thank you, Mr. Chair. 10 Gentlemen, thank you so much for being here today. And, Senator Hawley, thank you for bringing up AI and 11 12 those capabilities because I want to dive in a little bit 13 more there.

14 Earlier this month, I held a subcommittee hearing 15 through Emerging Threats and Capabilities, and we did talk 16 about AI. So we have the development fielding of AI systems in our own formations, but we are also keeping an eye on 17 18 what Russia and China is developing. At what point do you 19 assess that artificial intelligence will be making a 20 critical difference in the way Russia and China deploy their forces? Do you see that as an imminent action or is it 21 further down the line? 22

23 Mr. Geurts: Yes, ma'am. My sense is it on a 24 continuum. So I do not think it will be, you know, today 25 this, tomorrow that. And I think the way the Department of

Navy -- and again, both my compatriots join in. AI can 1 apply to large things and small things. So using artificial 2 3 intelligence on maintenance, how do we do smarter 4 maintenance, how to increase the speed we can train, as well 5 as some of the big kind of data analytics decision-making б tools. I think all of those are in varying states of 7 maturity. Some of it is ready to go right now. We are 8 looking to accelerate that into the force now. Some of the 9 larger will take time to perfect. That is kind of my sense 10 of it right now.

11 Senator Ernst: And would you say that we are on an 12 even playing field with some of our adversaries and where 13 they are with AI?

Mr. Geurts: I would say we are ahead, but I would say that is -- we have got some sockers that are catching up to us if we do not continue to focus on it. The Department of the Navy, as well as the Department overall, are really focusing on it so we do not lose our competitive advantage here.

20 Senator Ernst: So are there other recommendations? 21 You mentioned maintenance, and that is always a great way to 22 use AI through any of our branches of service. Are there 23 things specific to our naval forces that you think would 24 benefit by using AI?

25 Mr. Geurts: Yes, ma'am. And again, I will maybe ask

1 two folks to jump in here.

I think training is another one, how to speed up training and get really kind of personalized training. And so as we said, we have a large workforce on the shipyard we are trying to train. We have very complex systems we are putting in the field with a growing junior force. And so understanding how to fully leverage that I think will be critical.

9 And then I would say at the higher levels how we do10 decision-making.

11 But maybe, Admiral Merz, do you want to jump in? Admiral Merz: Yes, ma'am. I appreciate the question. 12 This is a high interest item for the Navy. I would be happy 13 14 to get with you in a classified setting on the comparative 15 capabilities between us and at least the pacing adversaries. 16 But where I think this is an enabler not just for 17 fighting but for peacetime operations, situational 18 awareness, how we manage the force, where we place the 19 force. We are still considered the largest, most capable 20 navy in the world, but when you disperse us over the globe in any one particular area, we are likely not the largest, 21 22 and depending on how much time we had to respond. We see 23 this as a critical enabler for both what we will call man in 24 the loop, man on the loop, or just machine-to-machine 25 discussions, and we are pursuing all that.

As a matter of fact, it is a very rich area where we are partnering with industry. We were hoping we could just adopt a solution, and we are discovering that industry is struggling with this like we are, and we have found a lot of middle ground. We can work together.

6 Senator Ernst: I do appreciate that. I just think 7 there is a lot more that we can do with AI not only 8 administrative tasks, maintenance tasks, but also as AI 9 applies to autonomous vehicles and so forth. You know, we 10 may not be quite there yet, but at some point, we will start 11 to see more autonomous vehicles out there, autonomous boats 12 perhaps. You are very personnel heavy.

Mr. Geurts: Yes, ma'am. So in this year's budget, we 13 have over \$400 million in 2020 and over \$3 billion in the 14 15 FYDP on autonomous ships. That was going to be my kind of 16 final comeback. AI and machine learning -- that combination 17 to get the capability we want out of those autonomous ships 18 is absolutely critical, and we are already applying to the 19 autonomous vehicles we have, another area that is very rich. 20 Senator Ernst: Okay, very good.

21 Well, my time is about to expire. So, gentlemen, thank 22 you. And, Admiral, I may take you up on that offer. We can 23 do a deep dive. Thank you.

24 Senator Perdue: Senator Kaine?

25 Senator Kaine: Thank you, Mr. Chair.

And thanks to the witnesses. Good to be back with you.
 And thanks for the good work that you are all doing.

I want to talk about the Harry S. Truman. This is the first Seapower Subcommittee we have had since the news came out that in the President's budget request there is a suggestion that the Truman not be refueled at its midpoint.

7 The committee hears a lot both in open and classified 8 about the continuing need for the aircraft carrier platform 9 in terms of the capacity that it provides, but also in terms 10 of the flexibility. It can be here; it can be there as 11 problems crop up in different parts of the world.

The military has recently made a commitment to do a 12 two-carrier buy. So those new carriers are important. But 13 14 I think a lot of us were puzzled about a suggestion that you 15 would squander an asset at its midpoint when it might have 16 another 25 to 30 years of active life post refueling. So 17 this is really the first opportunity we have had to kind of 18 ask what is the thinking behind that. I know there is an 19 ongoing study about how to get to 355 and what the mixture 20 is. But if you could talk about the thinking behind the recommendation, that would be helpful. 21

22 Mr. Geurts: Yes, sir. I will start out and then ask 23 Admiral Merz to jump in from his perspective as the 24 warfighter.

25 So first I would say is we are all in on the Ford class

carrier. That is why we signed a two carrier deal. We see
 that, as the Acting Secretary said yesterday, we need
 carriers now. We need them in the future. So this is not a
 survivability issue or the Navy walking away from carriers
 by any regard.

6 But we are looking at how are we going to be 7 competitive in the future and what is the force mix that 8 gives us the most competitive advantage in the conflicts we 9 see going forward. That necessitated some bold moves and 10 some tradeoffs, quite frankly.

And so what the Department looked at is getting the Fords, getting that is our carrier of the future. That allows us to put the air wing in the future on and trade for that, particularly in the out-years of the FYDP, capability for some of these unmanned systems and some of these other cost-imposing systems that we think we need to complement the carrier of the future.

And so that was the thought process. It was a tough challenge. It was somewhat of a bold move. And we want to have that discussion early enough to have the robust debate it deserves with an ability to continue to look at that and understand if it is the correct decision from everybody's perspective.

24 Bill, would you like to add?

25 Admiral Merz: Yes, sir. Thank you for the question.

This is, obviously, a very big deal to us as well, a very
 important decision that took a lot of thought.

Our commitment to our carrier requirement is the Ford class. However, that requirement evolves over time. It is still 12 carriers, and we are committed to getting to 12 carriers.

7 This is a warfighting investment decision. We have 8 done a whole series of studies, including several directed 9 by the defense committees, and they all push us in the 10 direction of a more distributed force, autonomous vehicles, 11 directed energy, rail guns, and all these things are 12 investments that we decided now is the time to move out on. 13 We know the security environment is getting more

14 complex. So having this more distributed, cost-imposing 15 force we think will complement the battle force. It is not 16 intended to replace the battle force.

17 The effect of removing the Truman will be realized in 18 the late 2020s, 2027, 2029 when she would have come out of 19 the yards. So over that time, we are going to continue to 20 validate this approach. We are going to continue to 21 experiment. We will adjust in stride. We have a long 22 history of doing that. Yes, this is a reversible decision, 23 but we would like not to reverse it at the expense of these 24 other capabilities that we need to pursue and every 25 indication has told we need to evolve and to pursue.

1 Senator Kaine: Can I ask you this? So you say the gap 2 would show in 2027 and 2029 when it would come out after the 3 refueling. I think the refueling is supposed to start in 4 2024. Is that right?

5 Admiral Merz: It would. So that would have started6 regardless.

7 Senator Kaine: Let me ask this. So there is still an 8 ongoing study. So this is still sort of under some 9 analysis. In that analysis, are you taking into account the 10 effect on the industrial base of not doing the refueling? 11 What we have heard from industrial base partners that work 12 on the refuelings is that they really worry that they are in 13 somewhat of a fragile spot, and removing that refueling 14 beginning in 2024 could jeopardize them. Is that one of the 15 areas that you are analyzing as you try to reach the --

Admiral Merz: Yes, sir. So the analysis I am speaking of was a warfighting analysis. The analysis on the industrial base was done in advance of this decision. I will turn that over to Secretary Geurts to comment further. Senator Kaine: If I could, Mr. Chair, just have him answer that last question, that would be great.

Mr. Geurts: Yes, sir. As you know, anything in shipbuilding is all about the industrial base, and while there is some fungibility in terms of the skill sets needed to do this overhaul, there is a lot of specialized skill as

well. And so we have looked fairly closely at that. I 1 2 think we will probably make some adjustments in the budget 3 looking forward should the refueling continue to be off our 4 plan, where do we move the inactivations, and look at that 5 closely, work closely with the shipyard. There is a gap we see that it would cost. We have a lot of inactivation work б 7 to do, but we are going to have to work that closely with 8 the shipyard to understand because we are going to have to 9 preserve that workforce capability. So I do not want to 10 trivialize that as an issue to work. We have some time to 11 work as that workforce impact would not really hit until 12 2023 and then into 2024. It is something we are going to 13 have to work. We looked at it at the top level as we made 14 the decisions, but it will be something we are going to have 15 to work closely with the shipyards on.

16 Senator Kaine: I appreciate it.

17 Thank you, Mr. Chair.

18 Senator Perdue: Senator Cotton?

19 Senator Cotton: Thanks, gentlemen.

Let us keep probing that line of questioning from Senator Kaine. The decision about the Truman has been in the news a lot lately. We have been talking about it a lot here in Congress. So the Truman is still good to go, though, until 2024. Is that right?

25 Mr. Geurts: Yes, sir.

Senator Cotton: Because that was when it was scheduled
 to enter its mid-life maintenance cycle. When was it
 scheduled to come out?

Admiral Merz: 2027, 2028. It is all part of the
5 shipyard loading and how --

6 Senator Cotton: So the decision that is being taken 7 now will not have a real world impact then until about 2027 8 or 2028.

9 Admiral Merz: Yes, sir. But the decision is only10 reversible for about another year.

Senator Cotton: What exactly is that real world impact in 2027, 2028, just in laymen's terms.?

Admiral Merz: That is a little bit of a foreseeing threat vector analysis. So the way we approach is what capabilities might we need to predict what we think is coming --

Senator Cotton: Just in simpler terms, on your carrier l8 fleet, what is the practical impact in 2027 and 2028 if the Truman does not undergo that refueling?

20 Admiral Merz: It will be one reduction in a carrier 21 through the --

22 Senator Cotton: For how long?

Admiral Merz: Until she would have retired in 2048.
Senator Cotton: How much money do you save by not
undergoing that mid-cycle refueling?

Admiral Merz: It is about \$4 billion to not do the
 overhaul, and then it is a savings of about \$1 billion a
 year in operating cost.

4 Senator Cotton: And you are proposing to put that5 money into Ford class carriers.

6 Admiral Merz: We are proposing to put it into a whole 7 spectrum of capabilities that will complement the force.

8 Senator Cotton: Could Congress resolve this challenge 9 or this tradeoff that has been created for you simply by 10 putting a little bit more money into the shipbuilding 11 program over the 5-year defense plan and then into the 12 future?

Mr. Geurts: Yes, sir. So you will start in terms of practicalness in the next 2021, 2022. We normally order our equipment, long-lead activities for that. Then in 2023, 2024, you start the labor portion of that. And so as we balanced the top line, we made that decision.

Obviously, you could trade within the top line or add to the top line. The dollars in 2020 are fairly negligible. 20 2021 and 2022 is really -- if we do not make the hard 21 decision by not doing it, you will have made the decision 22 because we will not have the long-lead equipment.

23 Senator Cotton: Got it. The simple answer, though, 24 which the Department of Defense would usually tell Congress 25 is we can solve some problems for you if we give you a

1 little more money. Right?

2 Mr. Geurts: Yes, sir.

3 Senator Cotton: Got it.

4 Let us talk about carriers and the role they play, 5 specifically the vulnerability to them. We hear a lot about the asymmetric threat. It is a classic example of a really б 7 expensive boat versus a really cheap missile. We are 8 talking primarily here about China, just to get down to 9 brass tacks. ISIS does not have anti-ship ballistic 10 missiles against Russia and Europe. You are looking at primarily an air and ground war. Not entirely. Primarily. 11 12 So we are talking about China and its anti-ship ballistic missile fleet. 13

These carriers are not just sitting ducks, though, out on the water. Are they? I mean, how easy is it for China to hit one of our carriers with a ballistic missile?

Admiral Merz: So this is the question that I really
look forward to answering. I can give you a lot more detail
in a classified setting. I think we should do that.

I will tell you this is not a survivability decision about the carriers. We feel very strongly the carrier is more survivable now than it has probably been in the last 70 years. And we can walk you through why we think that both from a capability standpoint and also on how we operate the aircraft carrier.

1 Senator Cotton: How fast is a carrier? 2 Admiral Merz: It is a little bit of a sensitive 3 number. Fast. 4 Senator Cotton: It is really fast. It has lots of defenses? 5 б Admiral Merz: Yes, sir. 7 Senator Cotton: I knew some lieutenants in Iraq who 8 were somewhat cavalier about incoming mortar fire on their 9 bases. They used to say big base, little bullet. The ocean is even bigger than a base in Iraq or Afghanistan. Right? 10 11 So big ocean, little bullet. 12 Mr. Geurts: Yes, sir. It is the only runway that will move 700 miles a day. 13 14 Senator Cotton: Got it. 15 Which brings me to a final question --16 Admiral Merz: I would like to clarify that is not our 17 defense. 18 [Laughter.] 19 Senator Cotton: I understand. Admiral Merz: That is an element of the operations. 20 21 Senator Cotton: But speed is security. Admiral Merz: Yes, sir. 22 Senator Cotton: Final question. So there is that 23 24 threat, though, of the anti-ship ballistic missiles against 25 not just the carriers but any surface ship. Is that one of 45

1 the main advantages that we have in our undersea

2 capabilities, our fast attack submarines, that they are not 3 susceptible to that kind of anti-ship --

Admiral Merz: Yes, sir. Our whole approach to warfare is using cross-domain capabilities to effect whatever capability we need based on the face of the threat. The undersea capabilities for us we think is our number one asymmetrical lethality advantage over anyone else in the world.

10 Senator Cotton: So as China's missile threat does, in 11 fact, potentially force us a little bit further away from 12 the first island chain, those fast attack submarines can 13 loiter a lot closer.

14 Admiral Merz: The submarines will have to work a15 little bit harder.

Senator Cotton: And that is one reason why it is so vital that we maintain the shipbuilding pace for those fast attack submarines in the medium and long term and do not let, as Secretary Shanahan said the other day, a capability or capacity gap emerge.

Admiral Merz: Exactly right, sir. And we can make this argument on every shipbuilding line for what they bring to the fight.

24 Senator Cotton: Thank you.

25 Senator Perdue: Senator Shaheen?

1 Senator Shaheen: Thank you, Mr. Chairman.

2 Thank you all for being here.

3 Secretary Geurts, I was really pleased to hear you say 4 to Senator Hirono that you reaffirmed the commitment to the 5 shipyard infrastructure optimization plan. As you point б out, the average age of our dry docks is 60 years old. You 7 also acknowledge that the biggest shortfall we have is with 8 our attack submarines, and as Senator King pointed out, we 9 all understand that the better job we do on maintenance, 10 means that we can have more ships at sea.

11 So I was really surprised when projects from the 12 Portsmouth Naval Shipyard showed up on the military construction list of projects to take money from for the 13 14 President's border wall. And I was particularly surprised 15 because I know you were at the Portsmouth Shipyard last 16 fall. You were briefed on the projects which directly 17 relate to our ability to expand the dry dock capacity there 18 and allow us at the shipyard to be able to do maintenance on 19 more ships.

20 So can you explain what the thinking is here, why we 21 would take money from those projects that would back up our 22 ability to address our backlog in attack submarine 23 maintenance?

24 Mr. Geurts: Yes, ma'am. So the list that was 25 generated was generated just based on those projects that

1 met a certain set of criteria. That was not the list, as I 2 understand it, of projects that were not to be funded. That 3 will be a secondary process that the Secretary of Defense 4 will work through.

5 And I believe and what I have heard is the Secretary of 6 the Navy will have an opportunity to provide his thinking in 7 terms of readiness impact and all the other impacts should 8 any of those projects be defunded.

9 So the list itself was just a list to a certain set of 10 criteria, particularly those that have not been funded yet 11 in 2019, as I understand it, but that is not a list of 12 projects that were to be defunded, as I understand it.

Senator Shaheen: But you would acknowledge that there 13 14 is some uncertainty about that. And I can tell you, having 15 visited the shipyard last Friday, that there is a great deal 16 of uncertainty at the shipyard among the people who work 17 there about what this means for their future. And I would 18 argue that if we want to send a clear message about the 19 importance of our attack submarines and our Navy and what is really critical to our national security, that we would not 20 21 put those projects that are critical to maintaining our 22 attack submarine fleet on that list of projects to be 23 considered for defunding.

24 So can you tell me what the Navy's response was when 25 you were asked to list projects?

1 Mr. Geurts: Yes, ma'am. Again, that list was created 2 to a certain set of criteria, not the value or importance of 3 each one of those projects. Instead of have they been 4 obligated yet, it was not a value judgment of the project. 5 It was just a generic formula to a set of criteria the 6 Secretary of Defense had put together.

7 I will affirm the absolute criticality of maintaining 8 our optimization plan. The Navy intends to put \$21 billion 9 towards that over the next 20 years. A lot of these near-10 term projects are absolutely critical, particularly in 11 Portsmouth with dry docks which are some of our oldest dry 12 docks in the Navy that we need to maintain those capabilities. So I would be hopeful that folks in the 13 14 shipyard do not take that as a signal of the lack of our 15 commitment or lack of importance to that modernization. 16 Senator Shaheen: Well, I think it sends a very mixed 17 message that is not a good message for the Navy, for the 18 people who are so committed to ensuring that we have the 19 ships that we need in the fleet, and for the country about 20 what is important if we are going to maintain our national 21 security.

I would like to pick up on the question about our industrial base partners next because one of the things that I have heard is that there is a lack of Virginia class parts available in the national stock system and that the public

shipyards are taking extraordinary measures to get parts and
 that is often resulting in delays.

3 Can you comment on that and what is the problem there 4 and what we need to do to address it?

5 Mr. Geurts: Yes, ma'am. So as we have gone to two б Virginia ship per year rate, as well as had more Virginia 7 submarines in the fleet, we have had some parts that failed 8 at different rates than we expected when we put the original 9 supply system in there. Congress has been very helpful to 10 fund in our kind of integrated enterprise plan particularly 11 parts that are common across our submarines and carriers to 12 allow us to invest in those suppliers to get those suppliers up at rate. That is not only critical for today's 13 14 operation, but as then we add Columbia on top of it, we have 15 got to make sure the supply base is really ready to operate, 16 not only to produce more but to sustain more that we have in 17 the fleet. And we are continuing to work on that very 18 closely. I appreciate the great support.

Senator Shaheen: And so is that what it is going to take to make sure that we have the additional parts? Is it to make sure there is more funding or what?

Mr. Geurts: No, ma'am. I mean, it is continued focuson it, continued looking at it.

The other thing we are working closely with our supply base is allowing them to see the composite need between

current construction, future construction, repair and
 maintenance. That way they can size and they can understand
 the demand we will be placing on them and make smart
 investments so that they are going to be ready as we
 continue to place more demand.

This is a little bit of the -- when we talk about б 7 supply base, when we did not build submarines for about 10 8 years, this shows in perfect clarity how long it takes to 9 rebuild that base, how fragile it is, and how important that 10 the whole nation continues to focus on it because if you take your eyes off it or go on a bust cycle, it is really, 11 12 really hard to get that back particularly when you want to add new capability. 13

14 Senator Shaheen: Thank you.

15 Thank you, Mr. Chairman.

16 Senator Perdue: Senator Blumenthal?

17 Senator Blumenthal: Thank you, Mr. Chairman.

I want to, first of all, Secretary Geurts, ask about the submarine program. You are convinced that the threeship program Virginia attack class is a prudent and actually cost or money-saving way to plan going forward for this year so that we can continue at two ships per year and have that option of a third and, in the end, will help to save resources.

25 Mr. Geurts: Yes, sir, particularly as we look at that

1 gap coming up. Since we are going to fund it all in 1 year 2 as opposed to -- we did not include it in our kind of 3 economic order quantity. It will not deliver as if it was a 4 20-ship. A lot of details to work through to make sure we 5 have got it feathered in on the line, but I believe we would 6 not have put it in the budget if I did not believe we could 7 not execute it.

8 Senator Blumenthal: Let me ask you whether you think 9 that the training and manpower education programs are 10 commensurate with the demands we are going to have at that 11 yard and others that will be involved. Obviously, thousands 12 of new workers are going to have to be hired. I visited the 13 apprenticeship and the training programs at Electric Boat 14 and elsewhere in southeastern Connecticut, and my own view 15 is we are going to have to be making a much greater 16 investment in those training and education programs.

17 Mr. Geurts: Yes, sir. I would say both the submarine 18 yards have been putting a lot of energy into that. It is a 19 critical factor in terms of how well we can actually execute 20 the programs we have had. And as we have seen on some of the Virginias, as we have tried to accelerate them, we have 21 22 done a great job getting that 66-month centers as we have 23 tried to move to 60-month centers. We have seen some 24 challenges on having a sufficient trained workforce. I 25 think the programs are in place.

1 What I would say is we are going to have to solve this 2 before Columbia, and so to the degree this continues to help 3 put us on a smooth growth path to the large number of the 4 workforce we are going to have to bring in for Columbia, 5 that will benefit us.

б Senator Blumenthal: The funding for many of these 7 programs -- for example, Electric Boat is going to go from 8 20 in its design apprenticeship program up to, I think, more 9 than 300 -- comes from the Department of Labor, not from the 10 Department of Defense. The Department of Labor's budget in 11 the President's budget will be cut, I believe, by around 30 12 percent for training and education programs of exactly the 13 type that are necessary for this purpose.

14 Are you concerned?

15 Mr. Geurts: Absolutely, sir. And I would be happy to 16 follow up with you on some more detail. We have had contact with the Department of Labor, and I would be happy to go 17 18 over there personally. I know the Secretary of the Navy has 19 also had interest in this to ensure they understand the 20 criticality and the priority of that to support the Navy. 21 Senator Blumenthal: Well, you and I are totally in agreement on the criticality of that funding, but if the 22 23 President's budget is adopted, it simply will not be there 24 in the Department of Labor. So I hope that we can move 25 forward together and kind of change that budget. It is not

in the jurisdiction of this committee, but I think it is
 important to our national defense. Would you agree?

3 Mr. Geurts: Absolutely, sir.

4 Senator Blumenthal: Thank you.

5 Maybe I can ask you whether in your view there is б likely to be a loss of faith among the general public when 7 they see a carrier like the Truman, which has another 30 8 years of life -- forgive me -- scrapped to put resources 9 into other programs that may be worthwhile, and yet we are 10 building more carriers. I have trouble explaining that to folks in Connecticut who say, you know, we drive our cars 11 12 until we cannot use them anymore. Right? At least some of 13 us do. And we do not just trade them in necessarily because 14 we like the looks of another car, another ship, particularly 15 when we are spending billions of dollars. What would you say to those folks? 16

Mr. Geurts: Yes, sir. So the new carrier does provide additional survivability, additional capability, additional flexibility for the 50 years going.

20 Senator Blumenthal: And the Truman is not survivable.21 Is that the message?

Mr. Geurts: No, sir. All I would say is that the existing Nimitz class are absolutely awesome carriers that are doing a great job. What I would say, though, is we are committed to the Ford class carrier in overtime replacing

1 the fleet with that newer class carrier. That is true. We 2 made a hard decision in terms of trading off additional 25 3 years and the sunk costs that goes with that to some of the other capabilities. So it was not a trade of a Ford versus 4 5 the Truman. It was in the broader perspective of we need б carriers, we need them for the future. They are in every 7 scheme we have. We also need some other capabilities, and 8 given the budget limits we had, we had to make some hard 9 tradeoffs. So I would not say the Trumans have no value and 10 we do not assess any value to the Truman.

Senator Blumenthal: I would like to follow up because my time has expired, and I apologize, but just in terms of our conveying the explanation to our constituents in terms they can understand, I think it would be important to be armed with those facts and arguments.

And I want to conclude by congratulating Lieutenant General Berger on your nomination to be Commandant. This may be the last hearing that you go without getting tough questions, sir.

20 [Laughter.]

Senator Blumenthal: But we look forward to workingwith you and congratulations.

23 Thank you.

24 Senator Perdue: We will now enter a second round if 25 you guys have other questions. I have one I would like to

1 probe.

2 Mr. Secretary, Director of Operational Test and 3 Evaluation's fiscal year 2018 annual report talked about significant rents of the Ford class. There were four 4 5 systems that are the most problematic right now. Right? б The electromagnetic launching system, the advanced arresting 7 gear, dual radar, and then the advanced weapons elevators. 8 These technical issues have caused delays, obviously. 9 And also they talked about the demonstrated reliability. 10 The question was also brought up in the annual report about 11 the catapults resting gear, the elevators, and radar. 12 Would you give us an update on those four systems and also talk about the maintenance period that we are in right 13 14 now? I think there was an 8-month delay. Now it looks like 15 a 15-month delay. Can you talk about those two very 16 important issues relative to the Ford class? 17 Mr. Geurts: Yes, sure, absolutely, both very important 18 issues. So those are kind of the four new technologies we put 19 into the Ford class, newest carrier design we have done --20 we had not done a new carrier in 40 years. 21 22 I would say on the first three, on the electromagnetic launch, the resting gear, and the radar, I think we are in 23 24 good shape there. There is going to be reliability we are 25 going to have to test, and we will not be able to do that

until we go to sea. We have done 750 traps and launches
 with the system. But I would say we have to get it in sea
 and put it through its paces. And so I am fairly confident
 there.

We have 11 of them. Two of them have been 5 Elevators. б delivered. They have been operating. Cruise force has full 7 control of those. They have been operating reliably. And 8 the feedback I have gotten from the crew has been very 9 positive. We have nine more we have got to work our way 10 through, two uppers and seven lowers. We are working our 11 way through that particular area. So I have not seen 12 anything in the elevators that shows me that it is something 13 we cannot solve, but it is a lot of work to work our way 14 through those pieces.

15 Senator Perdue: Sorry to interrupt. The boat was 16 supposed to be delivered in 2015. As I understand it, it 17 was delivered in 2017. So this is now 4 years in and the 18 elevators are still an issue. Is this a learning experience 19 for us as we go forward in terms of new technologies and 20 application on these lead ship developments?

21 Mr. Geurts: Yes, absolutely. And I am happy to kind 22 of talk. Lessons learned we are putting into kind of all 23 our new lead ship designs. But certainly I would say -- and 24 again, I was not there at the time, so I have the benefit of 25 looking backward. We did not build the ground test

1 infrastructure for these new technologies to prove them on the ground before -- proving it the first time for the 2 3 elevators on the ship has not been the right path to go 4 forward, something we do not want to repeat on other ships. 5 The other thing I would say is I am commissioning -- I talked I think in November about it. I am going to б 7 commission an independent review team for the technologies, 8 not as much for the lead ship, but making sure that we have 9 all the support, all of the technical support, spares, 10 everything we need to do as these systems go to sea to 11 ensure we have got all the infrastructure in place to 12 support the ship and the crew long term. So some immediate 13 issues to get everything working on 78 now just left to the 14 elevators, a couple of remaining elevators. But I want to 15 make sure we have got all of the back-end support in place 16 so when that ship goes to war, the captain can take her out 17 with complete confidence and understand that everything will 18 work and we have got all the proven reliability and support 19 needed.

In terms of getting out of the availability right now, we have got three causal factors causing the delay getting out of the yard. I never want to deliver something late to the fleet. So I view that as a failure on my part of getting that ship out on the schedule we had. We intended in July. Right now, my best estimate is October.

1 That is driven by three causal factors. One is repairs and changes made to the nuclear propulsion plant based on 2 lessons we learned out of sea trials. The second piece is 3 4 just the balance of all the things we had intended to do and 5 the availability, just the kind of scope of work. And then б the third is finishing up those remaining elevators and 7 getting those to the point where the crews got access and can use all of them. 8

9 Senator Perdue: Yes, sir. Thank you.

10 Senator Hirono?

11 Senator Hirono: Thank you.

Just as a follow-up to the request for three Virginia 12 13 class boats, so Secretary Geurts, how concerned are you 14 about delays in the current submarine construction program 15 where we are only building two attack boats per year and 16 construction on the Columbia class strategic missile 17 submarine program has barely started? So what does this 18 performance say about the ability to ramp up production for 19 an extra attack boat, the third boat in fiscal year 2020, or 20 the advisability of ramping up production in fiscal year 2020 with no plan for building three boats per year during 21 22 any other year in the 30-year shipbuilding plan?

23 Mr. Geurts: Yes, ma'am. So I would say strategically 24 one of the things we tried to do on the 30-year shipbuilding 25 plan and one, I think, of the real benefits of this year's

plan versus last is you saw a smooth-out of that production
 in growth profile. And maybe in a follow-on discussion,
 Admiral Merz can talk about the benefits. That is I would
 say generically because the better we can smooth that out,
 the better it helps training and manpower and all the other
 pieces.

7 On Virginia specifically, as I said, we started with an 8 84-month span. We have gotten those ships down to 66 9 months. Our goal was to try and drive them all the way to 10 60 months span time at two per year. We are struggling a 11 little bit to get all the way down to 60 months. And so 12 adding the third one in, we are going to have to work that. It is a little bit challenging from a perspective of it will 13 14 look different because we do not have the advance 15 procurement. We have done it all in 1 year. But we have 16 also got a block buy 5-year program to kind of feather that 17 ship in.

18 And so I worry very much about ensuring, as we grow 19 that submarine enterprise, we can do it smartly, repeatably, 20 and sustainably. And we were already going to be somewhat challenged going from two submarines in Virginia to add 21 22 This will be a good opportunity to continue to Columbia. pressurize that system and work out where do we have weak 23 24 spots and friction points as we get ready for Columbia to 25 size that workforce and capability there. So I think to

some degree, there will be some benefit to moving in there,
 but it is something we are going to have to watch very
 closely.

4 Senator Hirono: You are going to need to watch that 5 very closely because I recognize that our submarines provide 6 us with the asymmetric advantage in warfare. So because you 7 are being very aggressive in terms of the production of our 8 submarines, we are going to need to make sure that you are 9 totally on top of that.

10 Now, going back to the refueling of --

Admiral Merz: Senator, if I could just pile on to complete the answer here.

13 Senator Hirono: Please.

Admiral Merz: It is well documented, the value we put in the submarine force and the gap between the requirement and where we are today. It is also a great example of what happens when you walk away from a shipbuilding line for a decade like we did in the 1990s and you get to the point where there is only so much you can do to recover. All of that drove to get that third submarine into the 2020s.

To your specific comment, the next multiyear plan does include options for a third submarine for fiscal year 2022 and 2023. Time will tell.

Senator Hirono: So we will be getting that assessment.
Admiral Merz: Yes, ma'am. That was stated in the

1 shipbuilding plan, and that was actually directed by the 2 defense committees to include that in the next negotiation. 3 Senator Hirono: Turning to the refueling of the 4 Truman, so our aircraft carriers are very much a big part of 5 our forward presence, and that is really important and б particularly with China and North Korea. So you explained 7 that this was a hard tradeoff because of budget 8 considerations. So as Senator Cotton said, if we were to 9 give you more money, you would keep the Truman in place. 10 Would you not? 11 Admiral Merz: Yes, ma'am. Senator Hirono: Would that be your druthers? 12 Admiral Merz: Our druthers would to not surrender a 13 14 carrier that has 50 percent of its life remaining. 15 Senator Hirono: Yes. 16 Admiral Merz: But we would like to not do that at the 17 expense of moving out on these other technologies, what 18 every assessment has told us --19 Senator Hirono: Yes. But basically we should consider 20 giving you more money. Right? 21 Admiral Merz: Yes, ma'am. 22 Senator Hirono: So that you can not only save the 23 Truman but you can do these other opportunities, as you say, 24 Mr. Secretary, to invest in advanced and distributed systems 25 that will shape future naval warfare to expand our

1 competitive advantage.

2 Secretary Geurts, you said that with regard to, again, 3 the refueling of the Truman, I know that there are a lot --4 it probably affects thousands of workers when we do not 5 refuel the Truman. And so you mentioned that you need to 6 preserve the workforce. So for a number of reasons, 7 everything, yes, does become a budget kind of a 8 consideration.

9 But it is hard to explain to people why you would 10 basically have thousands of people who would otherwise be 11 working on the refueling, not to mention we are not getting 12 the full life of this boat. Kind of hard to explain why we 13 are not doing it if there are other ways that we can provide 14 funding for that to occur.

Mr. Geurts: Yes, ma'am. It will not be as large a job if we inactivate that ship. So we will carry some of the workforce between this refueling and the next one down the pike. But we are going to have to watch very closely the skill sets in that refueling and work closely with the shipyard to balance all of that out because we do not want to lose that critical skill set.

22 Senator Hirono: Not to mention that the shipyards that 23 were intending to do this work -- it is not as though they 24 do not have some fixed costs regardless of whether they do 25 the work or not, and those fixed costs have to be borne by

1 the taxpayers eventually.

2 Thank you.

3 Senator Perdue: Senator King?

4 Senator King: Thank you.

5 All this talk about submarines -- I mean, about 6 aircraft carriers. I was fortunate enough to spend a couple 7 of days on the George Washington at sea, and the captain 8 greeted me and said you are going to be staying in the 9 admiral's quarters. And I was feeling pretty cool because I 10 was staying in the admiral's quarters until I found out it 11 is right under the catapult.

12 [Laughter.]

Senator King: And they were doing night landings. So maybe the electromagnetic catapult will be a little less noisy. I do not know.

A couple things. Admiral, we are talking about a future large surface combatant to be the next generation after the DDG-51. Both of you, if you will tell where that project stands, what you think of it, and what you are thinking of in terms of timing.

21 Mr. Geurts: Yes, sir. Maybe I will start with kind of 22 the timing piece and then Admiral Merz can kind of talk 23 capability, where we are thinking at.

24 Right now, the first one will be in 2025. And so the 25 immediate --

1 Senator King: Are you saying delivery in 2025?

2 Mr. Geurts: No, sir.

3 Senator King: Initiation.

4 Mr. Geurts: Initiate. So right now, it is outside the5 FYDP, first year outside the FYDP.

б Money in the budget to start doing the development, 7 prototyping -- so as we understand, work closely with 8 Admiral Merz on the requirement and with industry on what the state of technology is. Our intent is looking at 9 10 prototyping, looking for those high-risk areas where we need 11 to prototype some of that technology so that we do not have 12 some of the repeat lessons of some of our previous lead 13 ships where we kind of went right into lead ship. And so 14 that will be an activity we are going to mature over the 15 year. So similar to what we have done on frigate, we will 16 have a very active conversation with both industry and our technical warrant holders, understanding the balance of 17 18 risk --

19 Senator King: We are at the very beginning of that 20 process.

21 Mr. Geurts: We are at the very beginning of that.

22 Senator King: We are finalizing requirements and --

23 Mr. Geurts: Yes, sir.

24 Senator King: Admiral?

25 Admiral Merz: Yes, sir. So we learned a lot from the

1 frigate program, bringing in industry early, discussing the 2 art of possible ahead of the requirements generation, where 3 in the past we probably got in a bad habit --

Senator King: And looking at existing designs too.
Admiral Merz: And looking at existing designs.
Existing designs are going to be part of the large surface
combatant review as well. As a matter of fact, the aperture
is wider on the larger ship than what we started off with
the frigate.

We are very happy with how the frigate is progressing. The lethality of the ship is going to be higher than we initially thought we were going to be capable of getting. I think that will affect probably the ultimate numbers of large surface combatants we need. That will all be part of the force structure assessment as we are coming through that.

With the lessons learned from the MQ-25 unmanned tanker, the frigate effort, we are going to work with industry this year to see if the art of possible also includes accelerating that ship potentially to fiscal year 20 2023 or fiscal year 2024.

We are motivated to get our surface ship mix correct per our future surface combatant analysis studies. That included the frigate. That includes the large surface combatant, and that includes this whole family of unmanned

systems that Secretary Geurts commented on with a massive
 investment this year in the President's budget.

3 Senator King: General, you have been the forgotten man 4 this morning. What about sealift? I am worried that we are 5 focusing all on the combatants, the submarines. Are we at 6 where we need to be in terms of planning for additional 7 sealift capacity? We got to get your marines ashore.

8 General Berger: I will ask my teammate to jump in.

9 On the sealift, probably two parts of it. One, the 10 strategic sealift from CONUS across and the other one, the 11 more operational to tactical level sealift that deploys and 12 then postures the force as needed, all of which is aging and 13 all of which the Navy and the Marine Corps are working hard 14 to resolve. And there are three different approaches, which 15 I will ask my teammates to talk about.

But in the end, we have to be able to move the forces we need to. We know that figure and it is pretty steady, the size of the force. But the speed at which we need to move them and the reliability of those ships is what we got to attack.

21 Mr. Geurts: Yes, sir. I think just from the current 22 force requirement, it is pretty constant for heavy lift. We 23 just need to go recapitalize that. And so we have got kind 24 of three lines of attack, you know, buy some --

25 Senator King: We are on a schedule where we do not

1 have a gap in capacity.

2	Mr. Geurts: We are on a schedule where we do not have
3	a gap in capacity. But those are aging pretty quickly. So
4	we are really looking hard at that current kind of heavy
5	lift fleet. We were going to do some service life
6	extensions. We will continue to do business case to see if
7	that makes sense and then come back to the committee if
8	there are opportunities to accelerate that, maybe buy some
9	more used ships as opposed to keeping the old ones around.
10	We are working our way through that.
11	Bill has done a lot of work on, I will say, the new
12	sets of requirements and it is probably worth a minute, if
13	you would like, on where we are thinking there.
14	Senator King: Sure.
15	Admiral Merz: Yes, sir. So the requirement work we
16	have done in what we call the off season here is reflective
17	of how we shifted our whole fleet employment model of
18	distributed maritime operations, which really is a return to
19	what it looks like to face a potential peer. Part of that
20	is the logistics support, the strategic lift coming over,
21	we will get it into a safe area so then now what? What do
22	you do with it to distribute it and you distribute it into a
23	contested environment. So that is an evolving requirement.
24	It is reflected in some of the work we are trying to do on
25	the existing ship lines and our unfunded priority list as we

look at logistics, we look at repair, we look at hospital
 ships. We know that the two hospital ships are not enough
 to support us in a distributed maritime operating
 environment.

5 So all this, we are expecting a requirement to continue 6 to grow. We know the capabilities we need. The capacity is 7 still under review. That also will be fed into the force 8 structure assessment. Lighter, faster ships that can serve 9 those specific purposes, but also carry a lot of gear for 10 the Marine Corps quickly and efficiently.

11 Senator King: I just want to be sure when we are 12 talking about all these exciting attack ships, we do not 13 forget that sort of workhorse piece.

14 Mr. Geurts: It is on our radar, sir.

15 Senator King: Could I ask one more question, Mr.

16 Chairman?

17 Senator Perdue: Absolutely.

18 Senator King: Yesterday we had the Army budget

19 hearing, posture hearing. And there is a term that I have

20 been learning in the last few days called "OCO for base."

21 Does your budget include OCO for base?

22 Mr. Geurts: Yes, sir.

23 Senator King: What percentage is it? Do you have any 24 idea? In the Army, it was 34 percent of their budget was 25 OCO. Half of that was OCO for base and half of it was

1	traditional OCO. You can take that for the record. I would
2	appreciate it if you would. It is a concern to me, Mr.
3	Chairman, because it is really not honest budgeting, and we
4	are going to be discussing that.
5	Thank you. I appreciate it, gentlemen.
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1 Mr. Geurts: Yes, sir. I will get you the exact 2 number, but it is on the order of -- our OCO request last 3 year was about \$5 billion. Our OCO request this year is 4 about \$35 billion. And so that shows you the difference in 5 terms of OCO and OCO base. But I will make sure you have 6 the exact number.

7 Senator King: For the Army, it was \$62 billion.
8 Mr. Geurts: It is actually \$27.7 billion.

9 Senator King: Thank you.

10 Senator Perdue: Secretary, I want to talk about the 11 lessons learned, and I want to look at a little history 12 here. And these examples were not on your watch or the 13 leadership of the Marines or the Navy currently. But I want 14 to see what you are doing now to address the lessons, 15 hopefully presumably, learned by these.

16 But if you look at the last lead combatant ships that 17 have been delivered, a total of \$8 billion more in the 18 initial budget was required to construct these ships, and 19 they had a cost growth of on average of about 10 percent, 20 but included three lead ships that exceeded their initial 21 budget by 80 percent or more. Three lead ships, 80 percent 22 or more. And each lead ship that was delivered to the fleet 23 was at least 6 months late with five of these lead ships 24 being more than 2 years late. And we already talked about 25 the four being \$2.5 billion over budget, 20 months late, and

1 still not operational today.

2	And I wanted to come back to your response to that to
3	probe a little bit. Can you be more specific about what we
4	are doing now in this budget that we are looking at going
5	forward that builds on the learning that you have from, say,
б	those last eight lead ship, combatant ship deliveries?
7	Mr. Geurts: Yes, sir. I was not there for all of it,
8	so I will not pretend to second guess decision-making back
9	then.
10	Senator Perdue: That is fair.
11	Mr. Geurts: I will just give you my perspective kind
12	of here. And to your point, at the second kick of the mule,
13	you do not learn a lot. So we are trying not to relearn old
14	lessons without attacking it.
15	I would say a challenge in shipbuilding is your lead
16	ship is your development ship. And so that provides a
17	little bit different nuance than in an airplane program or
18	some of the other things. It is not better or worse. It is
19	just the fact we go at it. And so you tend to get a lot of
20	learning in that first ship because no matter what you do
21	prototyping-wise, you still have to get it in the platform,
22	get it into operations. So there are some unique elements
23	to it.

Having said all that, we have not produced the ships in the lead ship realm the way we wanted to and got them out to

the fleet at the speed and with all the capability we wanted
 to.

3 So I would say there are four basic things we are doing to get after it. The first is my teammate here in terms of 4 5 requirements, much better integrating acquisition and б requirements, and so it is not a transactional exchange. Ιt 7 is an integrated exchange. And you have seen us employ that 8 on frigate where we have had, you know, with industry's 9 involvement, a much better informed requirements setting 10 activity because, after all, if we do not have the requirement right, we will chase that through the whole 11 12 ship.

13 The second piece is really improved sub-system 14 prototyping like we have done on Columbia, try and get 15 everything prototyped as soon as we can, learn some lessons 16 on Ford by not having land-based prototypes for all the sub-17 systems. We are chasing that right now a little bit. So 18 that would be the second area.

19 Third, I would say is ensure we have the talent. All 20 of the services lost some organic talent when we went 21 through this massive downsizing in the 1990s. At NAVSEA, we 22 went from 700-ish naval engineers down to 200. We are now 23 back to 600 there. And so regaining the government talent 24 and making sure that talent has got the skill for the work 25 going. I look across the entire naval enterprise in terms

of talent. We do not have the talent completely matched to
 the new needs. So we are working our way through that
 process.

4 And then the last I would say is I have got an 5 independent team right now reviewing the entire naval б research enterprise to make sure we are investing in 7 technologies, to make sure we have the right talent so that 8 we are feeding into the process the right technologies with 9 the right experience so that we can make smart decisions. 10 When my teammate asks for a capability, what are the 11 technologies that would best fit that capability.

12 Those I would say are the four things we are doing now 13 to address that very important question you asked.

Senator Perdue: Well, that is very helpful because it seems to me from the outside looking at this with a fresh set of eyes that innovation and quality and quantity are needed right now in dealing with these peer adversaries out there.

General Hyten chilled us a couple of weeks ago when he talked about we have lost our ability to go fast. I do not totally accept that, but we have got to win at this success factor I think. It is a combination of great innovation but timeliness in delivery too.

24 Mr. Geurts: Yes, sir. And the other thing I would say 25 is we are really differentiating the work, and so the time

1 to get a lead ship that we are going to keep for 50 years is
2 different than the time that I want to get an AI algorithm
3 into that ship or a new sensor into that ship.

So I would say on the flip side what we have been able to do in the submarine force -- the other day we did a launch from a digital twin of an Aegis combat system, which we virtualized. That is really helping us speed new capability onto the ships more quickly.

9 So there is a lead ship set of issues that we have to 10 deal with, and then there is a speed to get new technology 11 capability, invention, whatever. So we want to have a 12 deliberate and predictable and high confidence lead ship 13 approach, and then we want to have a high speed, high 14 iteration turn time approach for new capabilities where we 15 can get them in the fleet, get them in the hands of 16 warfighters, let these guys experiment with them, and then 17 we can figure out which we want to keep.

18 Senator Perdue: That is fair. Thank you.

19 Senator Hirono?

20 Senator Hirono: I just have a few more questions.

21 Mr. Secretary, you and I talked about a recent article 22 that was quite critical of the Navy accepting ships before 23 they are ready with all kinds of problems. So some of those 24 discussions that you have been having with the chairman goes 25 to the kind of oversight of changes, including hiring

1 people, you know, engineers who can help you assess the kind 2 of ships that we are accepting, all of that. So that is 3 reassuring. You need to stay on course on that.

Admiral Merz, you are working on updating the force structure assessment before the end of this year. How will you be incorporating the shift to Asia and the Pacific as you consider expanding the fleet to deploy the number of ships you need?

Admiral Merz: Yes, ma'am. 9 So the force structure 10 assessment actually starts with the warfighting requirement, 11 and the National Defense Strategy has set that warfighting 12 requirement as the Asia-Pacific as the pacing threat. So 13 first and foremost, that drives the assessment. You cannot 14 ignore the other areas, but it helps to have a driving one. 15 For instance, we are very much closely tracking Russia 16 technology developments. So they all feed into it, but the 17 pacing threat is the Asia-Pacific threat.

18 Senator Hirono: Yes. So we need to make sure that we
19 have the appropriate resources in that AOR.

Again, with the cancellation of the Harry Truman, what are the implications for what the new force structure assessment will include in terms of aircraft carrier force levels in the Asia-Pacific area?

Admiral Merz: So the force structure assessment does not start with any preconceived force level. It will do a

1 Typically the model is unconstrained up front. model. Ιt 2 usually comes up with a very large number for all ship 3 classes. And then we apply operating guidance on where we might take risk, deployment models, and we work the number 4 down to where we think it is about the right level. And 5 б from there, it comes up with a number for each ship class, 7 and when you add all those up, the current one adds up to 8 355. Where the other one goes -- I do not expect it to be a 9 smaller number, but what each one of those ship lines 10 contributes to that will likely change to some degree.

Senator Hirono: So are those decisions ultimately to be disclosed in a classified setting?

Admiral Merz: The analysis is a classified discussion on how we got there, but once we end up, similar to the 355 and the components that make that up, that will be an unclassified number.

Senator Hirono: Mr. Secretary, your prepared testimony on page 5 indicates that operations in a contested environment means that the Navy's logistics fleet will need to include smaller, faster multi-mission transports.

21 Correct?

22 Mr. Geurts: Yes, ma'am.

23 Senator Hirono: I do not see any specifics on a 24 program to shift in this direction in the Navy budget, but 25 could you give us a sense of what the Navy is doing or plans

1 to do to shift to smaller multi-mission transports?

And, General Berger, how will this contested
environment affect the Marine Corps' ability to conduct
amphibious assault operations?

5 Mr. Geurts: Yes, ma'am. So as Admiral Merz described, б he is working through the requirements element of that fast 7 logistics in the contested environment right now. As that 8 comes out, then we will work with him on acquisition 9 solutions to go there. I think in the good news category, 10 that will be a lot of smaller, faster roads where I think we 11 have got plenty of industrial capacity that we can leverage. 12 We have had great success over the last year with a lot of 13 small businesses delivering ships to the Navy. And I have 14 not seen all the requirements output yet, but I think there 15 is a rich industrial base and opportunity to bring in 16 additional capabilities through those shipyards to solve 17 that requirement. We will look at that in the 2021 budget. 18 That is probably where you will start to see that show up.

19 Senator Hirono: All right.

20 General Berger?

General Berger: The way that we did logistics 40 years ago of offloading everything that is on the ship and build a giant pile on the beach that you could fight inland from are gone. That is never going to be able to survive.

25 Hence, like the Secretary pointed out, the concepts

1 that we are working on now are driving us towards the 2 ability to be much more dispersed, much more distributed, 3 and therefore the logistics be much more distributed. We cannot have an iron mountain on a beach, and no one is 4 5 planning on that. But the ability to move troops, б equipment, and supplies laterally through an archipelagic 7 region is driving us in the direction that Secretary Geurts 8 mentioned, not great big haulers that dump it all on the 9 beach, but much more smaller, more of them, faster, lower 10 signature, all that. Yes, ma'am.

Senator Hirono: And that would, Mr. Secretary, help
 our industrial base at least for the smaller companies.

13 One last question, Mr. Chairman, if I can.

14 Mr. Secretary, we are aware that there have been some 15 problems with production of the ship-to-shore connector, or 16 SSC, program. And this is a program that will replace our 17 landing craft air cushion, or LCAC, that transport equipment 18 and supplies ashore. I see that you have not chosen to 19 request any production for the SSC program in fiscal year 20 2020. Will this gap in funding harm the program or cause a break in the production? 21

22 Mr. Geurts: Yes, ma'am. I will describe that, and if 23 General Berger wants to, from a warfighting perspective, 24 give his thoughts on it.

25 But the zero in this year's budget should in no way

1 signal the lack of importance of that program or lack of 2 commitment to it. What it shows is some of the technical 3 challenges we have had delivering that first capability and 4 a little bit of the production backlog we have had over the 5 last couple years. So from my perspective, there is plenty б of production awaiting completion of that trial. That is 7 queuing up. That will allow us to continue to sustain that 8 activity.

9 As we get the boat through its final acceptance trials, 10 we get the initial ones produced, I think that is another 11 one of excellent candidates where we should look at block 12 buying or multi-yearing as we will want to get them into the 13 fleet as fast as we can as soon as they are ready.

So our biggest hurdle right now is completing a couple of technical issues to get that boat ready to go. All testing thus far has shown the design overall is sound. We have got a couple of technical issues to work through. As soon as that is done, we will continue to accelerate that production line.

20 Senator Hirono: General Berger, did you want to add 21 something?

General Berger: Last week, ma'am, I had the chance to go down to Huntington Ingalls and also to Textron. I think everybody on this side of the table would echo your concerns. We have 72 non-displacement LCACs right now.

1 Most of them have undergone a service life extension 2 already, and some of them may need to go through a post-SLEP 3 extension program. They were fine when they came out in the early 1980s. They could haul 60 tons and go pretty fast and 4 cover a lot of beaches. The ship-to-shore connector at 74 5 б times faster, more reliable is what we must have. So the 7 risks you point out, ma'am -- we are going to keep the older 8 ones longer, pour more money into them to maintain them, and 9 they will not be as capable as the ship-to-shore connector. 10 Textron knows what they need. They know the technical 11 challenge that they are facing. They have the right 12 workforce and the right leadership in place. 13 Senator Hirono: Thank you. 14 Thank you, Mr. Chairman. 15 Senator Perdue: Senator Wicker? 16 Senator Wicker: Well, I am delighted to follow up on 17 some questions that Senator Hirono asked. 18 Let me make sure I understand, Admiral Merz. There 19 will be a new force structure assessment taking into 20 consideration the warfighting requirement as guided by the National Defense Strategy. But you do not expect a smaller 21 22 number than 355 ships. That was your testimony. 23 Admiral Merz: No, sir, I do not expect a smaller number. 24 25 Senator Wicker: And it would be hard to imagine

considering the threat that we have. It would be hard to
 imagine that your statement would be incorrect there.

Now, Lieutenant General Berger, these smaller ships
going through the archipelagos that you talked about -- what
would be examples of those?

6 General Berger: Right now, we have LCACs and LCUs that 7 move our equipment and our supplies from ship to shore. 8 What I am suggesting, Senator, is we are going to need not 9 quite planes, trains, and automobiles but a family of 10 connectors that can, on the surface, move our supplies, move 11 our equipment around at greater speed between islands or 12 between the ship to shore, between shore to shore.

Now, Mr. Chairman and Madam Ranking Member, we have a budget proposal from the administration, and administration budgets come and go. But we have got the responsibility of actually providing the authorization and the funding here, and we take that very seriously.

Senator Wicker: Thank you for clearing that up.

13

19 With regard to amphibious ship procurement, I see that 20 the budget defers an LPD procurement, an LHA procurement 21 till 2024. We will see about that.

But let me just ask about the need at the Marine Corps. General Berger, do we still need 38 amphibious ships indicated in the Navy's current force structure assessment? General Berger: That requirement is valid today, sir.

1 But as mentioned earlier, the 2019 force structure 2 assessment -- we will see what comes out of that. Senator Wicker: Okay, but that is still valid, 38. 3 How many amphibious ships do we have today? 4 5 General Berger: 32, Senator. Senator Wicker: 32 as compared to a requirement of 38. 6 7 Do you foresee the Marine Corps mission eliminating 8 amphibious operations at any point in the near future? 9 General Berger: No, sir, I do not. 10 Senator Wicker: That is very helpful. 11 And let me ask you then, Mr. Secretary. Congress 12 appropriated \$350 million in fiscal year 2019 to begin procurement of an LHA and an LPD. However, amphibious ship 13 14 procurement was removed from the fiscal year 2020 budget 15 proposal, as you know. Instead, the Navy has deferred LPD procurement to 2021 and LHA to 2024. This move has the 16 17 potential to disrupt the amphibious war ship industrial base 18 as there is a long lead time requirement for parts and

19 materials, as we all know.

Instead of deferring procurement to 2021 and 2024, could the Navy apply incremental funding to the LPD and LHA in fiscal year 2020? Is incremental funding more advantageous than deferring procurement? If Congress approves incremental funding in the fiscal year 2020 NDAA for the LHA and LPD, would it allow the Navy to accelerate

1 how it spends the \$350 million that was appropriated in 2 fiscal year 2019?

Mr. Geurts: Yes, sir. You would have to give us that authority. We have used that authority previously on LHAs, occasionally on LPDs. With that authority then and the funding we have in the budget, we could begin moving out on that long lead material.

8 I would say for the LHA in particular, I think we are concerned with it in 2024. It was there from an 9 10 affordability standpoint. We are going to look hard in the 11 2021 budget at potentially moving that to the left as 12 funding allows because I am also concerned with a 7-year break in that ship, and I do not want to lose the excellent 13 14 workforce we have cranking out LHAs right now. So it is in 15 the budget right now in 2024. That is something we are all 16 motivated to do both from a workforce standpoint, as well as 17 its contention with Columbia as it starts ramping up in 18 Incremental authority on both those ships would allow 2024. 19 us to get at that faster.

20 Senator Wicker: Well, Mr. Chairman, I hope we can help 21 them get these done in a more timely fashion.

Admiral Merz, DOD currently has an organic capacity of 15 million square feet on 65 roll-on/roll-off ships in the Ready Reserve Force with an additional 4.5 million square feet of roll-on/roll-off capacity on U.S.-flagged commercial

ships through the Voluntary Intermodal Sealift Agreement.
 These ships are vital to wartime logistics, historically
 accounting for 90 percent of wartime transportation
 requirements. DOD has developed a recapitalization strategy
 for RRF vessels to maintain capacity at an acceptable level
 of risk.

7 Would you comment about that and briefly describe for 8 the committee what the Ready Reserve recapitalization plan 9 looks like and what measures the Navy will take to ensure 10 that the Ready Reserve vessels and their life is extended in 11 a reliable fashion?

Admiral Merz: Yes, sir. So I will make a couple requirements -- perspective remarks and turn it over to Secretary Geurts on the acquisition side.

We revalidated the 15 million square foot requirement for the strategic part of the lift. The challenge there is recapitalizing it. It is in the fleet now, but it is old. It is getting older. So we are looking at creative and aggressive ways to recapitalize that fleet. And there are three levers we are attempting to pull.

Building new would be preferred for the long-term health of the fleet. There are some commercial shipbuilding challenges with that that we are hoping to partner with Congress to help resolve.

25 There is buying used either domestic-built or foreign-

1 built used ships.

2 And then there is also the service life extensions of 3 old ships to make them even older.

4 So you throw all that into a pile. We are trying to 5 come up with the right balance to get after this. And then б we have the previously discussed RORO requirement of the 7 tactical side of the logistics train. It has captured a lot 8 of our attention, as we have shifted to this distributed 9 maritime operation and have a distributed logistics operation to go behind it. And I think we are postured well 10 11 to start moving out.

12 I will turn it over to Secretary Geurts.

Mr. Geurts: Yes, Senator Wicker. I think again both 13 14 those three lines of operation are there. As we look at the 15 commercial market and what is available on the commercial 16 market for some of the fairly generic RORO ships, we think 17 there is good opportunity to continue to look hard at that 18 and perhaps relook at the business case and purchase some 19 rapidly off the commercial market, accelerate that portion 20 to get rid of our oldest ships that are -- it is becoming less and less cost effective to extend them. And then we 21 will continue to look at new build, particularly new build 22 for unique ships, which have unique missions that are not 23 24 necessarily found on the commercial market.

25 Senator Wicker: And so finally -- and I appreciate the

1 indulgence of the chair -- I was glad Senator Hirono touched 2 on the Truman. Mr. Secretary, this ship needs to be 3 refueled, and if it is refueled, it has got a lot more life 4 in it. Is that correct?

5 Mr. Geurts: Yes, sir.

6 Senator Wicker: Okay, and we have got a year or 2 to 7 reconsider this decision. Do we not?

8 Mr. Geurts: Yes, sir. We will have to start ordering 9 some of the advance materials in 2021.

10 Senator Wicker: 2021, okay.

11 Mr. Geurts: Yes. So we have kind of got this year, 12 and then decisions after that start to become less and less 13 reversible or most costly to reverse. And so we made this 14 decision now when we have time to have a -- it is an 15 important decision. It is one that requires full debate. 16 We look forward to that. We wanted to make it at a time 17 where we would not have to completely rewrite the budget 18 depending on how that outcomes.

In terms of the near year, I would just say there are some capabilities we believe that are required in the Navy, which we have funded at the expense of that. That was a bold move. That was a difficult decision for us. As we look at that and make decisions, I think it is incredibly important for us to really keep an eye on those capabilities and make sure we preserve the opportunity to continue to

explore and bring those complementary capabilities into the
 naval fleet.

Admiral Merz: Sir, I would like to just add a clarifying point. The 2021 decision means a PRESBUD 2021 decision. So we have this year to reevaluate the path we are on.

Senator Wicker: Well, I think that is an important
point to make, and I certainly want us to scratch our heads
hard on that.

10 Thank you very much, gentlemen. And, General Berger, 11 congratulations on being named Commandant. That was some 12 news whispered to me earlier today.

13 Thank you, Mr. Chairman, for your indulgence.

Senator Perdue: I just have one remaining question.
Before I do that, Admiral, would you clarify? I just
want to make sure I understood that right for the record
that we could expect this force structure report sometime in
the next calendar year. Is that correct?

Admiral Merz: Yes, sir, by the end of the calendaryear.

Senator Perdue: By the end of this calendar year.
Admiral Merz: Yes, sir, by the end of 2019, we will
have the assessment.

24 Senator Perdue: Thank you.

25 Secretary, we have talked about China today. We have

not really talked about Russia. The Russian submarine development over the last decade has been pretty impressive, a little scary actually with the development of the Sev submarine class and now the Kalibr missile. Talk a little bit about how that development, in addition to what we see China doing -- how that has affected this particular budget and your strategy going forward.

8 Mr. Geurts: Yes, sir. And Bill can also give his9 warfighting perspective.

10 But I would say taking it up a level, the National Defense Strategy from last year is really focusing us kind 11 12 of at that global competitive piece. Each competitor brings some unique attributes and risk areas that we watch closely. 13 14 Our job is to figure out how to take that whole picture and 15 create a force structure that can both be effective and 16 allow us to compete and win, and then from my perspective, 17 efficient and provide value for every dollar the taxpayer 18 puts to this. Both of those are really what we are focused 19 on.

I think Russia is, again, a little bit of a different problem set. They certainly have some niche capabilities that we have got to keep an eye on, and we are doing so. And so I would say their niche capabilities drive some specific pieces. China's global capabilities kind of drive the overall force set.

1 But, Bill, you might want to add a specific --2 Admiral Merz: Yes, sir. In this forum, obviously the 3 inability to address specific threats -- there is this 4 longstanding mutual respect between Russia and the U.S. on 5 maritime capability, and it is an influencer on the б capabilities we pursue in both quality and quantity. 7 Senator Perdue: Senator Hirono? 8 Senator Hirono: Thank you. I am done. 9 Senator Perdue: Senator Wicker, do you have anything 10 left? 11 Senator Wicker: Probably, but I --12 [Laughter.] Senator Perdue: Gentlemen, that concludes the hearing 13 14 today. I want to thank you for your personal investment 15 today and all the information. This has been a very good 16 hearing. But more importantly, as leaders of your services, 17 18 please take back to the sailors and marines out there that 19 we are dead serious about trying to meet the needs of their 20 mission, protect our country. We do not take this lightly. It is a financial issue. It is also a planning issue. And 21 22 we will be earnest partners with you as we try to do that. 23 So God bless you and thank you for today. 24 [Whereupon, at 11:53 a.m., the hearing was adjourned.] 25