[H.A.S.C. No. 113–56]

UNDERSEA WARFARE CAPABILITIES AND CHALLENGES

HEARING

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

HEARING HELD
SEPTEMBER 12, 2013

U.S. GOVERNMENT PRINTING OFFICE
82–962 WASHINGTON : 2014

For sale by the Superintendent of Documents, U.S. Government Printing Office,
http://bookstore.gpo.gov. For more information, contact the GPO Customer Contact Center,
U.S. Government Printing Office. Phone 202–512–1800, or 866–512–1800 (toll-free). E-mail, gpo@custhelp.com.

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

J. RANDY FORBES, Virginia, *Chairman*

K. MICHAEL CONAWAY, Texas
DUNCAN HUNTER, California
E. SCOTT RIGELL, Virginia
STEVEN M. PALAZZO, Mississippi
ROBERT J. WITTMAN, Virginia
MIKE COFFMAN, Colorado
JON RUNYAN, New Jersey
KRISTI L. NOEM, South Dakota
PAUL COOK, California

MIKE MCINTYRE, North Carolina
JOE COURTNEY, Connecticut
JAMES R. LANGEVIN, Rhode Island
RICK LARSEN, Washington
HENRY C. "HANK" JOHNSON, JR., Georgia
COLLEEN W. HANABUSA, Hawaii
DEREK KILMER, Washington
SCOTT H. PETERS, California

DAVID SIENICKI, *Professional Staff Member*
DOUGLAS BUSH, *Professional Staff Member*
NICHOLAS RODMAN, *Clerk*

CONTENTS

CHRONOLOGICAL LIST OF HEARINGS

2013

THURSDAY, SEPTEMBER 12, 2013

UNDERSEA WARFARE CAPABILITIES AND CHALLENGES

STATEMENTS PRESENTED BY MEMBERS OF CONGRESS

WITNESSES

APPENDIX

UNDERSEA WARFARE CAPABILITIES AND CHALLENGES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
Washington, DC, Thursday, September 12, 2013.

The subcommittee met, pursuant to call, at 9:03 a.m., in room 2118, Rayburn House Office Building, Hon. J. Randy Forbes (chairman of the subcommittee) presiding.

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

Mr. FORBES. I want to welcome our members and our distinguished panel of experts to today's hearing that will focus on our undersea warfare capabilities and challenges.

Before we begin our discussion today on undersea warfare, I wanted to quickly discuss sequestration and the alternatives that are facing the Navy. It is apparent to me that the largest threat to the United States Navy is of our own making. Despite repeated attempts by the House of Representatives to rein in our Nation's spending and properly resource the Department of Defense, the administration has instead offered an alternative plan that would raise our Nation's taxes, creating a logjam that ensured sequestration continues to decimate our Nation's defense.

When budget cuts were compared with the Nation's risk associated with our Syria interest, even Secretary Hagel agreed that dismantling of our military by budget cuts constitutes the greatest risk.

If this administration remains supportive of the continued deterioration of the military because of sequestration, I look forward to the day when a new leadership in our country is established to overcome this shortsighted agenda. We need to ensure that strategy drives budget decisions, we need to provide a voice to our combatant commanders, and we need to ensure that every time we put our soldiers and sailors in harm's way, we provide them with every tool and every resource to ensure that we retain a superior advantage over any competing interest.

If sequestration is allowed to remain during the remaining tenure of this administration, I would urge the Department to adopt a strategy that retains our current force structure in a reduced operational status to allow the next administration the opportunity to reverse our military's decline.

A decision that reduces our Navy by three aircraft carriers will take 20 years to recover. This type of irreversible action by the administration will irreparably harm our Nation. A hold-and-wait

strategy is superior to any strategy that would reduce our force structure, as is being considered by the administration.

As to this hearing, I continue to believe that the undersea warfare capabilities provided by our United States Navy provide a preeminent role in the—our control of the global commons. These capabilities provide the United States with a key asymmetric advantage over any potential aggressor. Even in a time of declining resources, it is crucial that our Nation continue to retain our strategic advantage in undersea warfare.

At the heart of our current fleet is the *Los Angeles*-class attack submarine. To augment the *Los Angeles* class, this committee has been successful in the authorization of two *Virginia*-class submarines per year, and we authorized another two boats in the fiscal year 2014 NDAA. However, with the accelerating retirement of the *Los Angeles*-class submarine, our Nation will drop below the 48-boat goal starting in 2025.

I believe that our attack submarines are an essential element to any of our Nation's high-end war plans and I remain committed to continuing the annual procurement of two *Virginia*-class submarines to retain our asymmetrical advantage.

Our submarines force also provides a substantial strike capability with the land-attack Tomahawk cruise missile. Our Navy has four *Ohio*-class guided missile submarines that can each carry 154 Tomahawk cruise missiles. Unfortunately, these four boats are scheduled to be retired.

The Navy has proposed to replace this reduced strike capacity with the *Virginia* Payload Module [VPM]. I believe that the *Virginia* Payload Module could provide this additional capability to the fleet, and I will closely monitor the affordability of the *Virginia* Payload Module to ensure that the benefits outweigh the associated costs.

Finally, the *Ohio*-class replacement program is expected to provide almost 70 percent of our Nation's entire strategic arsenal. Our national security rests on our ability to deliver this boat on time and within budget. Unfortunately, the cost of these 12 boats will each average $6 billion and may crowd out other shipbuilding interests starting in the next 5 years. I believe it is imperative that the Department of Defense allocate the correct funding towards these strategic assets and ensure that our United States Navy does not disproportionately bear the burden.

The fair share division of our Nation's defense resources at the Pentagon needs to come to an end to ensure that our naval forces are properly resourced for our future challenges.

Today we are truly honored to have as our witnesses the director of the Undersea Warfare Division, Rear Admiral Richard Breckenridge, and the program executive officer for submarines, Rear Admiral David Johnson.

Gentlemen, we want to thank both of you for your service. You are the best our country has to give. We thank you both for being in the role that you are in, and we are looking forward to hearing your testimony today.

I now want to recognize my friend, the ranking member from North Carolina, Mr. McIntyre, for any remarks that he might have.

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

STATEMENT OF HON. MIKE MCINTYRE, A REPRESENTATIVE FROM NORTH CAROLINA, RANKING MEMBER, SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

Mr. MCINTYRE. Thank you. Thank you, Mr. Chairman.

As we look at the Navy's current and planned undersea warfare programs, we couldn't have two better witnesses. So thank you to Admiral Johnson and Admiral Breckenridge for your service and for being here today.

And thank you, Mr. Chairman, for holding this hearing, because we do know the Navy's undersea capabilities are critical, critical issues facing the DOD [Department of Defense] and the Congress as a whole. I particularly want to thank Admiral Breckenridge, whom I have known since I first came to Congress, for his leadership and character, for his integrity and for your service. And thank you for being a continuing example of that from the time I knew you when you were studying for your first exam to be able to do nuclear engineering and to go on to submarines. And to have risen today to the responsibility and rank you have; you have been steadfast in that, and thank you for that great witness of character.

As we look ahead to examining the Navy's plans in this area, there is a lot of talk about China, about other countries having asymmetric advantages over the U.S., but we know in terms of submarines, the reverse is true, and you gentlemen know that better than anybody, which is, of course, why you are here today.

We know that our submarines are clearly at the forefront and clearly have the most mobility to do what needs to be done quickly, accurately and responsibly. We know that that means we can't take that advantage for granted, and it means that we can't simply stand still, or I guess the better parallel is say we shouldn't just simply stay anchored, we must get underway, and we must stay underway with the advancements in our submarine fleet and our underwater warfare capabilities.

Another reason, of course, we want to talk with you gentlemen is we are concerned about the cost of the current submarine programs and how that is going to impact what we do now, but obviously what we do in the future. In the fiscal year 2013 budget alone, there is more than $5 billion in shipbuilding procurement accounts for the *Virginia*-class attack submarine program. That is supposed to continue for many years. There is also about $750 million in research and development for the *Ohio*-class replacement submarines, which I know we have had some conversations about, even though we are years away from actually starting construction. In both cases, in plain terms, that is a lot of money, but as things stand today, it looks like the Nation gets the most bang for its buck out of these investments.

With falling budgets for sequestration, we are concerned about how the Navy will be able to keep these programs on track. It is not only a personal interest, a professional interest for you, I know as Navy officers, but it is an interest that I know you share in our national defense, in a concern on behalf of our Nation.

Finally, I want to mention the future of unmanned underwater vehicles. The progress in this area is raising some important questions. Will the Navy be able to expand its global undersea presence without the expense of building more and more large, very expensive manned submarines, or alternatively, will the Navy in the future do more to have a balance of some type, and if so, in what proportion of both manned and unmanned submarines working together to make our overall submarine fleet more effective.

These are the type of questions we know that—we hear a lot of about unmanned aerial vehicles these days and that has captured the public's imagination, but also have been the reality in our military. This is a new area, though, for many people, and as our citizens start asking questions, we would like to hear your answers as we look ahead to those unmanned submarines and other ways of having unmanned underwater vehicles and activities.

We look forward to your testimony. Thank you for your service, and indeed we pray God's blessings upon you and your families, because we know they make great sacrifices in the lengthy times that you have been away and will continue to be away as you serve our great Nation.

Thank you, Mr. Chairman.

Mr. FORBES. Gentlemen, we thank you both. And as you know, as you look at this subcommittee, we are building a record so that we can use it for making the decisions that we need. It is probably one of the most bipartisan subcommittees that you will find in Congress. Mike is one of my closest friends in Congress. And Mr. Courtney is representing the northeast for us up here today. Mike and I are carrying the southern portion. And we have got Mr. Cook bringing up our western flank over there, so we are well represented in here.

But, Admiral, we are going to turn it over to the two of you. And I think, Admiral Breckenridge, are you going to go first?

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES. Then we will turn it over to you. Thank you for being here.

STATEMENT OF RADM RICHARD P. BRECKENRIDGE, DIRECTOR, UNDERSEA WARFARE DIVISION (N97), DEPARTMENT OF DEFENSE

Admiral BRECKENRIDGE. Well, Mr. Chairman, distinguished members, Rear Admiral Dave Johnson and I thank you for the opportunity to testify before the Subcommittee on Seapower, as we represent the men and women of your Navy's undersea forces. And in both your opening statements, again, the special relationship the Navy has enjoyed with Congress since the very beginning of our country is an underpinning of our greatness as a Nation.

With the permission of the subcommittee, I propose to provide a brief statement and a separate written statement for the record.

By any objective measure, the United States has the finest undersea force in the world. We enjoy a distinct military advantage in the undersea domain unlike any other. When you consider land, the surface of the sea, air, even space and cyber, these domains are becoming more and more heavily contested between us and our adversaries, but in the undersea domain, we have a unique military

advantage, and that advantage has been the bedrock of our greatness as a Nation, a crown jewel, if you will, of our global strength and security. Strength, I might add, that is not used to add to our own national glory, but is instead given sacrificially as we stand by others who are severely oppressed, as they pursue the ideals of democracy and freedom.

The outstanding reputation enjoyed by our submarine force is the result of sustained excellence by our shipbuilders, our maintainers, our shore staffs, our planners, and most of all by the men and women who operate our submarines day in and day out. This is demanding, highly technical work that requires the best people our Nation can produce, and we are very fortunate as a country to draw the members of this great team from all over the Nation.

Our undersea forces have a unique role within the Navy, just as the Navy has a unique role within the joint force. Undersea forces leverage the concealment of the undersea to provide what no other part of the joint force can deliver, and that is persistent, undetected, assured access far forward and the ability to deliver unique military advantages. By leveraging stealthy concealment, our undersea forces can deploy forward without being provocative, penetrate an adversary's defensive perimeter, and conduct undetected operations. These undetected operations might be precautionary ship movements, intelligence collection and surveillance missions, or special forces operations.

Should it be necessary, our concealed undersea forces can exploit the element of surprise and attack at a time and place of our choosing. These attacks could include efforts specifically focused on helping ensure access into a denied area by our follow-on general purpose forces. Feedback from our operational commanders indicates that the demand for this capability is strong throughout the globe.

In addition, looking into the future, the threat to our ships and aircraft from cruise missiles, anti-ship ballistic missiles and integrated air defense systems is growing. This will create more military demand for undersea forces.

Against this backdrop of increasing undersea force value and continued strong demand, we must consider the trends in undersea force structure. The Navy has worked hard to stabilize overall naval forces near or slightly above the current level; however, within this stabilized Navy, there is a submarine force that will decline by more than 25 percent over the next 15 years. This decline is not the result of some recent decision, as you mentioned. It is the gradual consequence of a long list of choices made over many years.

The total submarine force will drop from 73 submarines to 52 ships, a cut of about 30 percent. The vertical strike payload volume of the undersea force, as our SSGNs [guided missile submarines] retire and we reach the bottom of this trough area with our SSNs [attack submarines], will drop by over 60 percent. The forward presence of our submarines around the globe will decline by over 40 percent. This is the program of record. This is with the two per year *Virginia* construction rate, of which we received great support from Congress.

So facing a long-term trend of increasing undersea importance and decreasing undersea forces capacity, the Navy has developed an integrated approach to provide as much undersea capability as

possible, yet within realistic constraints. This integrated approach does not solve all of the shortfalls faced by the Navy, but it makes significant progress with limited resources. I would like to discuss the top four priorities of this integrated undersea future strategy.

First and foremost, it is mandatory that we sustain our survivable sea-based nuclear deterrent with about the same level of at-sea presence as today. The *Ohio* class represents the best lessons learned from the SSBNs [ballistic missile submarines] that preceded it, and the *Ohio* replacement will likewise benefit from the *Ohio* class. Although we have delayed this program for over 20 years, it is now time to make the necessary investments to support procurement of the first *Ohio* replacement in 2021. There is no allowance for any further delay.

Second, to prevent the attack submarine reduction from getting any worse than the 29 percent currently programmed, it is essential that we protect the *Virginia*-class SSN procurement plan and hold the line at two SSNs per year.

Number three, to cost-effectively compensate for the retirement of the four SSGNs and the reduction in our SSN force below the required minimum level of 48 ships, we need to invest in the *Virginia* Payload Module. In addition to partially compensating for the lost strike volume, the *Virginia* Payload Module will distribute this volume over more hauls, providing greater security and military utility. This module will provide valuable payload flexibility in the future that will otherwise be unobtainable.

And lastly, it is essential that we restart torpedo production to fill empty torpedo stows, create the required reserves and reestablish a capable producer of these highly specialized weapons.

Taken together, this integrated program will provide us with the platforms, the payload volume and the capable payloads to address emerging future needs.

The United States is fortunate to have the best undersea force in the world. At the same time, we have the greater burden of responsibility of any Nation in the world, with scores of countries looking to us for nuclear security and defense in a world that is increasingly uncertain and combative. Our undersea forces are up to the task today and will continue to be up to the task in the future provided they are supported with the right resources. Thank you, sir.

[The joint prepared statement of Admiral Breckenridge and Admiral Johnson can be found in the Appendix on page 37.]

Mr. FORBES. Thank you, Admiral Breckenridge.

Admiral Johnson.

STATEMENT OF RADM DAVID C. JOHNSON, PROGRAM EXECUTIVE OFFICER FOR SUBMARINES, DEPARTMENT OF DEFENSE

Admiral JOHNSON. Thank you, Mr. Chairman, and good morning. I would like to thank the Seapower Subcommittee for inviting me here today to talk to you about the Navy's undersea warfare programs. My role as program executive officer for submarines is to provide the Navy with the platforms, the weapons, and the sensors required to ensure the United States maintains its unquestioned

dominance in the undersea domain, done so both affordably and on time.

This past Saturday, we commissioned the tenth *Virginia*-class submarine, the USS *Minnesota,* SSN 783, which delivered 11 months early to her contract delivery date and closed out the second, or Block II, contract.

Of the 10 *Virginias* now in the fleet, we have delivered 7 early, including all of the 6 Block II submarines.

When looked at in terms of relevance to the warfighter, these submarines, from *Virginia* to *Minnesota,* gave the fleet over 4 years of additional *Virginia*-class submarine use because of the early delivery, and the fleet has used these ships, deploying them to frontline missions at on-station rates that meet or exceed the *Los Angeles*-class submarines they are replacing. That kind of performance is a testament to the strong Navy industry team that is one of the strongest in all of the Department of Defense.

Not being satisfied with our past successes, we continue to reduce delivery spans, and deliver ever more capable ships. Two days ago, the 11th *Virginia*-class ship, the future USS *North Dakota,* SSN 784, rolled out of the construction facility at General Dynamics Electric Boat in Groton, Connecticut, and into dry dock in preparation for float-off this Sunday. *North Dakota* is the first of the Block III ships, the ships we modified for cost reduction and designed and built with large payload tubes in the bow.

North Dakota is tracking to a January of 2014 delivery, and if that holds, she will be 7 months early and break the 60-month barrier on the lead ship of a new contract. That is truly phenomenal performance.

Now, over the course of the *Virginia*-class program, each ship delivered more complete and more ready for tasking. One measure I use is how each ship is graded by the Navy's independent assessor, that is the Board of Inspection and Survey, or INSURV for short. The Huntington Ingalls Industry Newport News delivered ship, *Minnesota,* received the highest score yet from INSURV and continued a trend also seen on her predecessor, the Electric Boat delivered ship, USS *Mississippi.*

Beyond new construction performance, the program is focused on maximizing the operational availability. We executed a number of modifications to the design in the Block IV *Virginias,* the 10 ships we are in negotiations with General Dynamics Electric Boat and Huntington Ingalls Industry Newport News today. That will add one deployment to each boat and reduce to three the number of major shipyard availabilities over the ship's 33-year life.

We intend to continue our collective work to lower cost, both construction and in service, and deliver these capable *Virginia*-class submarines affordably.

As Admiral Breckenridge mentioned, we have the initial research and development funds to design a payload module to accommodate up to 28 Tomahawk cruise missiles and future payloads. The *Virginia* Payload Module will utilize the modularity and the flexibility inherent in the *Virginia*-class base design and reconstitute the SSGN's payload volume in a cost-effective manner. The *Virginia*-class program, with its industrial partners, has proven its ability to incorporate new design concepts without disrupting a successful

production program. I am confident that we will be in a position to execute the *Virginia* Payload Module affordably in the fiscal year 2019 Block V contract.

The experience and knowledge gained from the successful *Ohio*-class ballistic missile and *Virginia*-class fast attack submarines are being used to design the *Ohio* replacement ships. Since the program's initial acquisition milestone, we have focused on delivering a ship with the right capability at the lowest possible cost. The program is a model for Secretary Kendall's better buying power approach to defense acquisition, incorporating from the start key tenets, such as affordability targets and innovative contracting.

The R&D [research and development] contract with Electric Boat contains discrete incentives for reaching significant, specific nonrecurring engineering construction and operating support costs. This is the first time in a shipbuilding research and development contract we have tied substantive incentive fees to cost reduction across the entire life cycle. This is but one example of how the *Ohio* replacement program is reducing its costs.

And finally I would like to mention our torpedo work. It has been 17 years since the last Mark 48 heavyweight torpedo was built. Restarting that production line is, as Admiral Breckenridge said, a top submarine force priority. We have demonstrated our ability to reduce costs and improve capability in this world's best torpedo, using hardware upgrades with software improvements to the front end electronic kits. We are developing our acquisition strategy to leverage our current industrial base and develop the industrial base elements to restart the build of the entire weapon using the proven Mark 48 advanced capability heavyweight torpedo design. The restart effort is critical to replenishing our torpedo inventory, and like the Navy's other undersea programs, will be done affordably.

Thank you for your time, and I look forward to answering your questions.

[The joint prepared statement of Admiral Johnson and Admiral Breckenridge can be found in the Appendix on page 37.]

Mr. FORBES. Thank you, Admiral Johnson.

And, Admiral Breckenridge, you had mentioned a couple of alarming statistics in terms of our subs reducing from 73 to 52. And can you give us that timeframe again.

Admiral BRECKENRIDGE. Yes, sir, Mr. Chairman. That timeframe is between now and 2030.

Mr. FORBES. And that would be exclusive of sequestration. Isn't that correct?

Admiral BRECKENRIDGE. Yes, sir, that is correct.

Mr. FORBES. So if you add sequestration onto that, those numbers become even more staggering.

Admiral BRECKENRIDGE. Exacerbated further, yes, sir.

Mr. FORBES. The other thing that I would love for you to address, if you would, is as you see the reductions that we are recognizing with reducing our subs to 73 to 52 by 2030, our presence in subs dropping 40 percent, I think your statistics, can you give us a little snapshot of what you see happening with some of our peer competitors, and specifically with Russia and China, in terms of what they might be doing to compete with some of our capabilities?

Admiral BRECKENRIDGE. Yes, sir. The first thing I would like to emphasize is the Chief of Naval Operations understands the undersea asymmetric advantage very well, and one of his top priorities is making sure that we never forfeit this advantage that we have in the undersea domain. So even in the face of the budgetary pressures of things like sequestration, the Navy is committed to providing as much stable funding as we can to continue the success story that Admiral Johnson mentioned with our shipbuilding industry partners to keep, you know, rolling with the *Virginia* class and *Ohio* replacement. So we are going to do our best within naval service to hold the line and make sure that we don't——

Mr. FORBES. And, Admiral, I don't think any one of us on the committee question you doing your best. We just want to make sure we are doing our best.

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES. And I am afraid we are not.

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES. But let us know, what do you see with our peer competitors?

Admiral BRECKENRIDGE. Yes, sir. And that is a great question. And Congressman McIntyre alluded to it in his remarks, is our adversaries are not standing still, and so even though we have an advantage and we have a lead, we can't sit on our lead. So we have to continue to move, or we do have the potential within 20 years of losing this crown jewel, this advantage that we have in the undersea domain.

So if I could, I would like to address three countries to just talk about how other nations use the undersea domain, and the first one I would like to address is Iran. So if you look at Iran, they, like many other countries, use the undersea domain from a purely maritime, sea denial, local region type of influence, much like we did in World War II in the Pacific. We used it as an asymmetric advantage, but it was for a maritime purpose, to hold that risk, predominantly in surface warships. So Iran has a submarine force. It is a disruptive force, a challenging force, and one that we deal with with regard to our ability to project stabilizing influence around the globe, but—so there is a maritime geographic use of undersea domain.

I would like to contrast that with Russia. So Russia and the United States use the undersea domain in a much, much larger level. It is a global strategic, you know, lever of power. It is more than just a region; it is the ability to control the seas, it is the ability to do land attack from covert positions. It has a much larger utility than just a maritime sea control, sea denial perspective alone. And the Russians have always maintained a very capable submarine force.

I mentioned that we have an advantage. You know, they are a close second with regard to their capability and with regard to their shipbuilding industry and the capabilities they are putting into their new classes of submarines.

The Russians today have a two-line production in their major submarine shipbuilding. They are recapitalizing their SSBN force. As their SSBN force is retiring, they have the new *Borei* class. The lead ship is the *Dolgorukiy*. The first three ships are seaworthy in

end testing, and they intend to recapitalize with at least a class of eight. There has been talk of a higher number of SSBNs within their force, but that machine is running. Those—very good quality ballistic missile submarines are being produced in Russia.

Their second line is an SSGN, and so I think they have watched us closely with our SSGNs. They see the value of large payload volume, the ability to take a large amount of strike capability to the undersea, and so they are building the *Severodvinsk* SSGN class. It has not four large-diameter tubes like we envision within the midsection of the *Virginia* Payload Module, but their midsection is an eight-pack. It is two abreast by four. So they see the importance of the concealment of the undersea to bring potency with that. They can be threatening at a strategic level. And, again, we are mindful of that and we are prepared to be able to counter that.

In the middle sits China. And China is sort of a hybrid between the Iranian example I gave you and the Russian example I gave you. So China right now is predominantly a maritime, regional undersea force, certainly a larger region, with more of our allies and partners that are sort of within their bubble, but they predominantly use their undersea forces to threaten the presence of our surface ships, to be able to shoulder off on the positive stabilizing influence of our naval forces in an anti-surface warfare dimension. But China is growing towards more of a global strategic undersea force. They have the *Jin* SSBN class, their own ballistic missile submarine class, and a JL2 missile that they are developing. That will put them into the stage of using the undersea for more than just maritime regional control. And they also are in development of a nuclear SSGN, a large vertical launch capacity submarine.

So there are three pictures for you, sir, of the advances that our potential adversaries are making and that we have to be mindful of to make sure that we as a Nation preserve this unique advantage that we have in the undersea domain.

Mr. FORBES. Do you see the Chinese numbers increasing dramatically?

Admiral BRECKENRIDGE. Yes, sir. That is a great question. I failed to mention that, is the challenge that I see with China is more of a capacity issue than necessarily a capability issue in the near term. I think the capability, the quality of their submarines will improve as we march forward a couple of decades, but right now there is a capacity challenge that is unique to what the Chinese navy has.

Mr. FORBES. Help us with the *Virginia* Payload Module. I know that Admiral Johnson was at the nursery when the *Virginia* class was born and has lived with it most of your career that you have got, and you have been a part of that, too, Admiral. Can you give us for the subcommittee and for our record exactly what the *Virginia* Payload Module is, what it's designed to do? And specifically there has been a little debate about the timing of the requirements and where we are on that. And if you could delineate that for us.

Admiral BRECKENRIDGE. Yes, sir. Thank you very much. So let's pick for example Operation Odyssey Dawn against Libya. When our country decided to make an attack to neutralize the defense shield around Libya, we did that predominantly with Tomahawk cruise missile strike, the bulk of which came from undersea forces.

We had three submarines that were involved in that operation, one SSGN, USS *Florida,* and two fast attack straight stick *Virginia*-class submarines.

So let's hypothetically say that you have a target requirement where you need to strike 120 targets, which is a reasonable, modest level for this type of operation. One SSGN carries 105 Tomahawk cruise missiles, so it alone carries the bulk of that service requirement. You add another 12-shooting *Los Angeles*-class submarine, you are up to 117. Still doesn't make the whole 120, but pretty close just for those two submarines.

So as the SSGNs go away, that is going to have a very significant impact for our ability to quickly mobilize a strike force, an arsenal ship of that capacity.

You know, to put it in perspective, without an SSGN and without the *Virginia* Payload Module, we will require 10 attack submarines to be able to service 120 targets. And I am here to tell you that it is highly unexecutable for us to mobilize and surge 10 attack submarines into a domain with the agility that we were able to muster forces for Operation Odyssey Dawn. So that is problematic for us.

What the *Virginia* Payload Module does is it puts four large-diameter tubes in the center of the *Virginia* class that can carry seven Tomahawk cruise missiles each. So in addition to the 2 large-diameter tubes forward that Admiral Johnson mentioned with Block III that carry 6 Tomahawks each, we go from a 12-shooter SSN to a 40-shooter Tomahawk strike SSN.

So 3 *Virginia* class with the VPM could service 120 target package. So just from a capacity perspective, VPM is a very cost-effective way to recapitalize it.

You know, as you well know, we don't have the ability as a Nation to recapitalize our SSBNs, maintain two per year *Virginia,* and develop a new SSGN replacement class. So this integrated solution is a way to distribute that firepower over a larger force in a very cost effective way. At less than 20 percent the cost of a *Virginia,* I can more than triple its payload volume.

But I don't want to restrict this discussion to just land-attack strike, although, again, that is a very asymmetric, unique advantage for our country, but there are many other things that we can do with a large capacity, large open ocean interface. And Congressman McIntyre mentioned UUVs [unmanned underwater vehicles] and supplementing our thin manned submarine force with surrogates that are unmanned. And I will have the ability to get those UUVs into theater in those vertical payload tubes and deploy them and have a network or constellation of UUVs to supplement our manned platforms.

So this payload volume is strategically important for us and I think is a low risk, cost-effective improvement to the *Virginia* class.

Mr. FORBES. And, Admiral, just one more thing and then one question, but, Mr. Johnson, I am hoping Mr. McIntyre will ask some more about the U class [unmanned underwater vehicles], but tell us about the requirements and where we are on those.

Admiral BRECKENRIDGE. Yes, sir. So when the Nation made the decision to go from an 18-SSBN to a 14-SSBN force, we had the first four *Ohios* coming into the window to be refueled, so we had

this decision as a country, do we just decommission them at the halfway point of their life or do we convert them to be able to do more—something different, more from the undersea for the country. And with great support from Congress and great wisdom, the country went ahead and converted those four SSBNs to this new SSGN platform.

That was a tremendous military benefit for us. There wasn't a specific written requirement for that at that time, but we have come to grow to depend heavily on that requirement. So in both the Central Command and the Pacific Command, a good portion of the Tomahawk strike requirement required day to day in theater of those combatant commanders is delivered by our SSGN force, so it has become a requirement for our military that is in high demand by the COCOMs [combatant commands].

What we as a Navy have done to codify this requirement is we have developed the Capabilities Development Document [CDD]; it is a joint staff process to formalize military requirements. That has been approved by the CNO [Chief of Naval Operations], has undergone initial joint staff review, and is on its path to JROC [Joint Requirements Oversight Council] approval later this year.

So on our side, we felt it important to show Congress that we have a certified official military requirement for this payload volume, and the CDD that is in process of final approval will be that pedigree of why this is as important to this country. So I expect to have that formal requirement by the end of this calendar year.

Mr. FORBES. Good.

And, Admiral Johnson, tell us what we are doing so that we can afford this very important module. What do you see us doing to make sure that we are maintaining the affordability?

Admiral JOHNSON. Yes, sir. Great question, Mr. Chairman. So the first, as Admiral Breckenridge noted, we are working on the requirements, getting those right up front. As you said, I was in the early stage of the *Virginia* design. I watched us work hard with the operators and the acquisition force to get the requirements right back in the early 1990s, and we have essentially not changed our operational requirements document for *Virginia* in 20 years. And I think that is a first order effector on why that program has executed in such a cost-effective manner.

For *Virginia* Payload Module, we are doing the same thing. We are working hard to get the requirement set, and as Admiral Breckenridge noted, we are about done with that process through the Joint Requirements Oversight Council.

Second is to execute a carefully planned, designed program where we would achieve an 80 percent design completed construction start so that we can build the *Virginia* Payload Modules cost-effectively, and is really one reason why we can't continue to sustain cuts to the *Virginia* Payload Module research and development funding, because we need to be going on that program by 2014, early 2014 so I can build and install that ship and the 19 ships.

The third is, is to make sure that we keep the technical risk to as low as possible. The payload tubes that will be in the *Virginia* Payload Module, two of them are about to be floated off on Sunday. Essentially they are the same as what is in the bow of the *North*

Dakota today. That lowers our technical risk by basically integrating instead of having to develop something new.

And fourth, keep affordability on equal footing with our technical requirements. Go forward through our design and do these cost capability trades, keep pushing on it so that we do effectively insert a *Virginia* Payload Module. That thinking has already driven almost 40 percent out of the cost of our initial estimate for the *Virginia* Payload Module. I anticipate that will continue as we go through the design.

Mr. FORBES. Congressman McIntyre.

Mr. MCINTYRE. Thank you. Thank you, Mr. Chairman. Thank you gentlemen, again, for your insight.

Admiral Breckenridge, at an estimated $6 billion apiece, the 12 *Ohio*-class replacement submarines, we realize, won't leave much room in the budget for other critical undersea priorities. If hard choices have to be made, can you help us understand will the *Ohio*-class replacements still be such a clear priority one that the Navy would prioritize them over having a full complement of attack subs?

Admiral BRECKENRIDGE. Yes, sir. Thank you. Our ballistic missile submarines are the bedrock underlying our national nuclear deterrent. Americans are asked to invest in replacing this force only once every other generation. The last time Congress started procurement of a new class of ballistic missile submarines was during the Nixon administration. The next time will be in 2021 as we start to build the *Ohio* replacement class, almost 48 years later. Recapitalizing this force is a solemn duty we have to the nuclear security of future Americans as well as allies. And I want to emphasize with regard to the *Ohio* replacement program, we are designing it in close partnership with the U.K. [United Kingdom], as they have to replace their *Vanguard* class.

So the common missile compartment and the D–5 strategic weapons systems will be common between both of our countries, and both of our nations are committed to making sure that we provide this capability on time.

Because ballistic missile submarines are infrequently procured, they are not part of the Navy's stable shipbuilding plan. Because this is episodic, it is an infrequent but critical responsibility for our country. It is not built into the rest of our shipbuilding plan.

In order to maximize the stability and cost efficiency of the existing ship programs and to avoid reducing the size of an already stressed Navy, the funding of existing programs should not be disrupted. So often we hear the debate of, well, you can either afford your general purpose force Navy, or we are going to have to go ahead and do this ballistic missile force investment, and we pit two equally important strategic instruments of power against each other, which is just, you know, an inappropriate friction.

So as Mr. Chairman mentioned, to best accomplish this, Congress must look at a way to provide an annual supplement to the Navy during the very small margin of time that we recapitalize the submarine. So we will build these 12 ballistic missile submarines, two less than what we currently use to provide strategic deterrence, in a 15-year period, and these SSBNs will serve for a 42-

year life. So the return on investment is sort of amortized over four decades as we go ahead and recapitalize our SSBN force.

And so for a supplement amount of about $4 billion per year, and to make that clear to the rest of the shipbuilding industry, we can provide the stability we need to do both, to build the right Navy forces, general purpose forces, as well as recapitalize our SSBN force.

Now, that is a $60 billion total, and we have mentioned that that is a lot of money. And, again, we are doing everything in our power, and believe me, we are working on affordability as one of our top priorities, higher than even some of the military capabilities of this replacement SSBN. But $60 billion in the grand scheme of the Department of Defense budget represents less than 1 percent. So what we are looking at is do we have the will as a Nation to be able to identify less than 1 percent of the budget, to go ahead and commit it to this 15-year recapitalization commitment without having an adverse impact on the rest of our general shipbuilding force.

Just to try to give some examples to make this more germane, let's say we only are able to identify a $30 billion supplement, or $2 billion a year over the 15-year period. If the Navy has to absorb that other $30 billion, we would be required to cut from our other general purpose forces four attack submarines; four large surface combatants, DDGs [guided missile destroyers]; and another eight combatants. So the Navy with only half of that supplement would have to compromise and build 16 less ships for the inventory. And those numbers double without any supplement to this important national strategic priority.

The last comment I would make is, and I agree with Chairman Forbes, is that I do think it is important for the country to look at this as a requirement above the Navy. It is a strategic level requirement and we ought to give it the gravity of attention and focus and insulation from the pressures of sequestration.

That said, the control of those resources must remain resident within the Navy with the control of our acquisition community. We know how to build submarines, we know how to oversee the building of submarines. Electric Boat, Huntington Ingalls, best submarine shipbuilders in the world. We need to be able to make sure that if we come up with a creative, you know, strategic account for this, that it is still the Navy and the shipbuilding team that has the control and authority over those monies as we do this recapitalization to make it as affordable as possible.

Mr. MCINTYRE. Now, I appreciate the thoroughness and the explanation, and I agree with your analysis, and ideally would like to be able to look at it in a way with the supplements and from this more strategic DOD perspective, since, as you know, in the outset of my opening comments, the submarine force is clearly, as you have said, the crown jewel, and as I was saying in my opening comments is unmatched worldwide, and we know you are at the forefront.

With regard to the priorities, when you talked about we would have 16 less ships, so in other words, I guess, more precisely, what I am asking if we unfortunately are put in that situation of making priorities, you feel like it is so important that we have to go ahead

absolutely with the *Ohio*-class replacement submarines, and in the unfortunate situation it is, is it is going to make the loss of other ships if those priorities have to be shifted around. Is that correct?

Admiral BRECKENRIDGE. Yes, sir, that is exactly correct. And the CNO has stated his number one priority as the Chief of Naval Operations is our strategic deterrent, our nuclear strategic deterrent. That will trump all other vitally important requirements within our Navy. But if there is only one thing that we do with our shipbuilding account, we are committed to sustaining a two-ocean national strategic deterrent that protects our homeland from nuclear attack, from other major war aggression, and also acts as an extended deterrent for our allies.

Part of the reason we have been able to avoid proliferation of nuclear weapons around the globe is the great responsibility the United States has to assure our allies that we will also provide deterrent effectiveness for them so that they don't have to pursue their own nuclear weapons. If we don't build these 12 SSBNs on this timeline, and again, it to me is mind-staggering how much risk as a Nation that we have taken with regard to this recapitalization timing decision. Even last year in the Budget Control Act, we decided to delay this program by 2 years, such that we are going to go down to a minimum level of 10 SSBNs during the transition between *Ohio*'s timing out at 42 years and the *Ohio* replacement coming on as a new class. That is just an astronomical challenge for us to be able to maintain our vibrant and credible two-ocean deterrent to deter bad behavior from powerful adversaries.

Mr. MCINTYRE. Thank you. That is the kind of summary that I think is well stated and succinct, and that that message, I hope and encourage you all to get that bullet point kind of message so that our fellow colleagues can understand that clearly, that this is what will happen, you know, one, two, three, this is what our priorities are. And the way you have stated the CNO's priority and how what you gentlemen do fit into that is essential.

I have one other quick question, Mr. Chairman. I mentioned in the opening remarks, and I don't want this to go by, because I think it is a question. The large number of unmanned underwater vehicles, will that allow the Navy to—I mean, could a large number of unmanned underwater vehicles allow the Navy to expand global undersea presence in a way that would make it more cost-effective and that possibly could avoid building some of the larger, more expensive manned submarines, or in light of what you have just clearly explained about their importance, is there a way in which manned and unmanned submarines could work together to make the fleet more effective obviously from a defense standpoint, but also from a cost-effective standpoint, and how does that fit in as we do look ahead from the cost side as well as the effectiveness side?

Admiral BRECKENRIDGE. Yes, sir. The manned platform provides the country incredible influence and access from the undersea domain. And as I work on the integrated undersea future strategy, the platforms remain paramount in importance. You know, we mentioned this minimum number from force structure analysis of a 48 red line that we are going to go below for over a decade as

we bottom out to 42, based on decisions made in the 1990s. That minimum red line doesn't really represent the COCOM demand.

To keep 10 attack submarines forward deployed across the globe in the hotspots and the places that they are operating today requires a force of about 50 attack submarines. The COCOM demand for what our undersea forces provide is about double that requirement. So each year as we go to each of the COCOMs and say, what do you need from an undersea presence perspective for intelligence, surveillance, reconnaissance, for Tomahawk inventory in theater, for the other unique capabilities that submarines provide, the combatant commanders typically request greater than double the 10 SSNs that we are able to provide.

So there is always going to be a high demand for platforms, of which we are not going to—you know, we are going to have to, you know, make tough decisions and not be able to support that.

So with regard to UUVs being a solution to reducing our force structure, I don't see that as a likely utility of unmanned undersea vehicles.

That said, is we have some untapped potential in the undersea domain and the advantage that we have in the undersea domain that we can leverage even greater than our manned platforms. And I think a strategy of using unmanned vehicles, of using seabed infrastructure with energy coms and power—I am sorry, sensors will be vitally important to maintain our advantage in the undersea domain.

So we are beginning as a Navy to do exactly as you have recommended, and that is, how do I get even more bang for the buck in that domain given the very tight limits, even with the mobility we have with our nuclear fleet, that one ship can only be in one place at one time. So what can I do to even leverage greater influence, and it is going to come down to these large displacement UUVs. And we are beginning to, you know, build momentum, to have those to supplement.

Now, what will they do? What they will do is the missions that are dull, dangerous, dirty or deceptive that the SSNs can't do. So what we will do is we will be able to free up those manned assets to go do our Nation's bidding at that appropriate level while these UUV surrogates are able to take care of sort of the run-of-the-mill missions where I don't have to commit a manned platform to do it.

Mr. MCINTYRE. Thank you, Mr. Chairman. And thank you, gentlemen.

Mr. FORBES. And, Admiral Breckenridge, before we go to our next member, I just want to clarify the answer you gave to Congressman McIntyre. As I understand, you were saying right now to have 10 forward deployed attack submarines, we would need 50 in the fleet.

Admiral BRECKENRIDGE. I am sorry, sir. I was a bit unclear there.

Mr. FORBES. Maybe I misstated it.

Admiral BRECKENRIDGE. Yes, sir. A force of 50 total submarines in the Navy, we are able to keep 10 attack submarines forward deployed 365 days of the year.

Mr. FORBES. I got you.

Admiral BRECKENRIDGE. So that is sort of the ratio in peacetime.

Mr. FORBES. And our combatant commanders need, I believe you said, to meet their requirements, 20——

Admiral BRECKENRIDGE. That is right.

Mr. FORBES [continuing]. Forward deployed.

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES. Would that math equate to needing 100.

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES. Just wanted to make sure——

Admiral BRECKENRIDGE. Yes, sir.

Mr. FORBES [continuing]. We have that clarified.

Admiral BRECKENRIDGE. That is right.

Mr. FORBES. The distinguished gentleman from California, Mr. Cook, is now recognized for 5 minutes.

Mr. COOK. Thank you very much, Mr. Chairman. And Admirals, thank you.

This is kind of ironic. You got an infantry officer from the Marine Corps that is going to ask some questions. So I do have to make a comment, and that is, many years ago when I was a captain—that was about 1775—captain in the Marine Corps, I had the honor to meet Admiral Rickover, and I have to tell you, I talked—was in a mess line, ironically enough, and one of the most brilliant individuals in the world, but I have to say, one of the most intimidating, and I don't get intimidated easily, but of course, you guys went through the Academy and screened through the program, and you probably know that better than I do, but I think you talk about somebody a long time ago that realized how important submarines were, and what he did for the Navy, for the country and everything else.

My fear is that a lot that has happened in the past, the importance of what you do, and I went to the War College and I tried, you know, to understand—and I am one of your big supporters, because it is a force multiplier in so many different ways, and I think you explained that tremendously.

I am afraid that it is becoming the silent service in terms of the slice of the pie, you know, that DOD has when all those things that you outlined so eloquently, you know, the public just doesn't understand it. And it is almost like it is not glamorous. And you mentioned it yourself about some of the other things, and the remotely pioneered—powered vehicles, and I can go on and on and on all the different things.

So I would hope that we can kind of change that, because I think you are going to have some tough times in the budget battles coming up, and a lot of it is going to be on public perception so that—the people in this room, I think, are big supporters of it, but this isn't going to be enough, and we have got to change that.

The big question I have is, very quickly, about the intel that the Russians and the Chinese have stolen, quite frankly, from the United States. I am worried about this leakage, if you will. They have got the money, they have got the will to replicate what we have in your service. And do you have any comments on that, because after what happened with the recent scandal, it just frightens me to death that this is going to continue to happen. And you have indicated that they are going to do something about that.

They have the money, the will and power to do that, and they are going to pass us in terms of overall technology.

Admiral BRECKENRIDGE. Yes, sir. A few comments before I answer your question. So Dave and I are classmates from the proud class of 1982 at the Naval Academy. We were the last class to interview with Admiral Rickover.

Mr. COOK. Was it fun?

Admiral BRECKENRIDGE. We will save that for another hearing.

Mr. FORBES. It should be a classified hearing, probably.

Admiral BRECKENRIDGE. But Admiral Rickover still lives in our nuclear force today. And I am very proud to say that. What he brought into the culture of our nuclear-trained force provides incredible return for the greatness of our Navy in leadership, in discipline. The Rickover method is—I am proud to say that I passed interview with Admiral Rickover.

The second thing that you mentioned is, I agree with you, I think we are victims of our covert nature. And there is not enough of America who understands or appreciates the brand that is attack submarines, especially our ballistic missile force. You know, these sentinels have gone for over 50 years on continuous strategic deterrent patrols in two oceans, over 4,070-day patrols, safeguarding and protecting the United States of America. And I would tell you that there is probably less than 1 percent of the American citizens that even knows what role that they can play, that they can sleep well at night.

So we have to do a better job in getting that word out. And I thank Chairman Forbes for this opportunity. I view this as so important, to be able to get over here and lift a little bit of the veil and discuss the paramount importance of our undersea forces.

That said, there is a lot of things that are supersecret that must remain so by nature of what we do and we will push that as far as we can of that line. But we are more than happy to come over and give you highly classified briefings of some of the recent take around the globe of what our submarine force is doing.

And what was the specific question?

Mr. COOK. The intel.

Admiral BRECKENRIDGE. Yes, sir.

So safeguarding our national secrets, particularly from industry. You know, so the Walker-Whitworth espionage case that compromised a lot of the lead that we had with stealth in the undersea domain. And that is the coin of the realm. You know, he who is more silent has the advantage over another. That was compromised through spy craft. Nowadays with that spy craft spreading to cyberexploitation and other ways that adversaries can get information and leapfrog America's ability on the cheap is an imposing threat to us, and we take that very seriously.

So part of our hard work within DOD is to put up those firewalls even tighter, also with industry to make sure that we have the right standards there to safeguard and protect that information from being stolen.

Mr. COOK. Thank you very much. Thank you, Mr. Chairman.

Mr. FORBES. And having that infantryman on your side is a pretty good asset to have. Our good friend, Mr. Courtney, has little in-

terest in submarines, but we are hoping he will have a few questions to ask for the next 5 minutes. So Joe?

Mr. COURTNEY. Thank you, Mr. Chairman. Again, when we talk about the submarine gap, which you have done an outstanding job, I think it is important really also for the record to remember that it was this subcommittee that in the spring of 2007, actually led the way in terms of an increase in submarine funding. Over the objection of the prior administration, $588 million which, again, kickstarted the two-sub-a-year production which, again, the *North Dakota* is ahead of schedule, under budget because of the quantity, economic quantity savings. It was an incredibly important moment in terms of addressing that submarine gap.

But last night, I was walking around the Capitol with the moonlight, thinking about, obviously, the anniversary of 9/11. And I was walking by Jack Murtha's maple tree which was planted there. And he, along with Gene Taylor and Roscoe Bartlett and others, were part of the group that, again, led the way to make sure that happened. And it is a reminder that we all can make a difference here, and this subcommittee can make a difference in terms of making sure that the important issues that you have raised here today aren't going to get lost.

And the good news is, is that the Navy's request, which came over with the administration's budget, the House defense authorization bill and the House defense spending bill all basically provide for two subs a year and full funding for design work. And we have got to work on the Senate a little bit with the *Virginia* payload. But there really actually is quite extraordinary consensus in terms of the fact that we need to protect this. And hopefully the bipartisan budget negotiations that are going to start today are going to get us to a point where we can, again, avoid all the negative consequences that you have described here today.

One of the issues, again, which my friend Mr. McIntyre raised was obviously that bulge in the shipbuilding account that we are looking at. Again, it is important to start talking about a national security funding mechanism, a la the missile defense, as a way of trying to solve that problem. That is probably a little bit off in terms of a decision point for Congress. The one thing that we can control today is obviously trying to keep the costs down by making sure that the defense, the design, and engineering budget requests for *Ohio* replacement is protected. And the one thing I am concerned about, if a CR [continuing resolution] mechanism—and let's set aside sequester for a moment—even if we do a straight CR without sequester, using last year's budget levels, again, that leaves a shortfall in terms of making sure that we are going to get that investment in the design work. And I was wondering, Admiral Johnson, if you could talk about that.

Admiral JOHNSON. Thank you, Congressman Courtney.

So under a continuing resolution, because of our starting point in fiscal year 2013, which is about half of what the budget request is for fiscal year 2014, a CR is particularly harmful to the program. Because it is research and development, the Department has the latitude, if it chooses, to alleviate some of the issue of that by actually putting in research and development funding to keep the program on its up-ramp.

As Admiral Breckenridge noted, in 2012, that was our time to increase the designers and buying material and increasing our prototyping work to support a 2019 lead ship. That has been indexed to the right 2 years. So now it is 2014. 2014 is the year that we need to significantly upscope our work so that we are ready for a 2021 build. Continuing resolutions and sequesters hamper my ability to plan and execute the program required to tell Admiral Breckenridge that I will have a submarine ready on patrol in 2031. The time scale really does lay out that long.

So I think from a standpoint of where I sit, a CR, though it is harmful if it is not mitigated by the Department, a sequester is another issue because that is an outright cut against the line, and that will, in fact, delay me.

As Rick said, "insulate" is a good word; but we do have to take a step back and look at how should we continue to fund this program? Do we continue the levels that we have put into the budget to support us to have the research and development prototyping and the design products disclosed to keep the shipbuilding done predictably?

We have a very challenging shipbuilding schedule on this ship. We are going to build it in 84 months. It took *Virginia* 86 months. That ship is about the third the size of *Ohio* replacement. Now why would we think we could do that? The reason is we have the experience of *Virginias.* At that time, we will have at least contracted for over 30 *Virginias* by the time *Ohio* replacement ship one is under contract.

So that alone, along with what we know now and how we are designing the ship, we think we can be ready to build an 84-month ship. But you back up 2021, 2028 is when I have to have the ship built for a 2031 deployment. That means I have to sustain the research and development and the design work now so that I am ready in 2021.

Mr. COURTNEY. Thank you, Admiral.

Mr. FORBES. Mr. Courtney, we thank you for your service and all of your hard work.

Admiral, as I understand what you have just responded to Mr. Courtney, that delays that we are putting into effect today will impact your ability to even deliver in 2031, that far out; is that a correct assessment?

Admiral JOHNSON. That is correct. Yes, sir.

Mr. FORBES. The gentleman from New Jersey, Mr. Runyan, is recognized for comments.

Mr. RUNYAN. Thank you, Mr. Chairman.

Admiral Johnson, you kind of touched on it with Mr. Courtney's answer. I had an opportunity to go down to Huntington—I think it was a little over a year ago—and asked them the question. As we get here—and God help us that we are not in this budgetary climate 20, 30 years from now. But as we move down the road, when does the Navy start to put the crunch on the shipbuilders to say, you are going to build these in less and less time, as we try to anticipate our adversaries' steps forward and actually make that time longer? So just in your thought processes, in the acquisition realm on that.

Admiral JOHNSON. That is a great question, Congressman, in that we are doing that today. We are today in the Navy Yard sitting across from our Huntington Ingalls and Electric Boat partners with my folks and the NAVSEA [Naval Sea Systems Command] folks to negotiate the next 10 ships, the 19th through the 28th ship. If you look at where we were in *Virginia,* it took 86 months to build that ship. The ship we just commissioned, the *Minnesota,* was delivered in 63 months. So we have actually taken almost 2 full years out of the build stroke. We are approaching a point where we can't, on that level magnitude, reduce the build span. Maybe we will get to the mid 50s if, in fact, we continue to work this. We certainly are challenging the shipbuilders along those lines because time is money in the shipbuilding programs. And if we can get these ships out quicker, it gets those to Admiral Breckenridge and Admiral Connor so they are able to be used. As I said, we have already returned 40 years of additional utility because of this thinking. But it also lowers the cost of these ships.

Mr. RUNYAN. I appreciate that. Because I think sometimes—I know we experience on the HASC [House Armed Services] committee—sometimes I don't think the DOD thinks far enough in the future to really acquire the savings and the planning. I mean, obviously you have said a lot of what we are doing hasn't changed in 20 years, especially in the submarine venue. And that has some cost savings to it in the long run and being able to plan for that stuff over the long haul. I have nothing else, Mr. Chairman. I yield back.

Mr. FORBES. I thank the gentleman.

Mr. Langevin is recognized for 5 minutes.

Mr. LANGEVIN. Thank you, Mr. Chairman. I want to thank both our witnesses for being here today. I appreciate your testimony, especially as we navigate the complex and challenging issues that we are facing right now.

Like Mr. Courtney, I have a slight interest in submarines. So I want to turn to that right now. As I am sure you are aware, the CNO Admiral Greenert stated on September 5 that shipbuilding will drop in fiscal 2014 and, specifically, that he envisioned the loss of a Littoral Combat Ship and afloat forward staging base and advanced procurement for a *Virginia*-class submarine and a carrier overhaul.

Can you elaborate on what the CNO is referring to? In particular, with respect to subs, would this be a fiscal year 2015 or fiscal year 2016 boat? And how would this affect the proposed Block buy?

Admiral JOHNSON. Thank you, Congressman. As we look at the sequestration continuing forward, that will impact my ability to obviously fully fund not only the full funding for the ships in those years but the advanced procurement. If you look at 2013, 2013 took out $492 million out of the *Virginia* program specifically. Split between those ships and 2013 and the advanced procurement for the 2014 and 2015 ships. That same effect happens in fiscal year 2014. If it happens at the levels we estimate, which is around 14 percent, that is almost $750 million out of the *Virginia* accounts in fiscal year 2014. And the way the Department handled it in fiscal year 2013 is, we have cost to complete bills that have now moved for-

ward. This committee was—we appreciate the add of $492 million showing up in the 2014 budget for overcoming the sequester in 2013. That type of behavior has to continue in 2014 and on. If we eventually can procure 100 percent of a ship when, in fact, have only been paid for 86 percent of a ship under the sequester. I can't give you the specifics on what the CNO was talking about relative to which ships. Is it a fiscal year 2015 or 2016 ship? But it will, over time, potentially impact that Block IV 10-ship procurement, fiscal year 2014 to 2018, those ships. Our tack right now though is to try to preserve that 10-ship buy but then have the Department fund cost to complete builds for the cuts that we have taken in the intervening years.

It will be more challenging to sign off on a 10-ship multiyear when, in fact, the budget doesn't reflect full funding for all 10 ships going forward.

Mr. LANGEVIN. Okay. So let me turn also then to *Ohio* replacement. As I am sure you are well aware, the Navy ship over budget clearly comes under significant future strain, as the *Ohio* replacement program comes online. And to quote your Department's 30-year shipbuilding plan, the cost of the *Ohio* replacement SSBN is significant relative to the annual ship procurement resources available to the Navy in any given year. At the same time, the Department will have to address the block retirement of ships procured in large numbers during the 1980s which are reaching the end of their service lives. And the confluence of these events prevents the Department of the Navy from being able to shift resources within the shipbuilding account to accommodate the costs of the *Ohio* replacement SSBN.

The plan further states that if the Navy has to take these costs out of hide, the effects on the Navy's battle force will be such that the fleet will not be as sufficient to implement the defense strategic guidance.

So with that, can you inform the subcommittee as to the current progress of efforts to fund the *Ohio* replacement program as part of our deterrent and the national strategic imperative outside the Navy shipbuilding budget akin to a military sealift or ballistic missile defense? And alternatively, is there talk of a supplement to the Navy shipbuilding budget because of the strategic comparative resident in ORP [*Ohio* replacement program]?

Admiral BRECKENRIDGE. Thank you, sir.

Just a little back step in history to talk about the two other times that we have had to, as a Nation, build the strategic deterrent. So in the 1960s, we built 41 SSBNs. They were called "The 41 for Freedom." We did that in a 7-year period which, again, is just an incredible—only in America could you go ahead and put out 41 ballistic missile submarines in a 7-year period. There was an impact to other shipbuilding accounts at that time. But the priority was such for national survival that we had to go ahead and make that an imperative and a priority. There was a supplement to the Navy's top line at that time when we fielded the class, but it did cast quite a shadow over the rest of the shipbuilding in the 1960s.

We recapitalized those 41 for Freedom with 18 *Ohio*-class SSBNs in the 1980s. It was the Reagan years. There was a major naval build-up. And underneath the umbrella of that build-up, we were

able to afford, as a Nation, the recapitalization of building 18 SSBNs. Again, a very great success story from a shipbuilding industry perspective. The maturity, the stability. You know, Electric Boat, as they punched those out, did it at a great bargain for the country to have that capability. Still around today. A 30-year designed submarine that has been extended half again to a 42-year total service life is just sort of mind-staggering.

We are at that point right now where there is no more delay, there is no more room to absorb risk in schedule where we have to recapitalize the strategic deterrent force. The Navy recognizes that without a supplement, this is going to have a devastating impact on our other general purpose forces ship and supports and is working with OSD [Office of the Secretary of Defense] and with Congress to identify the funds necessary, which I mentioned earlier represent less than 1 percent of the DOD budget for a 15-year period to go ahead and provide relief and fund this separately above and beyond our traditional norms for our ship control budget.

So we are at the point where we need to really make this decision. The stability of our other industrial bases count on us at this time, as Admiral Johnson pointed out the schedule as we march towards construction in 2021, is it is time to develop this plan. It is time for, as Congressman Courtney mentioned, you know, the courage that we have in Congress at moments like this in our Nation's history with pivotal decisions regarding shipbuilding that we go ahead and do the right thing by the wholeness of the Navy as well as recapitalizing this vital strategic imperative.

Mr. LANGEVIN. Thank you. Thank you, Mr. Chairman. I yield back.

Mr. FORBES. As we talk about those pivotal times and, as Mr. Courtney said, need to do that, one of the things that helps us is information. And in our markup that we sent to the Senate, we requested the CNO [Chief of Naval Operations] to give us an accurate depiction of where we will be with shipbuilding based on the numbers that we can project. He has said he is willing to do that.

This is not a question for you, but a request. If you could, perhaps, ask the CNO and the Department, it would help us. Because we talk about a 30-year shipbuilding plan, we actually talk about it as if it is going to happen. And it has been a little more than fantasy world in the past. But it would be great for us to be able to show other Members and the public. This is our 30-year shipbuilding plan. Here are the numbers we can realistically expect based on the last 30 years. And there is a $4 billion shortfall annually there. But then, what is going to happen with sequestration if that carries through? Because I think if we showed those pictures, it is a frightening scenario for most individuals. It is my pleasure now to recognize the chairman of the Readiness Subcommittee, my good friend from Virginia, Rob Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman.

Admiral Johnson, Admiral Breckenridge, thank you so much for joining us. Thanks so much for your service to our Nation. It means a lot, especially in these challenging times, to have your leadership there.

Admiral Breckenridge, I want to begin with you. Give me your vision about how the *Ohio*-class replacement program is going to

play out. And the reason I ask that is putting it in a context of where we are now, with a tremendously successful program with the *Virginia* class where we have a teaming agreement with Electric Boat and HII [Huntington Ingalls Industries], is that—what I think is a very efficient model, is that a good, cost-effective way to look at how we pursue the *Ohio*-class replacement program?

Admiral BRECKENRIDGE. I will take the first swing and then I will turn it over to the expert, sir.

Good morning. Great to see you. Thanks again for hosting that breakfast yesterday. I really appreciated the opportunity to participate in that.

Sir, for a moment like this in our Nation's history, we are going to depend and rely on the best engineers, the best ship pipefitters, the best—you know, across our submarine industrial base to make sure that we don't miss a beat and that we deliver this national imperative. So this is going to require a whole team effort. You know, both Electric Boat and expertise from Huntington Ingalls are going to need to be brought to bear with this challenge, make no mistake about it.

Now you mentioned a great point. And I have talked a lot sort of in hyperbolic terms about the risk and the compounded risk we have taken. I am optimistic, as a submariner and as the director of undersea warfare, that we have this incredible juggernaut that is our submarine shipbuilding industrial base that is just humming in all cylinders with the *Virginia* class. And we are going to be able to leverage that to be able to pull off a pretty daunting challenge with the recapitalization of the SSBN force. So I am very optimistic that we have the talent in America. We have the capacity in America. We are going to have to ramp up, as Admiral Johnson mentioned, to address that challenge. But as far as the procurement strategy, which I think is at the base of your question, I will turn it over to the acquisition specialist to discuss that with you.

Admiral JOHNSON. Thank you. Thank you, Congressman. Thank you for that question. We have not yet determined how we will procure the build of the *Ohio* replacement. It is still a little bit to the right in our construct of thinking. *Virginia,* obviously, a success story under a teamed arrangement. Whether *Ohio* replacement follows on that or actually does more of a prime sub relationship, yet to be determined. But I think it is fair that as we acquire, I ask that we use the investments we have put into the submarine industrial base to the maximum extent possible. We built, as Admiral Breckenridge said, significant capacity, capability, and competence in our submarine industrial base both at Groton, in Rhode Island, as well as at Huntington Ingalls in Newport News. And our intent is to leverage that to the max extent possible for *Ohio* replacement.

Mr. WITTMAN. Very good. Well, thank you. And I think your comments reflect how important the talent is with both of those great shipbuilders. And as you know, that industrial base is an important part of it, too. So to seamlessly go into that next generation of ballistic missile submarine is an important element, I think, in the decisions you all have to make.

Let me ask this: You have talked a lot about the attack class of submarines. Putting it in perspective, [we've] talked a little bit about sequestration. Let me ask you this: In another envelope of

having to make decisions, we are now at a pretty significant rate of retirement of the *Los Angeles* class. So you take that and coupling what potentially the effects are of sequestration. Give us your perspective about what both of those events colliding might mean for our attack-class submarine fleet.

Admiral BRECKENRIDGE. Yes, sir. Thank you.

As I mentioned, beginning in 2025, we are going to dip below the red line, the minimum agreed by all parties, break glass if you cross this line, minimum force structure. We are going to be below that line for a period of greater than a decade. The minimum right now, with our current program of record of two per year *Virginia* construction is 42 submarines in approximately 2030.

The depth of the trough is not as significant to me as the width of the trough. So whatever I can do to soften that. And so our integrated strategy looks at that. There are three things I would like to talk about to mitigate the risk that, one, the Navy is below 48 SSNs. Number one is, as I build *Virginia* class down at the 60-month point or less and get those to the fleet quicker, that will have an effect on that trough. That will give me more assets available during that time period. So any efficiencies that we can make regarding the delivery schedule is a win.

The current *Los Angeles* class, we are carefully monitoring each hull. How much life is in their core, you know, what are their other system health looking like to see if we can maybe get a year or two extension on the *Los Angeles* classes. Again, I don't like to talk about that as part of the plan because if we suddenly have an intense period where I am surging submarines, I am going to eat that margin. And so I sort of keep it as an ace in the hole.

The last thing that we are looking at—and, you know, again, it is a combination of forward deployed assets. We are looking at going from three attack submarines to four in Guam. We are looking at extending deployments during that time period from a nominal 6-month deployment force to a 7-month deployment force.

So there are a few other things that we can do to soften the blow of being below the minimum force structure. But the critical things that we must do is, as you mentioned, not decommission any submarines before their time. If there are some cost efficiencies that we might see there in a sequestration-like myopic view of saving money, or disrupting the two per year *Virginia.* And those are two very important parts of the strategy to take care of that SSN shortfall.

Mr. WITTMAN. Thank you, Mr. Chairman. I yield back.

Mr. FORBES. Gentlemen, thank you for being here.

And I would like to just make sure I have given each of you any additional time you need to wrap up anything that we have left out that you think is important to have on the record. Any clarifications that you would like to make. And Admiral Breckenridge, since you started off, I will let you go.

Admiral BRECKENRIDGE. Well, Mr. Chairman, again, I thank you very much for this opportunity to come this morning to showcase one of the things that is vibrant and healthy and is a powerful part of our national security strategy, and that is our influence within the undersea domain. We have talked a lot about some dire things ahead as we look at risks coming up. But I want to emphasize on

a positive note as we wrap up today that the men and women that man our Nation's undersea craft—our SSBNs, SSGNs, and SSNs—are just incredible warfighters. Most recently we have opened the hatches to women onboard submarines, you know, on our SSGNs and SSBNs. These officers are performing in an incredibly exemplary fashion.

We are fortunate, as a Nation, that our sons and daughters that we are able to recruit and bring into this very specialized field are as talented and gifted as they are. So your submarine force is out there doing great work, very important things vital to security, and undergirding that is this industrial base. A history lesson, as we sort of shut down the submarine industrial base post-Cold War, we went for a period of 8 years where we only built two submarines. That is a quarter of a submarine a year. Those were dark times for our Nation.

The fact that we have come through that and we now have this vibrant shipbuilding industrial base is, we sort of cheated death. And we are very fortunate that that is as healthy and moving in all the right positive directions. And we need to preserve and protect that with every instrument of resources that we have as a Nation.

So I know that we are in tough fiscal times in this country and we have to look at hard decisions. But we are doing everything within our power to try to come up with an integrated strategy to make sure that we don't lose our grip on this advantage that we have in the undersea domain.

So, sir, I thank you very much for the opportunity to speak with you this morning.

Mr. FORBES. Thank you, Admiral. Admiral Johnson.

Admiral JOHNSON. Yes, sir. And again, I will echo Admiral Breckenridge in thanking you for the opportunity to talk about the submarine force. It is a pretty good day when we get to sit up here and talk about the programs and the progress that we are making. I do think it is very important, as you have noted, that we sustain the drumbeat we have established with *Virginia.* It was a little bit of a climb to get in the 2011 budget. As Congressman Courtney noted, we got to two a year through a good bit of the actions this subcommittee took to get us in a position to be at two a year. We are there, and we are now seeing the benefits of it. Ships are being delivered not only earlier, but we are also turning them over to Admiral Connor and the fleet forces earlier.

One of our metrics is the time it takes to take a ship from a delivery and get it into the fleet readiness training program. It took 30 months for *Virginia.* On *North Dakota,* it will be less than 12. So not only are we building them faster, but they are ready to go to the fleet full up, get ready for a mission and deploy and do the Nation's bidding. So I think that is very important that we do not disrupt this drumbeat. And that drumbeat isn't just at HII or Electric Boat, but it is also in the 4,000 suppliers across the 50 States. It is very important as we grow this competitive industrial base that we sustain the continuity of the *Virginia* program.

We also have to think, I think, a bit innovatively about *Ohio* replacement. As we get into the build of that and sustaining at least a two-a-year build rate to the vendor base means that we might

have to think about multi-yearing across both a *Virginia*-class and an *Ohio*-class SSBN so that the vendor base still sees two ship sets of something coming out every year. That will help us to keep the continuity and the cost down as we go into the build for *Ohio* replacement and not disrupt the pricing that I think you expect me to deliver on those ships.

I can tell you that we are leading the charge in affordability. We are at the forefront of implementing Secretary Kendall's efforts. And every day my program offices—from the guys who do *Virginias* to *Ohio* replacements to torpedoes to combat systems—they think about it every day. And we hold ourselves accountable because in the end, we are short if we cost growth end results and less capability are delivered to the fleet.

So my job is to deliver products affordably that the fleet can use. And it is not just talk. We have objective quality evidence, some of which I have talked about here today. So I, again, thank you very much for the opportunity to talk.

Mr. FORBES. Well, once again, we want to thank both of you. You are very complimentary of the valuable assets we have in the United States Navy. This subcommittee recognizes both of you as two of those valuable assets. So thank you for giving us your time and expertise.

With that, if there are no additional questions, we are adjourned.

[Whereupon, at 10:30 a.m., the subcommittee was adjourned.]

A P P E N D I X

SEPTEMBER 12, 2013

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

SEPTEMBER 12, 2013

Statement of Congressman J. Randy Forbes
Chairman, Subcommittee on Seapower and Projection Forces

Undersea Warfare Capabilities and Challenges

September 12, 2013

I want to welcome all of our members and our distinguished panel of experts to today's hearing, that will focus on our undersea warfare capabilities and challenges.

Before we begin our discussion today on undersea warfare, I wanted to quickly discuss sequestration and the alternatives that are facing the Navy. It is apparent to me that the largest threat to the United States Navy is of our own making. Despite repeated attempts by the House of Representatives to rein in our nation's spending and properly resource the Department of Defense, the administration has instead offered an alternative plan that would raise our nation's taxes creating a logjam that ensures sequestration continues to decimate our nation's defense. When sequestration was compared with the nation's risk associated with our Syria interests, even Secretary Hagel agreed that the dismantling of our military by sequestration constitutes the greater risk.

If this administration remains supportive of the continued deterioration of the military because of sequestration, I look forward to the day when a new leadership in our country is established to overcome this shortsighted agenda. We

need to ensure that strategy drives budget decisions, we need to provide a voice to our combatant commanders and we need to ensure that every time we put our soldiers and sailors in harm's way, we provide them with every tool and every resource to ensure that we retain a superior advantage over any competing interest.

If sequestration is allowed to remain during the remaining tenure of this administration, I would urge the Department to adopt a strategy that retains our current force structure in a reduced operational status to allow the next administration the opportunity to reverse our military's decline. A decision that reduces our navy by three aircraft carriers will take 20 years to recover. This type of irreversible action by this administration will irreparably harm our nation. A hold and wait strategy is superior to any strategy that would precipitously reduce our force structure as is being considered by this administration.

As to this hearing, I continue to believe that the undersea warfare capabilities provided by our United States Navy provide a preeminent role in the control of the global commons. These capabilities provide the United States with a key asymmetric advantage over any potential aggressor. Even in a time of declining resources, it is crucial that our nation continue to retain our strategic advantage in undersea warfare.

At the heart of our current fleet is the Los Angeles-class attack submarine. To augment the Los Angeles class, this committee has been successful in the authorization of two Virginia-class submarines per year and we authorized another two boats in the fiscal year 2014 NDAA. However, with the accelerating retirement of the Los Angeles-class submarine, our nation will drop below the 48 boat goal starting in 2025. I believe that our attack submarines are an essential element to any of our nation's high-end war plans and I remain committed to continuing the annual procurement of 2 Virginia-class submarines to retain our asymmetric advantage.

Our submarine force also provides a substantial strike capability with the land-attack Tomahawk cruise missile. Our Navy has four Ohio-class guided-missile submarines that can each carry 154 Tomahawk cruise missiles. Unfortunately, these four boats are scheduled to be retired. The Navy has proposed to replace this reduced strike capacity with the Virginia Payload Module. I believe that the Virginia Payload Module could provide this additional capability to the fleet and I will closely monitor the affordability of the Virginia Payload Module to ensure that the benefits outweigh the associated costs.

Finally, the Ohio-class replacement program is expected to provide almost 70% of our nation's entire strategic arsenal. Our national security rests on our ability to deliver this boat on time and within budget. Unfortunately, the cost of

these 12 boats will each average 6 billion dollars and may crowd out other shipbuilding interests starting in the next five years.

I believe it is imperative that the Department of Defense allocate the correct funding toward these strategic assets and ensure that our United States Navy does not disproportionately bear the burden. The fair-share division of our nation's defense resources at the Pentagon needs to come to an end to ensure that our naval forces are properly resourced for our future challenges.

Today we are honored to have as our witnesses:

the Director of the Undersea Warfare Division, Rear Admiral Richard Breckenridge;

and

the Program Executive Officer for Submarines, Rear Admiral David Johnson.

Gentlemen, thank you all for being here.

I now recognize the Ranking Member, Mr. McIntyre, the distinguished gentleman from North Carolina, for any remarks he may have.

STATEMENT OF

REAR ADMIRAL RICHARD P. BRECKENRIDGE
DIRECTOR UNDERSEA WARFARE (N97)

AND

REAR ADMIRAL DAVID C. JOHNSON
PROGRAM EXECUTIVE OFFICE SUBMARINES

ON UNDERSEA WARFARE

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON

SEAPOWER

SEPTEMBER 12, 2013

NOT FOR PUBLICATION UNTIL
RELEASED BY THE HOUSE
ARMED SERVICES COMMITTEE

Mr. Chairman and distinguished members, I thank you for the opportunity to testify before the Subcommittee on Seapower, representing the men and women of your Navy's Undersea Forces.

Undersea Warfare

Undersea warfare consists of military operations that originate from the undersea or are directed into the undersea, ranging from survivable nuclear deterrent patrols by ballistic missile submarines to intelligence collection by attack submarines to surveillance by undersea sensors. It includes antisubmarine warfare by aircraft, Tomahawk strikes like those conducted by the guided missile submarine (SSGN) USS FLORIDA in Operation Odyssey Dawn against Libya, and mine-hunting operations by small unmanned vehicles near the Strait of Hormuz.

Not all undersea warfare is done by undersea forces. For instance, antisubmarine warfare and maritime mine warfare are often done by airborne or surface systems and platforms. These cross-domain operations require careful coordination of efforts between Undersea Forces and surface ships, aircraft, space assets, communications systems, and headquarters facilities, but they often yield outstanding results and greatly improved efficiency. This is an area where we are applying greater emphasis in our maritime operations around the globe.

Today, though, I intend to focus on how Undersea Forces—the platforms and their crews that operate in the depths—contribute to Undersea Warfare.

The Unique Strengths of Stealthy Undersea Forces

The stealth of our Undersea Forces provides an advantage that no other part of the Joint Force can provide: persistent, undetected, assured access far forward and the ability to do valuable things with that access. By leveraging concealment, our Undersea Forces can deploy forward without being provocative, penetrate anti-access/area denial (A2AD) perimeters and conduct undetected operations. These operations might be precautionary preparatory ship movements, intelligence collection and surveillance, Special Forces support or nuclear deterrent patrols.

Should it be necessary, these forces can exploit the element of surprise and attack at the time and place of our choosing to maximize the desired effect while minimizing risk. These attacks could include efforts specifically focused on helping gain access for follow-on general purpose forces. Concealment enables survivability while operating independently with magazines focused on offensive payloads. Finally, stealth enables Undersea Forces to exploit ambiguity to sow disruption and uncertainty in adversary operations, diverting adversary resources and creating confusion.

Feedback from our operational commanders indicates that the demand for this capability is strong. As the threat grows from advances in sensors and weapons such as cruise missiles, anti-ship ballistic missiles and integrated air defense systems, more pressure will be placed on Undersea Forces. This pressure will be further amplified by the proliferation of these advanced systems to more adversaries and more regions.

In addition, the role of the undersea to the globalized industrial economies of the world is hard to overstate and is growing. The intercontinental telecommunications backbone of the world rides on the seabed, with undersea cables carrying over 95 percent of all traffic. Offshore oil and gas production is growing rapidly, and undersea pipeline infrastructure is proliferating to service fields in Asia, the Middle East, the Gulf of Mexico, off Brazil and Africa, and in the North Sea. Transportation infrastructure such as tunnels, piers, bridge supports are accessible from the undersea, and the expansion of shipping traffic and oil drilling into the Arctic as ice-cover shrinks will further expand the importance of the undersea to the global economy.

Considering these factors, it is clear that the importance of the undersea will continue to grow, both in economic and in military terms, for the foreseeable future.

Trends in Undersea Force Structure

Against this backdrop of unique Undersea Force value and continued strong demand we must consider the trends in Undersea Force structure – the long-term number and type of vessels we can expect in our future Undersea Forces. The Navy has worked hard to arrest the downward trajectory in overall Navy force structure and stabilize the Navy near or slightly above its current level. Even this stabilized force, though, includes as part of its baseline a reduction in submarine platforms of more than 25 percent over the next 15 years. This decline is not the result of some recent decision; it is the consequence of budget decisions taken over years and indeed decades. There were only two submarines procured from 1991 to 1998, producing two undesirable results. First, the expertise for submarine construction was dismantled and has only recently begun to recover to full strength. Second, it resulted in the loss of nearly a dozen SSNs in the force. Today's attack submarine force of 55 SSNs will drop to 42; the 4 guided missile submarines (SSGNs) will drop to 0; and the 14 ballistic missile submarines will drop to 10. The total submarine force will drop from 73 to 52 ships -- a cut of 29 percent – before rebounding in the 2030s. The vertical strike payload volume provided by the Undersea Force will drop by well over half. This trough is borne of the submarine shipbuilding hiatus of the 1990s, and no realistic build plan could now prevent it.

Shortfalls in Undersea Forward Presence

Undersea Forces will also suffer degraded forward presence. As a way of maximizing the deployed presence of U.S. nuclear submarines, the Navy uses a different rotational duty pattern for SSNs, SSGNs, SSBNs and Guam-based SSNs. Over the next 15 years, the forward presence of SSNs and SSGNs taken together will fall by over 40 percent. Roughly half of this reduction is due to the decline in the number of SSNs and half is due to the retirement of the SSGNs. One SSN will move to Guam to help mitigate this decline; additional increases in the number of SSNs in Guam, however, are constrained by the unavailability of infrastructure on the island and on the risks associated with concentrating too much of the force in one potentially vulnerable place.

Today, the SSN force is at 55 SSNs -- above the 48-SSN minimum requirement defined by force structure analysis. Despite this nominal excess in SSN capacity, the combatant commander unconstrained demand for SSN forward presence greatly exceeds that which can be provided.

In 2006 Congress tasked the Navy about how it would provide the required SSN forward presence of a 48-SSN Navy with a force that would drop as low as 40 SSNs. In 2007 CNO Mullen testified about the tools available to him to reduce the impact of letting the SSN force dip below the required 48 level. The three tools he outlined were (1) reducing the time to build each VIRGINIA-class submarine to about 60 months; (2) extending the service lives of selected LOS ANGELES-class SSNs beyond 33 years as fuel and material condition allow; and (3) using deployments as long as 7 months to increase deployed availability. Since the first of the Block II VIRGINIAs was delivered in 2008, we have been making significant progress in reducing the construction time of our submarines. Getting to below 60 months on PCU NORTH DAKOTA will help to add one to two effective SSNs to the force level. SSN fuel and material condition are being carefully managed to maximize the chance that some life extensions will be possible. If current trends continue it may be possible to fill about one-third of the ship-years of SSN shortfall. Lengthened deployments above 7 months, as mentioned, are already in use.

The Undersea Forces have a demonstrated willingness to exploit creative operational concepts and basing schemes, and will continue to investigate potentially effective means to improve the presence of our limited number of SSNs during the shortfall time period. It bears noting, however, that most of the available measures discussed increase SSN forward presence but do not increase the number of SSNs available to surge in the event of conflict.

The Navy's Integrated Approach to Future Undersea Capability

Facing a long-term trend of increasing undersea importance and decreasing Undersea Force capacity, the Navy developed an integrated approach to providing as much of the necessary future undersea capability as would be possible within realistic constraints on force size, budgets, shipyard capacity, practical maintenance limits, and technical realism. This integrated approach does not solve all of the capability and capacity shortfalls faced by the Navy, but it focuses attention on providing specific strategic effects while remaining closely in touch with acquisition realism.

I would like to describe the key interlocking pieces that represent the backbone of the Navy's lean integrated undersea investment strategy:

(1) It is mandatory that we sustain our survivable sea-based nuclear deterrent with about the same level of at-sea presence as today – this is priority number one. This requires a force no smaller than 10 operational SSBNs. The Navy has done everything possible to delay SSBN Replacement procurement as long as possible and reduce its scope as much as possible while still providing the required deterrent coverage. Collectively, OHIO life extensions, force level reductions, maintenance efficiency and risk management enabled the OHIO Replacement first patrol to be delayed by 20 years to 2031. This driver determines that we procure the first OHIO Replacement SSBN in 2021 so we can achieve that first patrol in 2031. It also fixes the start dates of the later ships as necessary to stay at ten SSBNs during the transition from OHIO to OHIO Replacement, and to restore the inventory to 12 to retain 10 operationally available as OHIO Replacement submarines enter extended depot availabilities

(2) All three submarine types go through large drops between 2025 to 2030 that are beyond fiscal and shipyard capacity to address. Between 2025 and 2030, the SSN force drops to 42, all four SSGNs retire and the SSBN force drops from 14 to 10. Top priority is placed on the SSBNs. Building new SSGNs from the keel up would require designing and starting construction of two large submarine classes (SSBNs and SSGNs) simultaneously – a task which exceeds the capacity of our design work force. Converting four more SSBNs into SSGNs is not possible because there are no surplus SSBNs to draw on. This determines that SSGN capacity, if it is to be retained, must be built into future SSNs. The SSN force structure trough coupled with this undersea strike capacity shortage dictates that SSN procurement must be our second priority.

(3) In order for SSNs to carry strike missiles displaced from SSGNs and future payloads that extend the influence inherent to our assured access, added SSN payload volume is required. Adding more SSNs to the build plan beyond two per year is fiscally unlikely, would challenge yard capacity, and is not necessary. Instead the needed volume can be achieved by adding modules to SSNs already in the build plan, covering most of the lost SSGN capacity and providing UUV carrying capacity— thereby solving two problems at once. To mitigate the loss of strike capacity when SSGNs retire in the next decade, the Navy requested Fiscal Year 2014 Research and Development funding to continue the design for a modification to the VIRGINIA Class SSN, the VIRGINIA Payload Module. Modified VIRGINIA Class SSNs could be procured starting no earlier than Fiscal Year 2019. Our challenge will be executing this option affordably alongside competing priorities within the overall shipbuilding program.

(4) As the SSN force gets smaller and as the importance of its unique forward access becomes clearer, additional payloads are likely to emerge. The strategic impact of each SSN being able to carry a family of different capabilities without any discernible external difference in the ship is daunting to an adversary planner and therefore not only valuable to military capability but to deterrence value as well. It is not necessary to field all of these payloads soon – but the ability of the module to support them in the future will give future force commanders much flexibility. Additionally, the insert may allow for incorporation of sensors and stealth advancements to maintain dominance over capable undersea adversaries. This determines the need for the large tube payload volume to be flexible for maximum strategic and deterrent value.

(5) The smaller SSN force structure will require each SSN to cover more physical territory and also cover more potential new types of undersea targets. Combined with the shortfall in torpedo inventory and the fact that there has not been a U.S. heavyweight torpedo produced since 1996, this creates a compelling need to restart torpedo production. Not only is there a shortfall in numbers, there is also no proven facility capable of producing weapons with a new capability. In the short term, this allows us to address the shortfall and capacity issues. More importantly, in the long term this provides a foundation for us to adapt our undersea weapons with new, expanded target set capabilities. This determines the need to restart torpedo production soon with emphasis on modularity.

OHIO Replacement

Some important aspects of the OHIO Replacement Program deserve special emphasis.

First, the sea-based strategic deterrence provided today by OHIO and tomorrow by the OHIO Replacement is critical to the country. It is the most survivable leg of the deterrent Triad which is the bedrock upon which we build our ability to deter warfare with major adversaries. This prevention of major war and deterrence of nuclear coercion is one of the most important roles that we can have in the military, and our SSBN force is the cornerstone of that deterrent.

Second, we have been conducting uninterrupted strategic deterrent patrols for more than 50 years and, as long as our adversaries retain nuclear weapons, we plan on continuing those patrols. The OHIO class represents the best lessons learned from the 41 for Freedom—the class of SSBNs that preceded it—and the OHIO Replacement will likewise benefit from the lessons learned from OHIO. We have optimized our SSBN model and we know how to do sea-based strategic deterrence reliably and cost-effectively. Fifty years will have passed between the first OHIO patrol and the first patrol by the OHIO Replacement. That is a strong demonstration of cost-efficiency.

Third, the effectiveness of the SSBN in its mission is determined by its survivability, and its survivability is driven by its stealth. Stealth is an attribute that is largely built into an SSBN in construction. Once the ship is built, you can make some small changes, but the stealth of the ship is largely determined. Because we are setting the specifications for a ship that will operate for 42 years after it enters service, and that service life counter doesn't start for another 20 years, we must accurately determine how much stealth is enough. We must find the most cost-efficient way of achieving adequate stealth.

Finally, we took risk in our ability to meet SSBN requirements during the decade of transition when we delayed the OHIO Replacement SSBN by two years. This moderate risk was clearly articulated and well understood – but to ensure an uninterrupted undersea strategic deterrent, the program can stand no additional delay.

Notwithstanding these considerations, we are acutely mindful of the costs of the OHIO Replacement Program, and the burden these costs pose on the Navy's entire shipbuilding program, and the resultant impact on nation's shipbuilding industrial base. We are absolutely determined to work across the Navy, with industry, and with Congress to field the OHIO Replacement in the most affordable manner consistent with mission requirements. All aspects of the OHIO Replacement Program will continue to be thoroughly reviewed and aggressively challenged to responsibly drive down engineering, construction, and operations and support costs. However, Navy will need the means to resource construction of the next generation nuclear ballistic missile submarine.

Implementing the Integrated Undersea Strategy: OHIO Replacement SSBN

Currently in its third year of the technology development phase, the OHIO Replacement SSBN program is dedicated to providing the right nuclear deterrence capability at a responsible cost and

delivering a lead ship ready for strategic patrols in fiscal year 2031 with sufficient survivability to address projected future threats. To succeed, many efforts must remain aligned and properly resourced, including the overall ship design and construction led by the OHIO Replacement program, the life extension of the TRIDENT II (D5) strategic weapon system, the Common Missile Compartment partnership between the U.S. and the UK, and the development of the ship's propulsion system by Naval Reactors.

Lead OHIO Replacement submarine construction must begin in 2021 to allow it to commence its first Strategic Patrol in 2031 to meet the nuclear deterrence mission requirements. Funding is vital to the procurement timeline, which meets U.S. Strategic Command requirements with moderate operational risk during the transition period between OHIO and OHIO Replacement SSBNs. The lead OHIO Replacement construction start has shifted from FY19 to FY21. Further delays would produce a gap in at-sea strategic requirements, as there is no additional margin to further extend the life of the OHIO SSBNs nor is it possible to accelerate the already aggressive lead ship construction schedule. Construction for the lead OHIO Replacement SSBN must commence in FY21 with requisite design maturity in order to meet strategic requirements.

Implementing the Integrated Undersea Strategy: VIRGINIA and VPM

This past weekend, on September 7, we commissioned the 10th submarine of the VIRGINIA Class – the USS MINNESOTA (SSN 783). MINNESOTA is the 6th and final submarine of the Block II construction contract, each of which was delivered to the Navy early to its contract delivery date and within budget. Of the 10 VIRGINIA Class submarines in the fleet, seven were delivered ahead of their contractual requirement. The next submarine of the class, PCU NORTH DAKOTA (SSN 784), the first of the Block III submarines, is on track to deliver next January and will take approximately 59 months to build – the shortest construction period yet for a VIRGINIA Class submarine.

NORTH DAKOTA's early delivery is important to note as it incorporates design changes to about 20% of the boat. Included in those design changes is a redesigned bow with a new sonar array and the introduction of VIRGINIA Payload Tubes – or VPTs. VPTs allow the submarine to deploy with the same load-out of TOMAHAWK cruise missiles as Blocks I and II, but also increase the submarine's payload volume from 1,300 to 2,100 cubic feet of space to accommodate the use of future payloads as they come online.

The combination of repeated early deliveries and the improved capabilities afforded by the Block III design changes is impressive in its own right. However, the true measure of our success is the quality of the submarines we place in the hands of the warfighter. With each successive VIRGINIA Class submarine we build, we are improving quality. USS MINNESOTA had the highest readiness score to date of any VIRGINIA Class submarine as measured by the Navy's independent Board of Inspection and Survey (INSURV). VIRGINIA Class submarines are surge ready within months of delivery, capable of conducting their full mission set ahead of schedule. These submarines are on track to go from construction start to a fleet-ready asset in less than six years.

We are currently negotiating the Block IV construction contract which we anticipate will be signed in the first quarter of the next fiscal year. While the Block IV does not include design changes on the order of those in Block III, it embraces our plan for the Reduction of Total Ownership Cost – or RTOC. Under RTOC, we will reduce the lifecycle costs of the VIRGINIA Class while simultaneously increasing their operational availability. RTOC will allow us to reduce the number of maintenance availabilities for each VIRGINIA Class submarine by one—to three—over the life of the submarine while increasing the number of deployments by one to 15. This effort provides a net positive for the tax payer and the warfighter, saving money while increasing the operational capacity of our assets.

Looking beyond Block IV, we are now doing the early concept design work on the VIRGINIA Payload Module planned for insertion into Block V submarines. As discussed earlier, VPM is vital as the most cost effective option to mitigate the undersea TOMAHAWK strike shortfall we will face when our four SSGNs are decommissioned between 2026 and 2028. To recapitalize this strike volume, we have begun efforts to add four large-diameter VPTs each capable of firing seven TOMAHAWKS within the existing VIRGINIA Class SSN design. VPM represents a low risk effort using proven technology yielding a high return on investment. VPM utilizes the proven VIRGINIA Class platform, the same missile tubes as the VPTs used on our Block III submarines, and the same Multiple All-Up-Round canisters that hold and launch TOMAHAWKS aboard our current SSGNs. Additionally, the Submarine Force has a proven track record of inserting hull sections into existing designs, most recently demonstrated on USS JIMMY CARTER (SSN 23). VPM does not entail a radical design change to the submarine – in fact the investment to complete the VPM design is on the same order of magnitude as the Block III design – the first of which is will be the fastest delivery yet for a VIRGINIA Class submarine.

With each VIRGINIA Class submarine we put to sea, the Navy, our shipbuilding partners General Dynamics Electric Boat and Huntington Ingalls Industries – Newport News Shipbuilding, and our over 4,000 suppliers in all fifty states are gleaning valuable lessons learned that can and will be applied to our future designs such as VPM and the OHIO Replacement Program.

Our success is dependent on those that have come before us and who have performed the programmatic, engineering, and technical rigor and analysis that have made our Submarine Force without peer and we must continue to build upon to enable our future successes. To that end, the OHIO Replacement and VIRGINIA Class Programs have developed a highly collaborative construct ensuring every lesson learned and efficiency from the VIRGINIA Class be applied to the OHIO Replacement. These submarines are a vital part of our Nation's current and future undersea strategy, providing the "on scene, but unseen" guarantee of safety and security to our Nation.

Summary

In closing, I would like to highlight three points:

1. The importance of the undersea is growing – both economically and militarily – and in the future we will need to place increasing emphasis on stealthy undersea forces, to include our sea-based strategic deterrent.

2. This increasing importance is painted against an undersea force structure baseline that will decline – as a result of a long series of decisions made over many years -- by nearly 30 percent between now and 2030.

3. Your Navy has in place and is executing an integrated undersea capability plan that makes the most of a declining submarine force structure by marrying it with a forward-leaning payload volume and undersea system family that will deliver strategic influence, deterrence and, if necessary, robust warfighting capability.

The United States is fortunate to have what is by any objective measure the finest undersea force in the world. We face significant challenges to maintaining our undersea dominance, but we understand the challenges and are executing a realistic and economically feasible plan to address them.

I would like to thank the Committee for the opportunity to be here today to speak with you on our Undersea Warfare programs and the vital role they play in our national security today and well into the coming decades. I am happy to answer any questions you may have. Thank you.

United States Navy
Biography

Rear Admiral Richard P. Breckenridge
Director, Undersea Warfare Division (N97)

Rear Adm. Breckenridge graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science in Aerospace Engineering. He also holds master's degrees in Engineering Acoustics and Electrical Engineering from the U.S. Navy Postgraduate School.

Breckenridge served on USS *Hammerhead* (SSN 663), USS *Florida* (SSBN 728) (Gold), and USS *Philadelphia* (SSN 690). He commanded USS *Memphis* (SSN 691) in Groton, Conn., where he conducted a U.S. Central Command deployment in support of Operation *Iraqi Freedom*. Breckenridge also served as commodore of Submarine Squadron Four and commander of Submarine Group Two in Groton.

His staff assignments include special assistant to the Secretary of Defense; special assistant to the Director, Naval Reactors; chief of staff, Force Structure, Resources, and Assessment Directorate (J8) on the joint staff; and, deputy director, Submarine Warfare Division (N87) on the staff of the Chief of Naval Operations.

Breckenridge assumed his current duties as director, Undersea Warfare Division in April 2013.

Breckenridge's decorations include the Defense Superior Service Medal, Legion of Merit, and Meritorious Service Medal.

Updated: 29 April 2013

United States Navy
Biography

Rear Admiral David C. Johnson
Program Executive Officer for Submarines

Rear Adm. Johnson, the son of a Navy captain and a Pensacola, Fla., native, graduated from the U.S. Naval Academy in 1982 with a Bachelor of Science degree in Aerospace Engineering.

Upon commissioning, Johnson reported to Trident Refit Facility, Bangor, Wash., where he served as docking officer, qualified as ship superintendent at Puget Sound Naval Shipyard and earned his engineering duty dolphins. Johnson graduated from the Massachusetts Institute of Technology in 1989 with a naval engineer degree and a Master of Science in Mechanical Engineering. Subsequently, Johnson held submarine acquisition and repair positions at the supervisor of Shipbuilding in Groton as a waterfront coordinator delivering Ohio class submarines and later as the Program Manager's Representative for the Virginia class; at Trident Refit Facility Bangor as the planning officer; and at program executive officer (PEO) Submarines as the assistant program manager for USS *Jimmy Carter* (SSN 23).

Johnson became major program manager, Virginia Program Office (PMS 450) in 2005. Under his guidance, the Virginia program reduced overall cost by $4 billion and delivered four submarines to the fleet. The program was awarded the 2007 DoD Value Engineering Award and the 2008 David A. Packard Award for Acquisition Excellence.@Following selection to rear admiral, Johnson served as deputy commander for Undersea Technology (SEA 073), deputy PEO Submarines for the Ohio SSBN Replacement Program (September 2008 – 2010), and commander, Naval Undersea Warfare Center (September 2008 – 2009).@ Johnson also established and served as the first Undersea Enterprise chief technology officer.

Johnson assumed his current duties as the program executive officer, Submarines in October 2010 where he is responsible for all new construction submarine programs, as well as acquisition and life cycle maintenance of submarine weapons, countermeasures, sonar, combat control and imaging systems. His PEO includes the Ohio Replacement SSBN and Virginia class SSN programs, which are the 2nd and 3rd largest programs respectively in the Department of Defense.

Johnson has received various personal and campaign awards, including the Legion of Merit and the Meritorious Service Medal with three gold stars.

Updated: 15 July 2012

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

SEPTEMBER 12, 2013

QUESTIONS SUBMITTED BY MR. FORBES

Mr. FORBES. Per the House-passed FY14 NDAA Report directive "Submarine Propeller Repair and Overhaul" (SPRO) the committee is concerned with the FY14 SPRO budget and FYDP proposal. The Navy has stated that "funding requirements for propeller repair and overhauls are estimated based on historical and current year expenditures." In the Navy's August 27, 2012, response to HASC RFIs regarding SPRO, the Navy detailed historical SPRO funding levels between FY08–FY12. However, the August 27th response also proposed a very concerning FYDP funding forecast and a "Repair Only" ongoing approach to maintaining submarine propellers. Without addressing a mix of both ongoing propeller repair and overhaul needs, I believe that medium to high risk to submarine operational readiness remains. Additionally, I believe that the SPRO U.S. industrial base capability is highly skilled but very fragile. Adequate funding and budget planning is crucial to retaining this strategic asset.

Please provide an update to the following:

1. Provide to-date and planned/expected FY13 total funding expenditures for SPRO and break out base budget funding, reprogrammed funding, and OCO funding.

2. Provide the funding level requested within the FY14 base budget and OCO, and across the FYDP.

3. Provide a breakdown of the type and quantity of both repaired and overhauled propellers currently in RFI status.

4. As stated, I am concerned with the Navy's ongoing proposed "Repair Only" approach to SPRO as outlined in the August 27th response. I ask that the Navy re-evaluate this plan and report back to the committee with an approach, to include both FY14 and FYDP funding, that adequately addresses the ongoing mix of both propeller repair and overhaul needs.

Admiral BRECKENRIDGE and Admiral JOHNSON. **1.** For the funding year FY13, the Navy allocated a total of $5.867M for SPRO consisting of $.418M base and $5.449M OCO funds. These funds have been provided to NAVSUP Weapon Systems Support to support for the repair work to be completed by the end of the fiscal year.

2. SPRO funds contained in OMN FY14 and across the FYDP are shown in the table below.

	FY14	FY15	FY16	FY17	FY18	FY19
Base Budget (M)	$2.274	$2.358	$2.439	$2.493	$2.601	$2.691
OCO (M)	$5.942	$6.055				
Total (SPRO) (M)	$8.216	$8.413	$2.439	$2.493	$2.601	$2.691

3. The Navy has a total of 19 propellers in RFI status at this time. Break down by type as shown in table below

Type of Propeller	Total Quantity of RFI	Repaired	Overhauled
I3B	1	1	
I3M	6	6	
LAHII	7	7	
IPMP	1	1	
SEAWOLF rotor	0	0	
TRIDENT	4	1	3

Hull applicability by Propeller Type:

I3B—Applicable to SSN 688–720 only.
I3M—Applicable to SSN 688–765, 767–770.
LAHII—Applicable to SSN 751–765, 767–770.
IPMP—Applicable to SSN 766, 771–773.
TRIDENT—Applicable to SSBN/SSGN 726 class.

4. The Navy shares the concern of maintaining the critical US industrial base for propeller refurbishments. The large majority of future propeller overhauls will be limited to the SSBN/SSGN 726 Class due to two factors:

a. The current RFI inventory and SSN 688 demand history can be adequately sustained by "Repair Only". This is the prudent approach in a budget constrained environment.

b. The decommissioning rates of SNN 688 Class submarines over the next decade will further reduce the demand signal for repaired or overhauled propellers.

In addition to SSBN/SSGN 726 Class propeller overhaul activity, the propeller refurbishment industrial base will be supported by the VA Class propulsor rotor repair. These rotors are replaced on a periodic scheduled basis and, coupled with unanticipated failures, will provide additional work to maintain the industrial base.

Mr. FORBES. What is the impact of sequestration on the Navy's acquisition strategy for the *Virginia*-class SSN program?

Admiral BRECKENRIDGE and Admiral JOHNSON. The Fiscal Year (FY) 2014 President's Budget includes ten submarines in Block IV, two per year for FY 2014–FY 2018. The Navy is currently negotiating the Block IV as a Multiyear Procurement (MYP) Fixed Price Incentive (FPI) contract and expects to sign it in early Calendar Year (CY) 2014 contingent on the passing of the FY 2014 Department of Defense Authorization appropriations bills. The full effects of sequestration in FY 2014 are not yet known. However, it is expected that the Navy will be able to fund the basic construction effort with Ship Construction, Navy funding for the FY 2014 submarines (SSN 792 and SSN 793), but will require additional funds to finish Government Furnished Equipment (GFE) procurements and testing. Additionally, sequestration will result in AP and EOQ reductions, thereby reducing the expected MYP savings. To maintain construction schedule, procurement of Long Lead Time Material (LLTM) occurs two years and one year prior to construction start, with two year AP used to fund the most critical long lead components. FY 2013 sequestration reduced the Program's AP funding by $127M which was restored and is in execution. The Navy is evaluating the potential for sequestration reductions to the FY 2014 AP and EOQ to minimize the overall impact to the program.

Mr. FORBES. How does the Navy intend to fulfill its requirements given the future retirement of the SSGNs in light of purchasing shortfalls of future SSNs?

Admiral BRECKENRIDGE and Admiral JOHNSON. Submarines are meeting combatant commander requirements today. The future challenge will be ensuring that forward presence around the globe and surge requirements can be met with a smaller submarine force.

VIRGINIA Payload Module (VPM) is needed to both 1) mitigate strike capacity of the decommissioning SSGNs and 2) provide flexibility to expand the range of payloads for the submarine force in response to evolving mission needs. The VPM will be a new hull section containing four large-diameter, SSGN-like, aft of the sail that can carry up to seven TOMAHAWK cruise missiles each and will be able to readily accept new future payloads. These future payloads could include unmanned undersea vehicles (UUVs) and advanced weapons, as well as additional sensors and stealth enhancements to counter capable adversaries, maintaining our dominance in the undersea domain. To reconstitute the payload volume lost when the SSGNs retire in the early 2020s in the most economical manner, the Navy must design the VPM now for incorporation into the Block V VIRGINIA Class contract that is schedule for awarding in Fiscal Year 2018.

Mr. FORBES. In light of the Air-Sea Battle Concept, will the Navy fulfill its requirements given the shortfall in the number of SSNs?

Admiral BRECKENRIDGE and Admiral JOHNSON. Air-Sea Battle is an operational concept designed to integrate air, land, and naval forces required to address evolving threats. Undersea Forces with their unimpeded access forward will play an important role within an Air-Sea Battle Concept.

Air-Sea Battle is not an operational plan or strategy for a specific region, adversary, or geopolitical situation. Instead, it reflects an understanding of the threat and provides a means to develop symmetric and asymmetric advantages to counter and shape A2/AD environments. Air-Sea Battle seeks to develop an integrated force with the necessary characteristics and capabilities to succeed in those environments.

As such, Air-Sea Battle doesn't define required capacity of the submarine force. Instead, our force structure requirements are based on Navy's force structure assessment (FSA) which is based principally on: a) meeting warfighting capability and response time requirements for Combatant Commander operational plans b) providing a sufficient rotation base to sustain global posture

Navy's January 2013 FSA specified an SSN requirement of 48. Today we exceed that requirement with 54 SSNs. Based on Navy's PB14 shipbuilding plan we are projected to fall below this requirement from 2025–2034.

Mr. FORBES. Will cost increases in the *Ohio* replacement program affect other ship building programs?

Admiral BRECKENRIDGE and Admiral JOHNSON. Our ballistic missile submarines are the bedrock underlying our national nuclear deterrence. Because ballistic missile submarines are infrequently procured, they place added pressure on the Navy's shipbuilding budget when they are recapitalized once every other generation. To that end, the Navy must ensure it controls the OHIO Replacement SSBN's costs to ensure other shipbuilding efforts are not impacted and the Fleet has the right mix of ships.

Cost control is of paramount importance to the OHIO Replacement program. The Navy is working with industry and other government activities to deliver the OHIO Replacement affordably while maintaining mission requirements. The OHIO Replacement Program will continue to be thoroughly reviewed and aggressively challenged to responsibly reduce engineering, construction, and operations and support costs. Additionally, the Office of the Secretary of Defense established aggressive cost targets for both operating and support costs and average follow-on ship costs for ships 2–12 of the 12 ship class to control OHIO Replacement's costs. The program is reviewed annually by the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics to ensure affordability progress continues.

Mr. FORBES. Will the Navy suffer a capability shortfall given its plan to replace 14 *Ohio*-class submarines with 12 vessels?

Admiral BRECKENRIDGE and Admiral JOHNSON. No. 12 SSBNs with life-of-ship reactor plants (no refueling required) will satisfy the core requirement for a credible and effective two-ocean sea-based strategic deterrent for the 42-year life of the replacement class (well into the latter half of this century). Today 14 SSBNs are required to meet strategic deterrent requirements since two to three SSBNs are off-service for approximately three years during the mid-life refueling overhaul period.

Mr. FORBES. What capabilities will the Navy lose if they decide to only acquire less than 12 boats?

Admiral BRECKENRIDGE and Admiral JOHNSON. The Navy cannot meet STRATCOM's two-ocean, sea-based strategic deterrent requirements with less than 12 SSBNs in the replacement class.

12 SSBNs provide the absolute minimum number of platforms to remain undetected (survivable) and within the reach of key military targets of nuclear powers that could threaten the U.S.

Mr. FORBES. How does the *Ohio* replacement support strategic warhead requirements associated with the New Start treaty?

Admiral BRECKENRIDGE and Admiral JOHNSON. Though the New START Treaty will have expired when the OHIO Replacement (OR) goes into service (treaty expires no later than 2026 and OR enters service in 2031), the OHIO Replacement program full satisfies STRATCOM requirements associated with the Treaty.

Mr. FORBES. How does the Navy anticipate replacing the strike capability lost with the retirement of the SSGN fleet? How does *Virginia* Payload Module support this capability? What options exist in lieu of the *Virginia* Payload Module?

Admiral BRECKENRIDGE and Admiral JOHNSON. After the SSGNs retire in the mid-2020s, the Navy will be unable to meet combatant commander requirements for undersea-based, land attack strike with VIRGINIA Class submarines as they are designed today. Combatant commander demand for submarine presence and missions will continue to rise while the force shrinks, requiring the undersea force to employ UUVs and other distributed off-board sensors to increase the coverage provided by the remaining SSNs.

All of this equates to payload volume. The Navy investigated several options for meeting this payload volume and concluded that the modular VIRGINIA design provides the opportunity to cost effectively add that payload volume without significantly impacting mission performance without redesigning the whole ship. Waiting for the next design of SSN or for an ORP-based solution is not timely enough to fill the gap in payload left by retirement of the SSGNs while fiscal and strategic limitations do not allow for conversion of more SSBNs.

VPM will both mitigate strike capacity of the decommissioning SSGNs and provide flexibility to expand the range of payloads for the submarine force in response to evolving mission needs.

Mr. FORBES. What is the status of the Joint Requirements Oversight Council's approval of the *Virginia* Payload Module?

Admiral BRECKENRIDGE and Admiral JOHNSON. The Joint Staff completed its review of the VIRGINIA Payload Module's (VPM) preliminary Capabilities Development Document (CDD) in August 2013 prior to its going to the Joint Requirements Oversight Council (JROC) for final validation and approval. JROC approval is expected before the end of the calendar year.

Mr. FORBES. How will the Joint Requirements Oversight Council's approval materially impact the research and development and the associated fielding of the *Virginia* Payload Module?

Admiral BRECKENRIDGE and Admiral JOHNSON. The Joint Requirements Oversight Council's (JROC) approval of the VIRGINIA Payload Module (VPM) Capabilities Development Document (CDD) will support acquisition decisions as the program transitions into the engineering development phase. Once JROC approval is received, the Navy will begin detailed design efforts to fulfill the stated requirements as part of the VIRGINIA Class Block V contract scheduled for award in Fiscal Year 2018.

In the past, Congress has withheld VPM funding based on the lack of a validated requirement. With JROC approval, Congress will be able to fully support the Navy's VPM design effort. The JROC approval is anticipated early Fiscal Year 2014.

QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. I am deeply troubled by any potential impacts on the two-per-year procurement schedule for *Virginia*-class boats that we so badly need. The economies and efficiencies that the men and women in Virginia, Connecticut, and Rhode Island have worked so hard to make possible would be seriously impacted by any change to the programmed schedule, with potentially serious long-term consequences to this model procurement program.

Can you elaborate on the funding for the second FY14 boat and the FY15 boats? What is the current funding plan in our various future options—a CR, sequestration or no sequestration, et cetera?

Admiral BRECKENRIDGE and Admiral JOHNSON. VIRGINIA Class Submarine—Funding for the second Fiscal Year (FY) 2014 (14–2, SSN 793) and the FY15 (15–1, SSN 794 and 15–2, SSN 795) boats: The President's Budget for Fiscal Year 2014 (PB14) contains the required funding for the four submarines in both Fiscal Year (FY) 2014 and FY 2015. To maintain construction schedule, procurement of Long Lead Time Material (LLTM) occurs two years and one year prior to construction start, with two year Advance Procurement (AP) used to fund the most critical long lead components. In FY 2012, the VIRGINIA Program LLTM contract was awarded for the 1st FY 2014 hull (SSN 792). In FY 2013, the LLTM contract was modified to complete LLTM funding for the 1st FY 2014 hull, as well as fund LLTM for the 2nd FY 2014 hull (SSN 793), and for two FY 2015 hulls (SSNs 794 and 795).

VIRGINIA Class Submarine Sequestration budget impacts: The FY 2014 President's Budget includes ten submarines in Block IV, two per year for FY 2014–FY 2018. The Navy is currently negotiating the Block IV as a Multiyear Procurement (MYP) Fixed Price Incentive (FPI) contract and expects to sign it in early Calendar Year (CY) 2014 contingent on the passing of an FY 2014 Department of Defense appropriations bill. The full effects of sequestration in FY 2014 are not yet known. However, it is expected that the Navy will be able to fund the basic construction effort with Ship Construction, Navy funding for the FY 2014 submarines (SSN 792 and SSN 793), but will require additional funds to finish Government Furnished Equipment (GFE) procurements and testing. Additionally, sequestration will result in AP and EOQ reductions, thereby reducing the expected MYP savings. To maintain construction schedule, procurement of LLTM occurs two years and one year prior to construction start, with two year AP used to fund the most critical long lead components. FY 2013 sequestration reduced the Program's AP funding by $127M which was restored and is in execution. The Navy is evaluating the potential for sequestration reductions to the FY 2014 AP and EOQ to minimize the overall impact to the program.

VIRGINIA Class Submarine Continuing Resolution (CR) Impacts: The Continuing Appropriations Act, 2014, prevents the Navy from entering into MYP contracts. If MYP authority language is provided in a follow on CR or appropriations bill, the Navy could execute an MYP contract.

The Navy must award the Block IV contract by January 31, 2014 in order to take advantage of AP/EOQ savings, award the FY 2014 ships, and not disrupt construction. By leveraging AP/EOQ, the Navy is able to produce VIRGINIA Class submarines in the most cost and schedule efficient manner possible.

The Navy requires MYP contract authority and funding for the increased rate of spending as AP/EOQ amounts in FY 2014 are greater than FY 2013.

Mr. LANGEVIN. While the *Virginia* program has been a model procurement story, there are clearly some other procurements in the Navy that have had more trouble. If the ORP program remains within the Navy shipbuilding budget, or even if it does not, how will the Navy seek to insulate the program from cost overruns in other shipbuilding lines?

Admiral BRECKENRIDGE and Admiral JOHNSON. Submarines are meeting combatant commander requirements today. The future challenge will be ensuring that forward presence around the globe and surge requirements can be met with a smaller submarine force.

VIRGINIA Payload Module (VPM) is needed to both 1) mitigate strike capacity of the decommissioning SSGNs and 2) provide flexibility to expand the range of payloads for the submarine force in response to evolving mission needs. The VPM will be a new hull section containing four large-diameter, SSGN-like, aft of the sail that can carry up to seven TOMAHAWK cruise missiles each and will be able to readily accept new future payloads. These future payloads could include unmanned undersea vehicles (UUVs) and advanced weapons, as well as additional sensors and stealth enhancements to counter capable adversaries, maintaining our dominance in the undersea domain. To reconstitute the payload volume lost when the SSGNs retire in the early 2020s in the most economical manner, the Navy must design the VPM now for incorporation into the Block V VIRGINIA Class contract that is schedule for awarding in Fiscal Year 2018.

Mr. LANGEVIN. Can you give us an update on the *Virginia* Payload Module and how the program is faring given sequestration, a potential CR, and other fiscal adversities? How much more bend is there in this program before we jeopardize the ability to include this capability in the Block 5 *Virginias*?

Admiral BRECKENRIDGE and Admiral JOHNSON. Initial concept development for VIRGINIA Payload Module (VPM) is largely complete. The concept leverages existing technology, previous Navy experience with lengthening submarines, and the modular VIRGINIA Class design. Internal components required by VPM can be provided by existing systems. For example, VPM tubes have the same diameter (87″) as the VIRGINIA Payload Tubes (VPT) located forward of the sail in Block III and beyond SSNs. This modification has minimal cost and technical risk in terms of development and procurement if funded to the President's Budget. Delaying design and construction will make VPM more expensive and place at risk the opportunity to leverage the VIRGINIA Class Block V multi-year procurement contract.

The Navy's approved capability requirements document, which defines this undersea payload strike requirement for submarine launched vertical strike, has been submitted to the Joint Staff for final approval. The document is on track for validation by the Joint Requirements Oversight Council in the first quarter of Fiscal Year 2014.

The Department of Defense and the Navy support VPM as the most viable near-term option for this capability. The combination of sequestration and the possible CR will delay the VPM design effort, thus impacting the introduction of VPM in Fiscal Year 2019 with the start of Block V. If VPM development funding is zeroed in Fiscal Year 2014, as is recommended by the Senate Appropriations Committee, it will not be ready for inclusion into the start of Block V VIRGINIA SSNs and will not deliver in time to help mitigate the dramatic reduction in undersea vertical launchers when the SSGNs begin to decommission in the early 2020s. Delaying the VPM effort will result in having insufficient strike volume to meet campaign requirements, an inability to enable early successful prosecution of adversary A2/AD networks, and will close off opportunities to significantly improve VIRGINIA Class performance and capabilities against advanced adversaries.

Mr. LANGEVIN. Stepping back a bit, can you remind me why these programs—VCS, VPM, ORP—are so important, given the intense A2/AD challenges we are likely to face in future contingencies?

Admiral BRECKENRIDGE and Admiral JOHNSON. As anti-access/area-denial technologies have advanced and proliferated, submarines have grown in importance. Thanks to their stealth, they can operate where other naval forces cannot—inside the adversary's A2/AD perimeter—performing peacetime missions and, in the event of hostilities, opening the door for the joint force with kinetic attacks.

VIRGINIA Class attack submarines are deployed globally, meeting combatant commander requirements. They routinely have the highest operational availability

in the Submarine Force. The VIRGINIA Class as a platform will have to evolve to maintain the Navy's edge and continue to carry out changing combatant commander requirements. After the guided missile submarines (SSGNs) retire in the mid-2020s, the Navy will be unable to meet combatant commander requirements for underseabased, land attack strike with VIRGINIA Class submarines as they are designed today.

The VIRGINIA Class' modular design provides the opportunity to cost effectively add that payload volume without significantly impacting mission performance and without redesigning the whole ship. The VIRGINIA Payload Module (VPM), which will consist of four large-diameter payload tubes located in a new hull section aft of the sail, will mitigate loss of strike capacity as a result of the decommissioning SSGNs, allow for the employment of future payloads such as UUVs and advanced weapons, and serve to maintain our unquestioned dominance of the undersea domain by providing flexibility for incorporating additional sensors and stealth enhancements to counter capable adversaries.

Finally, our OHIO ballistic missile submarines, which are the bedrock underlying our national defense, require recapitalization. For over 50 years the SSBN fleet has provided the most survivable leg of the nation's strategic nuclear deterrent. The OHIO's stealth, designed over 30 years ago, continues to allow it to operate undetected by adversaries. Based on the intelligence community's projections, advances in stealth are required for the future. The OHIO Replacement fleet is being designed to operate against anticipated future threats to remain a credible and effective strategic deterrent through the 2080s.

Mr. LANGEVIN. Unmanned Undersea Vehicles (UUVs) provide capable, relatively low cost alternatives to addressing certain mission sets while reducing operational risk, removing the warfighter from harm's way, and potentially improving situational awareness. Can you provide this subcommittee with an update on UUV development programs, particularly the large-diameter UUVs?

Admiral BRECKENRIDGE and Admiral JOHNSON. UUVs are a critical component of the future Navy Force and contribute to dominance in the undersea domain. UUV development efforts, mission areas, and vehicle systems include:

Large Displacement UUV (LDUUV) will be a reconfigurable multi-mission UUV that can be launched from multiple platforms using modular payloads and energy sections. The program will leverage the Office of Naval Research's Innovative Naval Prototype to develop advanced energy sources and autonomy for long duration missions. Acquisition Gate 2 was completed in August 2013 and the Capability Development Document (CDD) for Increment 1 is currently being drafted. Increment 1 mission capabilities will be Intelligence Preparation Of the Environment (IPOE) and Intelligence, Surveillance and Reconnaissance (ISR). Fleet Demonstration and Testing with prototypes will begin in FY16 with program Initial Operational Capability 2022.

Persistent Littoral Undersea Surveillance (PLUS) System provides effective, adaptive and persistent undersea surveillance of multiple quiet targets over large littoral areas. It is a multi-node network that consists of mobile UUVs with sensors, UUV gliders for communications, and a remote control station that can be placed anywhere in the world. In-water components can be launched and recovered from a variety of vessels. PLUS is a User Operational Evaluation System (UOES) that will be operational and deployed in the second quarter of Fiscal Year 2015. Development Squadron 5 UUV Detachment and LCS Anti-Submarine Warfare (ASW) Mission Package Detachment 1 have started operator and maintainer training in preparation for the deployment.

Knifefish Surface Mine Countermeasure (SMCM) UUVs are designed to detect, classify, and identify bottom, buried, and volume mines in high clutter environments while conducting IPOE. They are deployable from LCS or crafts of opportunity. The program has completed Milestone B and critical design review. The program has an acquisition objective of 30 systems and initial operational units will be delivered to the Fleet in FY17.

Mk18 Mod 2 is a lightweight Mine Counter Measure UUV that augments search capability for expeditionary response, amphibious operations, maritime homeland defense, and hydrographic survey operations. The MK18's are being used in theater in an operational environment currently run by civilians/contractors. The program has a objective inventory of 8 systems (3 vehicles per system) will be reached in Fiscal Year 2017. Inventory of 4 systems will be realized by first quarter Fiscal Year 2014.

The Littoral Battlespace Sensing (LBS) Autonomous Undersea Vehicle (AUV) provides oceanographic, bathymetric, and hydrographic battlespace awareness including high resolution bathymetry and ocean bottom imagery in support of ASW and

Mine Warfare (MIW). The program is operational and objective inventory of 8 will be reached in Fiscal Year 2017.

LBS Gliders provide Battlespace Awareness by gathering oceanographic data in support of ASW and MIW. Buoyancy driven gliders can operate for up to 180 days. The program is operational and objective inventory of 150 will be reached in Fiscal Year 2015.

○