TO RECEIVE TESTIMONY ON THE OVERSIGHT, ACQUISITION, TESTING, AND EMPLOYMENT OF THE LITTORAL COMBAT SHIP (LCS) AND LCS MISSION MODULE PROGRAMS

Thursday, December 1, 2016

U.S. Senate
Committee on Armed Services
Washington, D.C.

The committee met, pursuant to notice at 9:35 a.m., in Room SD-G50, Dirksen Senate Office Building, Hon. John McCain, chairman of the committee, presiding.

Committee Members Present: Senators McCain [presiding], Inhofe, Wicker, Ayotte, Fischer, Cotton, Rounds, Ernst, Tillis, Sullivan, Graham, Cruz, Reed, Nelson, McCaskill, Manchin, Shaheen, Gillibrand, Blumenthal, Donnelly, Hirono, Kaine, King, and Heinrich.
OPENING STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM ARIZONA

Chairman McCain: Since a quorum is now present, I ask the committee to consider a list of 2,385 pending military nominations. Of these nominations, five nominations are six days short of the committee's requirement that nominations be in committee for seven days before we report them out.

No objection has been raised to these nominations. I recommend the committee waive the seven-day rule in order to permit the confirmation of the nomination of these officers before the Senate adjourns the 114th Congress, thank God.

Is there a motion to favorably report these 2,385 military nominations?

Senator Reed: So moved.

Chairman McCain: Is there a second?

Senator Inhofe: Second.

Chairman McCain: All in favor, say aye.

[A chorus of ayes.]

Chairman McCain: The committee meets this morning to receive testimony on the oversight, acquisitions, testing, and employment of the Littoral Combat Ship and LCS mission module programs. We welcome our witnesses, who are key officials responsible for acquiring, testing, employing, and overseeing these programs.

The Honorable Sean Stackley, assistant secretary of the
Navy for research, development, and acquisition, has been the Navy's acquisition executive since 2008. Vice Admiral Thomas Rowden, commander of Naval Surface Forces, is responsible for manning, training, and equipping the Navy's in-service surface ships. The Honorable J. Michael Gilmore, director of operational testing and evaluation, has been the senior adviser to the Secretary of Defense for operational live fire test and evaluation of weapons systems since 2009. And Mr. Paul Francis, managing director of acquisition and sourcing management, at the Government Accountability Office, whose 40-year career with GAO has focused mostly on major weapons acquisitions, especially shipbuilding.

The Littoral Combat Ship, or LCS, is an unfortunate, yet all too common, example of defense acquisition gone awry. Since the early stages of this program, I have been critical of fundamental LCF shortcomings. And here we are 15 years later with an alleged warship that, according to Dr. Gilmore's assessment, cannot survive a hostile combat environment, and has yet to demonstrate its most important warfighting functions, and a program chosen for affordability that, as the GAO has reported, has doubled in cost with the potential for future overruns. Like so many major programs that preceded it, LCS' failure followed predictably from an inability to define and stabilize requirements, unrealistic initial cost estimates,
and unreliable assessments of technical and integration risk, made worse by repeatedly buying ships and mission packages before proving they are effective and can be operated together.

What is so disturbing is that these problems were not unforeseen. In 2002, the Navy first requested Congress to authorize funding for the LCS Program. After reviewing the Navy's plan, the consensus of the members of the two Armed Services Committees was "LCS has not been vetted through the Pentagon's top requirements setting body called the Joint Requirements Oversight Council." The Navy's strategy for the LCS does not clearly identify the plan and funding for development and evaluation of the mission packages upon which the operational capabilities of LCS will depend.

Despite such serious concerns, it will not come as a surprise to many members of this -- of this committee, to you, that Congress then approved funding for LCS. And when the Navy awarded the first LCS construction contract in 2004, it did so without well-defined requirements, a stable design, realistic cost estimates, or a clear understanding of the capability gaps the ship was needed to fill.

Taxpayers have paid a heavy price for these mistakes. The LCS was initially expected to cost $220 million per ship, but the cost of each ship has more than doubled to $478 million, and we are not through yet.
The LCS' first urgently needed combat capability and mine countermeasures was supposed to be delivered in 2008. That capability is still not operational, nor is it expected to be until 2020, 12 years late. Twelve years late. Today, 26 ships of the planned 40-ship LCS fleet have either been delivered, are under construction, or are on contract. In other words, taxpayers have already paid for 65 percent of the planned LCS inventory.

LCS' combat capability is supposed to come from three mission packages: mine countermeasures, surface warfare, and anti-submarine warfare. Taxpayers have invested more than $12 billion to procure LCS sea frames and another $2 billion in these three mission packages. Yet for all this investment, all three of these mission packages are years delayed with practically none of the systems having reached the initial operational capability.

So far, the LCS has fielded only the most basic capabilities: a 30-millimeter gun with a range of two miles and the ability to launch and recover helicopters and small boats. The surface package was five years late. The mine package is 12 years late. The anti-submarine package is nine years late.

The Navy failed to meet its own commitment to deploy LCS sea frames with these mission packages in part because for some reason, Navy leaders prioritized deploying a ship
with no capability over completing necessary mission package
testing. In other words, the taxpayers have paid for, and
are still paying for, 26 ships that have demonstrated next
to no combat capability. This is unacceptable, and this
committee wants to know, Secretary Stackley, who is
responsible and who has been held accountable.

So, let me be the first to say that Congress belongs on
the list of those responsible. We could have intervened
more forcefully and demanded more from the Department of
Defense and the Navy. We did not. But as long as I'm
chairman, this committee will.

Mission packages are not the only problem. Keeping the
LCS sea frame underway at sea has also been challenging.
Despite commissioning the first ship eight years ago in
2008, the Navy continues to discover "first of class
problems." This year is 2016. Since 2008 when it was
commissioned first, we continue to discover "first of class
problems."

Since 2013, five of the eight LCS's delivered have
experienced significant engineering casualties resulting in
lengthy import repair periods. Amazingly, despite nearly no
proven LCS combat capability and persistent debilitating
engineering issues in both design and operation, the Navy is
charging ahead with an ambitious plan that keeps most ships
deployed more than half the time, stationed around the world
far from supports of facilities in the United States. In
contrast, most Navy destroyers are planned to be deployment-
deployed from the United States far less than 25 percent
of their service lives. The rush to put four ships forward
in Singapore by 2018 without proven combat capability, and
to maintain a deployment tempo more than twice that of
destroyers, is a recipe for more wasted taxpayers' dollars.

Although the LCS may yet deliver some capability, the
Nation still needs a capable small surface combatant that
addresses the LCS' critical shortfalls, including the
ability to attack enemy surface ships at over-the-horizon
ranges with multiple missile salvos, defend nearly non-
combatant ships from air -- nearby non-combatant ships from
air and missile threats, as an escort conduct long-duration
missions, including hunting enemy submarines, without
frequent refueling, and exhibit robust survivability
characteristics.

The recent -- the recently concluded LCS review was
long overdue, and it yielded some promising initiatives.
But I am concerned that several critical fundamental
assumptions of the program were not challenged, including
excessive operational availability goals, insufficient in-
house technical support for LCS, unexamined manpower
requirements, and no urgency in transitioning to a new small
surface combatant.
Fortunately, the Department of Defense is curtailing the LCS Program at 40 ships and down selecting to a single ship design. Given the cost overruns, mission package testing lows, and the rate of engineering failures, reducing the size of this program is a necessary first step. And I am prepared to go even further by taking a hard look at any further procurement of ships until all of the mission packages reach IOC.

It is up to the Navy to explain to this committee and to the American taxpayers why it makes sense to continue pouring money into a ship program that has repeatedly failed to live up to its promises. The LCS continues to experience new problems, but it is not a new program. That is why the Department's leaders must not delay in reconciling their aspirations for the LCS with the problems -- troubled reality by demanding accountability and reducing the size of this program.

Senator Reed.
STATEMENT OF HON. JACK REED, U.S. SENATOR FROM RHODE ISLAND

Senator Reed: Thank you, Mr. Chairman. I want to join the chairman in welcoming Director Gilmore, Secretary Stackley, Admiral Rowden, and Mr. Francis to the committee this morning to testify on various aspects of the Navy's Littoral Combat Ship, LCS Program, and we are grateful to each of you for your service.

The Navy's fundamental architecture of the LCS Program separate changes in the mission package from changes that would disrupt the ship design and ship construction. In the past, when there were problems with developing the right combat capability on a ship, that would almost inevitably cause problems in the construction program. What the LCS architecture means is that changes inside the mission packages should not translate into changes in the ship construction schedule.

However, since the mission packages and the vessels are divorced from each other, we are now experiencing a new set of difficulties, many of them indicated by Senator McCain. While the shipbuilders had problems with costs and schedule early in the program, that has not been the big issue since the Navy conducted the competition for fixed price contracts in 2010. The shipbuilders and shipyard workers have been performing well under those contracts since then, so well,
in fact, that we now have built are in the process of building 26 of the LCS vessels, when not a one of the single-- of the three types of mission modules has passed full operational testing. Since LCS combat capability largely resides in the mission packages, the Navy will have to operate LCS vessels for several more years in relatively benign circumstances, waiting on combat capability to complete testing.

Chairman McCain and I wrote to Admiral Richardson, the chief of naval operations, and Secretary Stackley about the LCS Program in September, which raised a number of concerns. We asked that the Navy consider reducing the planned operational availability of the LCS to a sustainable level, or see if the Navy can support normal deployment availability before expanding availability to 50 percent under a blue/gold crewing concept.

The CNO respond that the Navy is going to continue to plan for 50 percent availability with the blue/gold crew concept because that is what the Navy needs to support the Optimized Fleet Response Plan. I believe that some of the problems we are experiencing now with LCS vessels is because we got too far in front of ourselves by trying to deploy ships before they were ready to deploy, which in turn reduced testing resources and focus.

Saying that we will attain the 50 percent deployment
availability goal for LCS because that is what we need to
make the Optimized Fleet Response Plan achievable rings a
little hollow with me. It sounds a lot like previous
assurances that there would be no problem in shifting from
the original LCS blue/gold crewing concept to a three crews
for every two ship concept, which has now been found
wanting, and now we are back trying to make the blue/gold
concept work.

In our letter, the chairman and I also asked the Navy
to establish the land-based LCS propulsion and machinery
control test site because the Navy is not providing
sufficient in-house LCS engineering technical support for
the LCS Program. The CNO responded that the Navy will
consider a land-based propulsion machinery control test site
at some later date, but not now. I am willing for the
moment to let the Navy play out this string of trying -- to
try to enhance support for the deployed LCS without such a
facility, but I am concerned that LCS fleet material support
will suffer without such a facility when such support is
available for all other Navy combatants.

The chairman I also asked that the Navy conduct a
bottom-up review of the manpower requirements for each LCS
to validate or re-validate the quantity and quality of
manpower requirements to determine if sufficient personnel
are assigned to perform all watch standing, warfighting,
damage control force, protection, maintenance, and other
duties. The CNO responded that the Navy's LCS Review Team
have already assessed manpower requirements. I would just
say that I am skeptical that the LCS Review Team would have
had sufficient time to do much more than decide how to
allocate the 70 sailors which building space would be
available. Such an allocation process would not constitute
the manpower requirements review that I had in mind at
least.

Finally, the chairman and I suggested that the Navy
should start planning new -- now rather -- to procure and
begin deliveries of a new small surface combatant as soon as
possible in 2020. The CNO responded that the Navy will
address the future small surface combatant at some later
date after the Navy has completed an analysis of future
fleet requirements.

I understand that CNO Richardson needs time to review
overall future fleet requirements. However, I believe that
when the Navy begins a program for a follow-on small surface
combatant, it should avoid repeating what we did with the
LCS Program, where we were in such a hurry to field the ship
we did not take the time to go through important parts of
the acquisition process, such as deciding what our
requirements are, deciding how much we are willing to pay to
achieve those requirements, and programming ahead of time
for the manpower and logistics programs that we needed to support the program. If the Navy waits too long, we may face similar urgency in the schedule.

Again, thank you Mr. Chairman. I look forward to the hearing.

Chairman McCain: Thank you. We will begin with you, Director Gilmore. Welcome, Dr. Gilmore.
STATEMENT OF HON. J. MICHAEL GILMORE, PH.D., DIRECTOR,
OPERATIONAL TEST AND EVALUATION, UNITED STATES DEPARTMENT OF
DEFENSE, WASHINGTON, D.C.

Dr. Gilmore: I apologize. Thank you, Mr. Chairman, Senator Reed, members of the committee.

As you pointed out, Mr. Chairman, although the first LCS was commissioned in 2008, the LCS Program has not yet demonstrated effective warfighting capability in any of its originally envisioned missions by the Navy's -- according to the Navy's own requirements, surface warfare, or SUW, mine countermeasures, or MCM, and anti-submarine warfare, ASW.

The Increment II Surface Warfare Mission Package is the only fielded system on LCS sea frames. It has demonstrated a modest ability to aid the ship in defending itself against small swarms of fast in-shore attack craft, although not against threat representative numbers and tactics, and the ability to support maritime security operations, such as launching and recovering boats and conducting pirate interdiction operations. However, when Hellfire is fielded as part of the next increment of the surface warfare package, its capability should improve, and it will be important to solve the problems and do the testing with Hellfire that have -- that have enabled us to discover so many of the problems that exist with the current ships.

In a June 2016 report based on the testing conducted
before 2016, I concluded that the LCS employing the current Mine Countermeasures Package would not be operationally effective or suitable if called upon to conduct mine countermeasures missions in combat. That testing demonstrates the LCS Mine Countermeasures Package did not achieve the sustained area mine clearance rate of the Navy's legacy systems, nor can the package be used to meet the Navy's reduced Increment I mine countermeasures requirements for mine area clearance rate, even under ideal benign conditions, achieving at best one-half of those requirements, which are a fraction of the Navy's full requirements.

The ships, as well as the mine countermeasure systems, are not reliable, and all the mine countermeasure systems, not just the Remote Minehunting System and the Remote Multi-Mission Vehicle that were recently cancelled, had significant shortfalls or limitations in performance. Based on those results, after more than 15 years of development, the Navy decided this past year to cancel the Remote Minehunting System, halted further procurement of the Remote Multi-Mission Vehicle, abandoned plans to conduct operational testing of individual mine countermeasures mission package increments, at least in the interim, and delayed the start of fully-integrated LCS mine countermeasures mission package operational testing until at
least Fiscal Year 2020.

As the Navy attempts to fill capability gaps and correct the shortfalls in performance of these cancelled and restructured key elements of the LCS Mine Countermeasures Package, it is very likely operational testing of either LCS variant, equipped and fully integrated with the final fully-capable Mine Countermeasures Package, will not be completed until at least 2023, more than a decade after the schedule set forth in the Navy's original requirements documents.

All of the LCS's have suffered from significant and repeated reliability problems with both sea frame and mission package equipment. No matter what mission equipment is loaded on either LCS variance, the lower reliability and variability of sea frame components, coupled with the small crew size, impose significant constraints on mission capability.

For example, when averaged over time, LCS-4 was fully mission capable for surface warfare missions just 24 percent of the 2015 test period. Both variants fall substantially short of the Navy's reliability requirements, and have a near zero chance of completing a 30-day mission, and a sustained 30-day mission is the Navy's requirement, without a critical failure one or more sea frame subsystems essential for wartime operations.

Testing conducted during the past two years on LCS-2,
3, and 4 also revealed significant cybersecurity deficiencies. Now, the Navy is developing plans and taking actions to correct some of the problems identified, but the severity of the problems discovered will degrade the effectiveness of both LCS variants until the problems are fully corrected.

In closing, I want to emphasize the importance of realistic testing. It was only through testing of full mission packages at sea and aboard the ship with a crew from the fleet that the significant problems and shortfalls I have just discussed were clearly revealed. In fact, the Navy's Independent Mine Counter Measures Review Team emphasized that a reliance on segmented shore-based testing "provided a false sense of system maturity." Similarly, only with an operationally realistic testing of the Surface Warfare Mission Package were the inaccuracies of the gun, limitations of the ships maneuvering and tactics, and the deficient training revealed.

Therefore, my strongest and most important recommendation to you and to the Navy is to fund and execute realistic and rigorous testing of LCS and its mission packages as we go forward.

Thank you.

[The prepared statement of Dr. Gilmore follows:]
Chairman McCain: Thank you. Secretary Stackley?
STATEMENT OF HON. SEAN J. STACKLEY, ASSISTANT
SECRETARY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION, UNITED
STATES DEPARTMENT OF NAVY, WASHINGTON, D.C.

Mr. Stackley: Yes, sir. Mr. Chairman, Ranking Member Reed, members of the committee, thank you for the opportunity to appear before you today to address the Littoral Combat Ship Program. With your permission, I would like to make a brief opening statement and have my full testimony entered into the record.

Chairman McCain: Without objection.

Mr. Stackley: The Littoral Combat Ship, or LCS, is designed to fill critical warfighting gaps in anti-surface, anti-submarine, and mine countermeasure warfare mission areas. Within the Navy's overall balanced force structure, LCS is the replacement for three legacy small service command ship classes. It is about one-third the size of a DDG-51 Class destroyer and designed for missions that the destroyer is not equipped to do or that could otherwise be well performed by a small surface combatant, thus freeing the destroyer for missions tailored for its higher-end capabilities.

LCS' reduced size results in greatly reduced procurement cost, manpower and operating and support costs. In fact, the procurement cost for LCS is about one-third that of a DDG-51 and, likewise, the manpower requirements
for the ship.

The LCS hull is designed and built to provide the ship with its high-speed mobility, damage control survivability, aviation, and combat systems, including a 57-millimeter gun, surface to air missiles for self-defense, and an over-the-horizon missile that the Navy is currently adding for offensive firepower against long-range surface targets. In addition to this core capability, this ship carries a modular mission package tailored for the missions planned for each ship's deployment.

The Surface Warfare Mission Package adds 30-millimeter guns, an armed helicopter, unmanned aerial vehicle for extended surveillance, and surface-to-surface missiles. The Anti-Submarine Warfare, or ASW, Mission Package adds a variable depth sonar that operates in tandem with a multifunction towed array, an ASW helicopter with dipping sonar, sonobuoys and anti-drop torpedoes, anti-tow decoy. The Mine Countermeasure Mission Package adds air, unmanned surface, and unmanned underwater vehicles with associated sensors and systems to detect and neutralize mines.

There are four cornerstones of the program that I would like to briefly summarize. First, the Shipbuilding Program. As the committee is well aware, the LCS Program was initiated with unrealistic cost and schedule estimates and with highly incomplete design, resulting in extraordinary
budget overruns and scheduled growth. The program was subsequently restructured. Production was placed on hold pending the insertion of production readiness reviews to verify design quality and completeness. Authorizations to approve design requirement changes was raised to the four-star level, specifically the CNO and myself.

Navy oversight of the shipyards was greatly increased. The acquisition strategy was restructured to compete long-term contracts under fixed price terms and conditions. And in response to the strategy, industry made significant investments in terms of skilled, labor, and facilities to improve productivity and quality.

As a result, costs, schedule, and quality have greatly improved such that current ships under construction are delivering at less than half the constant year-dollar cost of the lead ships, performance has stayed reliably within the budget throughout this time, and the quality of each ship has successively improved as measured by the Navy's Board of Inspection survey. Bottom line, LCS construction is stable, and performance continues to improve on a healthy learning curve.

Of note, the CNO and I have implemented a similar rule set across all of shipbuilding, and though we were not able to get out in front of all of our lead ship programs, cost discipline from requirements, to design, to production and
testing has been firmly drilled into place throughout the Navy.

Second, mission packages. The program's acquisition strategy is that we will incrementally introduce weapon systems as part of a mission package when they are mature and ready for deployment. Consistent with this approach, the LCS has been successful at integrating mature weapon systems, such as the Image 60 helicopter, the Fire Scout unmanned aerial vehicle, 11-meter rigid hull inflatable boats, the Mark 50 30-millimeter gun system, and most recently we are seeing the Harpoon Block II over-the-horizon missile integrated and deployed. And we are currently integrating the Hellfire Longbow Missile in support of testing in 2017. As a result, we have successfully fielded the first increments of the Surface Warfare Mission Package and are on track to complete the next increment in 2018.

The next mission package we will field is the Anti-Submarine Warfare, or ASW, Mission Package. The performance of this system, as demonstrated by its prototype in 2014, greatly exceeds that of any other ASW sensor system afloat. We are currently in the process of awarding the contract to build the developmental model which will be put to sea for shipboard testing on LCS in 2018.

These are relative success stories that demonstrate the benefit provided by the LCS modular design and mission
package approach. And as the Navy develops or requires new
weapons systems appropriate to the LCS mission, we will
leverage the ship's modular design and flow these new
weapons to this ship, and be able to do so in rapid fashion
once they are mature.

We have run headlong, however, into challenges with
developing these capabilities that are central to filling
what is arguably one of the Navy's most critical warfighting
gaps, and that is mine countermeasures, or MCM, warfare.
The Navy requirements for LCS/MCM are to locate, identify,
and clear mines at a rate that significantly exceeds our
current capability, and to do so without putting the ship or
the sailor into the minefield.

The MCM Warfare Mission Package airborne capability and
MH-60 helicopter, carrying an Airborne Laser Mine Detection
System that locates mines in the upper layer of the water
column, and an Airborne Mine Neutralization System that
destroys mines below the surface, has completed testing and
we are ready to deploy it. Additionally, an unmanned aerial
vehicle carrying a sensor capable of detecting mine-like
objects in the surf zone close to shore is on track to
complete testing in 2017.

The true workhorse of the MCM Mission Package, however,
is the high-endurance unmanned vehicle with its towed sonar
system, which we rely upon to achieve the high area
clearance rate required by our operational plans. The Navy is satisfied with the performance of the towed sonar system and its ability to detect mines as demonstrated in developmental testing. And we expect to demonstrate further improvements to the sonar in conjunction with ongoing upgrades.

The unmanned vehicle, however, which is actually a semi-submersible, referred to as a remote multi-mission vehicle, has failed to meet our reliability requirements. Despite extensive redesign efforts, following a series of test failures, we stopped testing and assigned an independent review team to assess and recommend. And the results of this review were threefold: low confidence that continuing our current path would result in a reliable vehicle; higher confidence that advances in towed sonar handling and acoustic processing have greatly reduced the risk associated with towing the mine detection sonar with an alternative unmanned surface vehicle; and recognition that the long-term solution will be to eliminate the towed vehicle altogether, and operate with an unmanned underwater vehicle with an embedded sonar when technology can support it.

As a result of these findings, we have restructured the MCM Mission Package to utilize the unmanned surface vehicle that is currently being built to tow the Mine Sweeping
System to likewise tow the mine detection sonar. Testing with this vehicle is scheduled to commence in 2019.

The third cornerstone is performance of in-service ships. Vice Admiral Rowden will address performance of the ships and operations and on deployment as well as the details of the LCS review he conducted. I would like to address the ship's material readiness.

In total, LCS material readiness, as reflected in operational availability metrics and casualty report metrics, is consistent with other combatant ship classes. However, over the past year five ships have been operationally impacted by engineering casualties of concern. The Navy has conducted formal engineering reviews and command investigations to assess the root causes and corrective actions for each of these casualties.

One was design related. A new manufacturer was required for the freedom variant propulsion gear, and operational deficiency traced to the gear itself resulted in the gear's clutch failure. Design modifications have been developed, and are being tested, and will be incorporated in future ships prior to delivery and during pro-shakedown availability for the two ships delivered that are affected. The manufacturer is being held accountable.

Chairman McCain: Mr. Secretary, you will have to summarize here.
Mr. Stackley: Yes, sir.

Chairman McCain: We have a limited amount of time and four witnesses. Please summarize if you can.

Mr. Stackley: Yes, sir. The manufacturer is being held accountable for these corrective actions.

Two of the five engineering casualties were due to crews departing from established operating procedures. The type commander is implementing corrective actions associated with those to ensure good order and discipline going forward, as well as reviewing training and operational procedures.

The remaining two casualties are traced to deficiencies in ship construction and repair. We are reviewing all those procedures across not just the shipbuilders, but the manufacturers, and the repair yards, and the Navy standards to ensure we have the right procedures in place and that they are properly being carried out by the shipbuilders and repair yards. In those specific cases where warranties apply, the shipbuilder is paying for those repairs.

More importantly, we do need to raise the level of engineering design, and discipline, and rigor on the new ship class to that of zero tolerance for departure from standards. And in this vein the Naval Sea Systems Command has initiated a comprehensive engineering review, and will provide their findings to the committee upon completion of
the review.

The fourth cornerstone is transition to the frigate.

As you are aware, we have revised the plan going forward for small surface combatants. Commencing in 2019, our intention is to transition from LCS to a multi-mission ship that incorporates the ASW plus the Surface War Mission Package capabilities of the LCS into a multi-mission frigate going forward. We are working that design today.

The message I want delivered to this committee is that as we complete this design, before we proceed into production of a future frigate, we will conduct the production readiness reviews. We will ensure that the design is complete and ready to go. We will ensure that the requirements are stable, and we will open the books and invite this committee to participate throughout that review process.

Mr. Chairman, thank you for the opportunity to discuss this important program. I look forward to answering your questions.

[The prepared statement of Mr. Stackley follows:]
Chairman McCain: Thank you. Admiral?
STATEMENT OF VICE ADMIRAL THOMAS S. ROWDEN, COMMANDER,
NAVAL SURFACE FORCES, AND COMMANDER, NAVAL SURFACE FORCE,
U.S. PACIFIC FLEET, UNITED STATES NAVY, WASHINGTON, D.C.

Admiral Rowden: Chairman McCain, Ranking Member Reed, distinguished members of the committee, I am honored for the opportunity to testify about the Littoral Combat Ship.

As the commander of U.S. Surface Forces, I have the privilege of leading the sailors that take our ships to sea. These ships and the sailors that man them are the center of our professional universe, and my frequent visits to the waterfront give me real-time feedback of what we are getting right and on things that we need to address.

This committee's support of the Surface Force has been strong and consistent, and we are moving steadily forward in posturing a more lethal, distributed, and networked force. Small surface combatants have a key role to play in implementing this vision, and the LCS Program is a cornerstone of this effort.

The LCS Program has had a number of setbacks, something that you, and I, and the Navy leadership team are acutely aware of. We are doggedly pursuing solutions that will improve operational availability of the ships, and you have my assurance that these are never far from my mind.

The CNO testified in his posture statement that for the first time in 25 years there is competition for control of
the seas. This statement underpins my entire approach to
the LCS fleet introduction.

As the ship begins to join the fleet in numbers, it is
my job to examine past assumptions about every aspect of its
employment, and implement changes that reflect the
operational environment of the future. The Surface Force
must be prepared to not only impose sea control over
uncontested seas, but it must also be prepared to contest
control of the seas by others.

The capabilities of the LCS will bring the fight -- the
capabilities that the LCS will bring to the fight are in
high demand by our fleet commanders, specifically with
respect to anti-submarine warfare, mine countermeasures, and
over-the-horizon anti-surface warfare. These aspects of sea
control from the -- form the basis of a more robust,
conventional deterrence posture, which in turn frees our
cruisers and destroyers to focus on high-end tasking.

We have learned quite a bit from the Freedom Fort Worth
and Coronado deployments and the options provided to our
fleet commanders by their presence. The challenges
encountered during these early deployments prompted the
recent CNO directed 60-day review, which resulted in a
number of straightforward changes that will drive simplicity
and stability into the program, even as we increase unit
lethality. I am confident we are on the right track to
increasing crew ownership and reliability of this ship,
while delivering critical warfighting capability to the fleet.

There is work to be done, and I join Secretary Stackley in committing to continuously improving this lethal, necessary, and versatile component of our fleet architecture.

Thank you, sir, and I look forward to your questions.

[The prepared statement of Admiral Rowden follows:]
Chairman McCain: Mr. Francis.
STATEMENT OF PAUL L. FRANCIS, MANAGING DIRECTOR,
ACQUISITION AND SOURCING MANAGEMENT, GOVERNMENT ACCOUNTABILITY OFFICE, WASHINGTON, D.C.

Mr. Francis: Good morning, Mr. Chairman, Mr. Reed, members of the committee. Mr. Chairman, I do not have a real slick statement to read from. I thought I would just talk to you for a few minutes if that was okay.

I think the bottom line on the LCS, as we have talked - the other panelists have talked already, we are 26 ships into the contract, and we still do not know if the LCS can do its job. Over the last 10 years, we have made a number of what I would call trade downs. We have accepted higher costs. We have accepted construction delays, mission module delays, testing delays, reliability and quality problems, and we have accepted the lower capability.

To adjust to this or accommodate the lesser performance of the ship, we have accepted a number of workarounds, higher crew loads, more shore support. We have kind of dialed down the concept of operations, and we have reduced some mission expectations for the ship. Still it will be 2020 by the time we know the ship and all its mission modules will work.

I was doing my own math. I think we did the first contract for the first ship in 2004 or 2005, but it is 16 years from first contract to when the ship will be finally
tested with all its mission modules. So, that is 16 years.

To me, that is aircraft carrier territory. So, the miracle of LCS did not happen.

So, what did happen? I think when the Navy started off, they had a really good plan. They were going to build two ships, experimental ships, using commercial yards and commercial derivative designs because they had a rough construct of a new mission, the littoral mission, and they wanted to use some ships to see what they could do with it, which I think was a good idea.

About 2005, things really changed, and that is when the Navy decided that they could not just stop with two experimental ships. They had to go forward with construction for the industrial base. In my mind, that is when the program really made a change. It went from an experimental program to a ship construction program. And as with any construction or production program, once you get into it and once the money wheel starts to turn, the business imperatives of budgets, and contracts, and ship construction take precedence over acquisition and oversight principles, things like design, development, tests, and cost.

So, let me switch now to a little discussion about oversight. On any major weapon system, Milestone B is the most important milestone. That is when you lay down -- that
is when the legal oversight framework kicks in. So, your approved baseline, your Nunn-McCurdy requirements, your cost estimates, your operational test and evaluation, selective acquisition reports all kick in at that time. Usually on ships, you have a Milestone B decision when detailed design and construction is approved for the first ship.

On LCS, the Milestone B decision was made in 2011. That was after we had already approved the block buy of 20 ships and had already constructed and delivered most of the first four ships. So, the cost growth that occurred on the early ships was grandfathered into the baseline of the LCS Program. So, that is why today if you go to look at the selected acquisition report for LCS, you are not going to see much of a schedule or cost variance because of the grandfathering in.

So, mission modules, turning to those, those were actually produced before the Milestone B decision to keep pace with the ship. So, what we had was, in my view, a highly concurrent buy-before-fly strategy on an all new class of ships. And I think the picture for oversight for the frigate program is concerning. It is not going to have milestone decisions. It is not going to be a separate program. There will not be a Milestone B. You are not going to have Nunn-McCurdy protections for the frigate itself. You will not have a selective acquisition report on
the frigate itself.

And some of the key performance parameters as they relate to the mission modules have been downgraded to key system attributes, which means the Navy, and not the JROC, will make decisions on what is acceptable.

So, let me wrap up by saying that the ball is now in your court. In a few months, you will be asked to approve the Fiscal Year 2018 budget submit, which will, if current plans hold, include approval for a block buy of 12 frigates. In my mind, you are going to be rushed again. You are going to be asked to put in upfront approval for something where the design is not done. We do not have an independent cost estimate. The risks are not well understood. And, oh, by the way, the mission module still have not been demonstrated yet.

You will be told that, hey, it is a block buy, we are getting great prices, and the industrial base really needs this. Now, on the prices, you know, in my view the block buy is a pretty loose construct for accountability. You do not have to say how much you are saving. You are not held accountable for what you are saving.

There is an instrument that exists for that, and it is called multiyear procurement. And the Navy was able to use multiyear procurement after the fourth Virginia Class submarine. You have to ante up what your savings are going
to be. You have to test to the stability of the design. It is a real commitment. For the frigate, they are going to use the same contracts that they used for the LCS, and we know how well they have worked in holding down costs.

On the -- on the industrial base side, as we have looked past -- the past 10 years, we have seen a lot of decisions made to protect the industrial base. And, again, this is an industrial base we did not think we were going to create because we were using commercial firms.

But my question now is, have we not done enough for the industrial base? Is it not time for the industrial base to come through for us? Can we get one ship delivered on time? Can we get one ship delivered without cost growth? Can we get one ship delivered without serious reliability and quality problems? So, that is my question.

Once the block buy is approved, your oversight is marginalized because what you will be hit with in the future is we got great prices, and we have to protect the industrial base. And with these two things, you cannot change the program from then on, and I am saying you can.

I think that your first oversight question is going to be is a program that has doubled in cost and has yet to demonstrate its capabilities worth another $14 billion in investment, and that is the floor. That is assuming everything goes well.
If you do think it is worth it, and that is a big if, I would say -- my counsel to you in Fiscal Year 2018 is do not approve a block buy. Have the Navy do a competition on detailed design, and let them compete the two -- the two ship designs and down select. And make it a major acquisition program with its own baseline, and its own milestones, and its SARs.

In 2019, then you can consider if you want to authorize more ships, and that should be based on the demonstrated performance of the ships. And if you did, you do not have to do a block buy. You can consider what kind of arrangements you want to make at that point.

So, in wrapping up, my view is you have got one shot left in Fiscal Year 2018 to preserve your oversight power over this program, and my advice is take it. Take that shot, and I can assure you the Earth is not going to come off its axis if you do. And you will be sending an important signal to other programs as to what you are willing to prove and what you are not.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Francis follows:]
Chairman McCain: Thank you very much.

Secretary Stackley, as Ronald Reagan used to say, "Facts are stubborn things." You painted a rather rosy picture, but the facts are that the LCS was initially expected to cost $220 million per ship. That was the testimony before this committee. The cost has now doubled to $478 million. The first LCS combat capability mine countermeasures was supposed to be delivered in 2008. That capability is still not operational, nor is it expected to be until 2020, 12 years late.

You have served as the Navy's acquisition executive for the past eight years. Who is responsible, and who should be held accountable for a doubling of the cost of the ship, delivery 12 years late, and obvious difficulties, which I will mention in later questioning. Who is responsible, and who is going to be held accountable?

Mr. Stackley: Sir, let me start with the reference to the $220 million ship, that number that dates back to the 2004, 2005 timeframe. Everybody here would absolutely agree that was unrealistic.

Chairman McCain: No, I would not because it was testified before this committee that that would be the cost per ship. In retrospect, we see that it was unrealistic, but at the time this committee and this Congress, which approved it, was on the basis of $220 million per ship. If
we had been told it was $478 million and 12 years late for some of the programs, I do not think that this committee and the Congress of the United States would have approved it, Mr. Secretary.

Mr. Stackley: Yes, sir. I am telling you that the $220 million number was unrealistic.

Chairman McCain: Well, then why --

Mr. Stackley: This Congress -- this Congress --

Chairman McCain: -- why was it unrealistic to tell the Congress of the United States?

Mr. Stackley: I agree. Sir, I agree. This Congress was led to believe that the ship would cost $220 million. That was an unrealistic number that was put before the Congress in terms of a program to authorize and appropriate. The result of the lead ship going to $500 to $700 million dollars each, that was --

Chairman McCain: Who was -- who gave that information of $220 million per ship to the -- to the Congress and this committee? Do you know?

Mr. Stackley: I would have to go back to the records to see who testified. The number was directed from the top down. I can tell you that the Naval Sea Systems Command's estimate for the program at that point in time was not $220 million. That was the number that was in place as a cost cap for the program, and they pressed down to try to achieve
what could not be achieved, and industry followed suit.

And we -- and we have -- we have the experience of the
lead ship in terms of things that went wrong that we have
been trying to recover from since.

Chairman McCain: Seventeen years, $700 million of
taxpayers' money has been sunk into the Remote Multi-Mission
Vehicle. The program was canceled earlier this year due to
unsatisfactory performance, reliability, and the Navy
formulated a new way ahead for the mine countermeasures
mission. For nearly a decade, the GAO has reported the Navy
was buying this system before they would approve it. Dr.
Gilmore reported the RMMVs were not effective.

Why did the Navy recommend to the RMMV in 2010 after a
Nunn-McCurdy breach revealed a shoddy business case for the
system to continue development?

Mr. Stackley: Yes, sir. 2010 timeframe, we went
through the Nunn-McCurdy process, and we looked at a couple
of key things. One was the performance issues that we were
having with the RMMV and whether or not we believed that we
could correct the reliability issues through a reliability
improvement program.

Chairman McCain: And obviously you could not.

Mr. Stackley: Correct, we failed in that assessment.

We believed we could. We did a redesign effort. We did not
go back and build new vehicles in accordance with the
redesign. What we did was took the existing vehicles and back fit what fixes we could, and took that to test.

Chairman McCain: Which obviously did not work since now it has been abandoned, right?

Mr. Stackley: Yes, sir.

Chairman McCain: One more question, Admiral. Of the major casualties encountered to date, are these issues of ship design, inferior shipbuilding quality, a lack of procedural compliance, a lack of training, or something else? Who has been accountable? 2013 generator failures. That is on the LCS-1. Hundred and ninety-five days and $1.6 million to fix. Sea water contamination, and combining you have 20 days and $377,000.

2016, contamination of a main engine, 258 days and $12 million dollars to fix. LCS-3, 2016, combined gear bearings, 184 days and $5.6 million to fix. LCS-4 in 2016, water jet failure, 24 days, and we do not know the cost. LCS-5 in 2015, high-speed clutch failure, 355 days and counting. LCS-8 in 2016, water jet failure.

What is going on here, Admiral, and who is held accountable?

Admiral Rowden: Yes, sir. Starting specifically back in the early part of this year when -- with the Fort Worth failure associated with personnel errors on the USS Fort Worth, I started to look very hard at the training and the
qualification of the men and women that serve on our ships to see if we had short-changed them with respect to the training that they had been provided.

Chairman McCain: Who was held accountable for that?

They were not well trained. Somebody is supposed to train them.

Admiral Rowden: Absolutely, sir.

Chairman McCain: Was it you that was in charge of that?

Admiral Rowden: I am responsible for training the men and women on these ships.

Chairman McCain: Should you be getting your job?

Admiral Rowden: Yes, sir, I believe I am capable of fulfilling the responsibilities. What I did find was that the training that we had provided to the young men and women was insufficient in reviewing two casualties specifically, the one on the Fort Worth and then one on the Freedom.

The men and women, when we -- I stepped back and got our Surface Warfare Officer School to conduct an assessment of the engineering knowledge of the men and women on the ships, it was found to be deficient. One of the things that we found was that, and that I directed, was that we start to import much more of the training than we had been relying on for the vendors to provide to our sailors that serve on these ships.
And so, given the fact that we have pulled that engineering training in, given the fact that we have -- are moving to get the curriculum necessary in order to be able to get the right knowledge into their heads in order to operate the propulsion plants, I think we are in a much better place going forward.

Specifically associated with the accountability --

Chairman McCain: I agree. We may be better going forward. But, Admiral, we are going to start holding people accountable. We are talking about millions of dollars here that were failures that you say were a problem with training. Who was responsible for the training? Was not someone? Was it not anticipated that the crew would have to be well trained to avoid these tens of millions of dollars of problems?

Admiral Rowden: Absolutely, sir. And I feel that as we have operated the ships and as we have learned about these new propulsion plants --

Chairman McCain: I am glad we have learned at the cost to the taxpayers of tens of millions of dollars.

Senator Reed.

Senator Reed: Well, thank you, Mr. Chairman.

Secretary Stackley, in the letter that the chairman I wrote to the CNO, we talked about the replacement of the LCS. And as I understand it, the current plan is to stop building LCS
in Fiscal Year 2025. Mr. Francis' assessment was interesting. He suggested that LCS is simply going to morph into something called a frigate, and we are going to buy frigates, but we are not going to have a real opportunity to review, nor are you going to have the opportunity given the compressed timeframe, to do all the requirements, to validate the requirements, to do the testing, to do the proving, if you will.

Can you give us an indication of where this program is headed? Is it going to morph into frigates? Is it going to be a new design for a surface combatant? If it is, does that have to be up and running by Fiscal Year 2026 because we stop buying LCS's in 2025?

Mr. Stackley: Sir, in 2014 we were directed by then Secretary Hagel to take a review of our small surface combatants and to come back with a proposal for what was referred to as capabilities consistent with a frigate. We did that review in the 2015 timeframe. In fact, we briefed the defense committees and invited them to participate in some of the out briefs.

And the plan going forward that we then presented in our subsequent budget was to take the ASW Mission Package capabilities, plus the Surface Warfare Mission Package capabilities that are currently planned for the LCS, and combine them and permanently install them on the LCS
platform to give it the multi-mission capabilities, trade away modularity, but to give it multi-mission capabilities. Add to that over-the-horizon missile, and add to that upgrades to electronic warfare and decoys, specifically, our Nulka decoy, in effect, using existing capabilities or capabilities that we already have in development and that the ship is already designed to accommodate, permanently install them on the platform to give them multi-mission capability I have referred to as a frigate.

That work was done -- was chartered in 2014, done in 2015, shared with the defense committees at least at the staff level, included in our budget. The capabilities development document has gone through the JROC for validation of the requirements. And the shipyards have been turned on to do the design associated with permanently integrating those existing capabilities into their platforms. That design effort is going on today.

The competitive down select for that future frigate design, that RFP is planned to go out next summer. We will be doing those design reviews, and, as I described in my opening statement, we will invite your staffs to look at the process, look at the products, look at the criteria, and provide basically your oversight. And we will ensure that you have the insight before we go further forward.

Senator Reed: Okay. And will that plan include a
block buy of the frigates or a block buy of another group of LCS's?

Mr. Stackley: Today, that is the plan. We do not have—we do not have a formalized—we have not finalized the acquisition strategy with the 2018 budget. We will be bringing that formal acquisition strategy over to present to the Congress for your review and ultimately for your approval.

I want to— I do think it is important, though, to make a comment. First, I fully appreciate all of Paul Francis' comments in his opening statement, and we work closely together. I do need to point out when we talk about a block buy versus talking about a multiyear, effectively what we are—what we are describing with the competitive down select is the competitive down select will be based on best value associated with the detailed design by the shipbuilders.

And what we are telling them is somebody is going to win this, one is going to win this, and they will get 12 ships of this frigate design. The details in terms of whether that is one plus options, whether that is 12 options, or whether we convert that to a multiyear in the future, that is not decided today. But we do want to get—to ensure we procure those ships as affordably as possible when we go through that competitive down select.
Senator Reed: Again, just to get my perspective, it appears that the LCS Program is morphing into the frigate program. Is that fair?

Mr. Stackley: Yes, sir. We went from 52 LCS's. We determined -- yes, sir.

Senator Reed: Yeah, thank you. Dr. Gilmore points out that one of the things we have to consider is this ship gets heavier literally with these systems placed on it, that it will be lower maximum sprint speed, as he describes, with less fuel endurance. The loss of sprint speed will, therefore, affect the success of small boat swarm defenses and the ability to keep up with the carrier strike group. In fact, anecdotally, I have heard that the present ships have a difficult time keeping up with the carrier strike groups, and, therefore, are not available when needed.

Now, let me ask --

Mr. Stackley: Yes, sir.

Senator Reed: My time is limited, so if you have a quick response.

Mr. Stackley: Yes, sir. First, we will be adding capability which will add weight to the ship. However, the impact on speed is marginal. Today, the requirement is 40 plus knots. These ships will still be faster than any other combatant or warship that we have today with the added weight.
Second, a part of our -- in this requirement cycle -- requirement and design cycle, we are not trading off endurance. In fact, as we look at our -- the competitive strategy that we are going to put out there in our best value criteria, we are -- we are not just going to not trade off endurance. We are going to place a premium on being able to increase endurance. So, endurance is not going to go down, and speed is only going to be affected at the margins.

Senator Reed: Thank you very much, and I will -- I might have some written questions for the other panelists. Thank you.

[The information referred to follows:]

[COMMITTEE INSERT]
Chairman McCain: Senator Inhofe.

Senator Inhofe: Thank you, Mr. Chairman.

You know, we have heard this before in the eight years I spent on the House Armed Services Committee and the 22 years on this committee. We are always talking about cost overruns. We are talking about increased -- you know, the costs and delays.

I actually sat next B-1 Bob, and some you may remember the B-1 Bob, and all the problems we went through there, and then the B-2 came along, and we went through FCS, Future Combat System. Just about had everything. Same problems. It worked out Gates canceled it. Then the F-35, we have actually had tested. So, it is not just the Navy. This is a problem, Mr. Francis, and it is all over.

But just in terms of the Navy, Mr. Secretary, the -- how does this compare to the other problems, like the DDG Zumwalt, in terms of delays and the things we have been talking about in this committee hearing?

Mr. Stackley: Yes, sir. I think all the previous discussion and testimony regarding delays in the program, the LCS delays have been unacceptable. And, frankly, when we think about going forward and what we are doing different, LCS, DDG-1000, I would add CBN-78 to the mix. There is a period of time where the Navy went forward with all clean sheet designs, high risk, a lot of new development
... wrapped up in the lead ships. That is in our -- we are still working through those lead ships, but that approach is in our rearview mirror. We are not going forward with that approach today and in the future.

So, when we talk about LCS transitioning to a frigate, we are leveraging mature designs, mature systems, and that gives us the ability to compete this ship, this future ship, under a fixed price contract. LCS and DDG-1000 are on a cost plus --

Senator Inhofe: Well, but there -- yeah. You do not need to elaborate on that because the fact that in 2013, five of the eight LCS's delivered to the Navy have experienced significant engineering casualties, and then it just gets worse and worse, USS Montgomery. And we have talked about all of this.

But, Mr. Francis, you have been at the GAO for quite a while. How long?

Mr. Francis: Forty-two years.

Senator Inhofe: Forty-two years, and you have been doing the same types of things, evaluating military systems and so forth?

Mr. Francis: I have to keep doing it until I get it right, Senator.

[Laughter.]

Senator Inhofe: No, I am serious about this because
you have watched all this, and one of your recommendations was -- there are a lot of good recommendations in your -- the final part of your statement that says, "Congress should consider not funding finding any requested LCS in Fiscal Year 2017, and should consider requiring the Navy to revise its acquisition strategy for the frigate." Is this one of your recommendations?

Mr. Francis: Yes, sir.

Senator Inhofe: What do you think about that recommendation, Mr. Secretary?

Mr. Stackley: I do not propose to halt production of the LCS in 2017. And as it relates to the frigate, I listened carefully to Mr. Francis' comments, and I am taking notes.

What I welcome is the committee, the GAO to sit down and look at the Navy's plan and whether or not it can be improved upon. We will take recommendations to improve upon it, but in terms of the fundamentals of locking down the requirements, stable design, ensuring that we have a competitive fixed price approach to a frigate, I think all those fundamentals that you all would want us to do, we have got in place.

Senator Inhofe: Admiral Rowden, what do you think about that specific recommendation?

Admiral Rowden: Sir, I agree with Secretary Stackley.
It is --

Senator Inhofe: So, you do not agree with that recommendation and carrying out that recommendation as a partial solution to the problem that we are discussing.

Admiral Rowden: I am sorry, sir?

Senator Inhofe: I will read it again. "Congress should consider not funding any requested LCS in the Fiscal Year 2017, and should consider requiring the Navy to revise its acquisition strategy of the frigate."

Admiral Rowden: No, sir, I would disagree with that recommendation.

Senator Inhofe: Well, for the record, I would -- I would kind of like to have you -- both of you elaborate on what is wrong with that, and what is a better solution. I know we have got a long hearing here, and we have heard a lot of things. But, you know, I read these things, and particularly when it comes from someone who has been doing this for such a long period of time.

And I would also say, Mr. Francis, I would like some time to sit down with you, not just on this stuff we are talking about in this committee, but on some of the others that I mentioned that we have had to suffer through, FCS and all that.

Mr. Francis: I would like to do that.

Senator Inhofe: Thank you, Mr. Chairman. Thank you.
Chairman McCain: Senator Hirono.

Senator Hirono: Thank you, Mr. Chairman. I would like to follow up on some of Mr. Francis' suggestions to this committee. This is probably a question that can be responded to by either the Secretary or the admiral.

One of Mr. Francis' suggestions is that we not okay the block buy strategy for the frigates. And I would like to know what would that kind of strategy or are not okaying this block buy due to the industrial base, and what kind of message would that decision by this committee give to the Navy's acquisition strategy in other programs.

Mr. Stackley: Well, let me -- let me start by trying to describe a little bit about what the block buy itself is. We are going to go out and down select the frigate to a single shipbuilder. We plan to procure 12. We want that shipbuilder to go out to its vendor base and secure long-term agreements with its vendors as best as possible so that pricing and stability across the industrial base will support the program.

Senator Hirono: So, Mr. Secretary, if I can get a clarification then. The concern with the block buy is that it does not really interject the kind of competition that Mr. Francis thinks would be warranted. Was that your point, Mr. Francis?

Mr. Francis: Well, actually, Senator, I think the
competition could be done under the detail design phase. My concern is oversight for this committee once you approve the block buy. Now, the Navy will execute, and I would believe they would do a good job of trying to lay it out in a program. But your opportunity to influence what gets done is going to be largely compromised once you approve the block buy. So, your ability in the future to make changes is going to be limited.

Senator Hirono: So, Mr. Secretary, you -- your explanation seems to go to the competition aspect of the suggestion, but apparently it has much more to do with our ability to provide oversight. And when we okay a block buy, then we are letting go of the oversight responsibilities that this Congress has. Can you respond to that aspect?

Mr. Stackley: I disagree that you are relinquishing any of your oversight responsibilities. A block buy is still annual procurement of each ship in the block buy. There is termination liability or cancellation ceiling that the Congress is taking on responsibility for, and you will have absolute insight and oversight of the program each step of the way.

Senator Hirono: Well, I'm sorry. You know, that is all well and good, but the entire history of this program has been that, yes, we have always had that decision-making capability. But, you know, you can go down a path, and next
thing you know a ship is costing twice what it originally started because we have gone down a particular path.

And I think we are at the point where listening to all of this testimony that we want to have reassurances that going forward, that we are not going to just throw more money into a program that is going to continue to haunt us with a lack of capability, and unreliability, and all the other factors that have been brought to light.

And I realize you sit here and you reassure us. That has been the case at every hearing with regard to this program. But I am looking for something very concrete that we can do that enables us to get the kind of product that the taxpayers are paying for. Aside from your reassurances, is there something very specific that you are going to do that is going to result in the kind of product that we are paying for?

Mr. Stackley: Well, let me just start to go down the list. Unlike the start of this program, we are not going to suffer through requirements, churn, and instability. We are not going to introduce new design late in production that are going to cause costs to go through the roof. We are not going to put these ships under contract in a cost-plus environment where the government owns responsibility for the cost itself.

I think Mr. Francis' concerns about a Milestone B, I
would be happy to sit down with the committee staff and walk through what you need to ensure that you do, in fact, have confidence that all the statutory requirements in terms of cost estimates, in terms of acquisition program baselines, in terms of requirements, documentations, just like a Milestone B.

We will prepare that for you. We will prepare that for you, and we will -- we will walk through it with you. And if we -- if we need to establish a pseudo Milestone B or a Milestone B, I do not hesitate to do that, ma'am.

Senator Hirono: Thank you. I think it is really important that we have those kinds of very specific items that you are going to follow, just as the initial testimony was that this -- these ships would cost some $200 million, and we are -- you have been asked to justify the kind of changes. So, yes, it would be good for us to have some very specific items that we can check off as we go forward if we go forward with this.

Mr. Stackley: I recommend --

Senator Hirono: Thank you very much.

Mr. Stackley: I recommend that we work with committee staff and we come up with the agreed plan in that regard going forward.

Senator Hirono: Thank you.

Mr. Francis: Ma'am, if I -- if I may, I would say
while these are modifications, they are rather significant, at least the $100 million dollars per ship, and that cost has not independently validated yet. My thinking is if we are that close to being able to have everything ready for Milestone B, let us have the Milestone B.

And although there are not legal requirements for you to approve ships under a block buy, if past history is any indication, if you try to alter the plan, try to reduce the number of ships, you will be told you are going to jeopardize our prices, and you are going to affect the industrial base. So, pressure will be brought to bear to keep things the way they are.

Senator Hirono: I understand. Thank you, Mr. Chairman.

Chairman McCain: Mr. Francis, I totally agree, and I have seen that movie before. And this idea of a block buy before it is a mature system is absolutely insane. And, again, $220 million per ship.

Mr. Stackley -- Secretary Stackley to say that was really bogus. We can only go by the -- by the numbers that we are given. Again, who gave us that? Do you know? Do you know who gave us the $220 million per ship instead of the $478 it will cost today? Do you know who that unknown bureaucrat was?

Mr. Stackley: Sir, I believe it was uniform leadership
in the Navy at that time.

Chairman McCain: It was all the uniform Navy that was responsible for it. I did not know that the uniform Navy was responsible for this kind of acquisition. I thought it was the civilian side.

Senator Ayotte.

Senator Ayotte: Thank you, Chairman. I just want to thank the chairman for his very important focus on the issues with the LCS. And I want to also thank Mr. Francis for his very good insight as to how we could try to really bring back some real oversight over this and the cost overruns. So, I thank you for that.

Dr. Gilmore, I want to on a different topic wanted to ask you, right now OT&E is currently planning an F-35 versus A-10 comparison test. And I also want to thank the chairman for the work that we have done together to make sure that there is not a premature retirement of the A-10 because of its important capacity to provide close air support for our troops on the ground, and the importance of that close air support.

So, I have been getting some mixed signals between what has been happening with the Air Force. The Air Force Secretary testified before this committee that the A-10 -- that, in fact, the F-35 will not replace the A-10. And so, this comparison testing for what happened in terms of close
air support is very, very important. And, in fact, I want
to thank the chairman as well for working, and it was an
honor to work with him to make sure that there are
provisions in the NDAA, which we are going to consider
shortly, hopefully next week, that will make sure that this
comparison test is done before there is any retirement of
the A-10.

So, I want to ask you where the comparison test process
is, and also how that process will be conducted in a
thorough way.

Dr. Gilmore: I, in conjunction with the commander of
the Navy's Operational Test and Evaluation Force and the
commander of the Air Force Operational Test and Evaluation
Center, the three of us approved a detailed plan for all of
the testing in F-35 operational tests this past summer,
including, in particular, a comparison test. So, there is a
detailed design that is on the record that the three of us
have approved. It does not mean that my successor might not
change that, but it is a good plan, and I hope that that
will not occur.

The test design includes comparison testing with the A-
10 and the F-35 conducting close air support, combat search
and rescue, and forward air controller airborne missions.
And it is a rigorous test, and if it is conducted it will
provide excellent information on how well the F-35 can
conduct those kinds of missions in comparison with what the A-10 can do. We are also going to be doing other comparison testing, suppression of air -- enemy air defenses with the F-16 and surface attack with the F-18.

And, again, the justification for all of these tests, these comparison tests, comes back to the requirements that the Air Force chief of staff has approved. And those include specifically, as I think I said the last time that I appeared before the committee where I read them from the requirements document, that the A-10 is meant to take -- or excuse me, the F-35 is meant to take on the role of the A-10. I mean, that is just unambiguously stated in the requirements document.

I understand there has been debate and testimony that is confusing about it, but you can refer to that document, and it is there in very plain English.

Senator Ayotte: Well, that is excellent because we are going to find out whether that measures up --

Dr. Gilmore: Now, with regard to conducting that test, my projection is that the operational test for the F-35, which will include this comparison test, will not begin in all likelihood until late Calendar Year 2018 or early Calendar Year 2019, because my estimate is that mission systems testing is not going to end until July of 2018.

And at that point, you could get a fleet release of the
mission system's capability software together with the mission data file, which enables the aircraft to actually deal with the threat environment. And the joint -- and the Joint Program Office's own projections are that that mission data file will not be ready until the summer of 2018. You cannot do meaningful testing until that time.

Chairman McCain: Does that mean that the F-35 is not ready to engage in combat?

Dr. Gilmore: Until it has a mission data file that is verified and accredited, it would not have the capability to deal with the threats that we are spending $400 billion to have it deal with.

Chairman McCain: We are dealing -- we are dealing with ISIS in Syria and Iraq as we speak using the A-10.

Dr. Gilmore: Correct. That is not why we are buying the F-35.

Chairman McCain: Is the F-35 ready to assume that role?

Dr. Gilmore: There are people who argue it could. I kind of wonder about that argument because right now the capability that the F-35 has is two air-to-air missiles and two bombs, with limitations in close air support that actually are discussed -- that are significant and discussed in detail in the Air Force's own IOC readiness assessment, which states clearly that the current F-35 with the Block 3i
software does not provide the close air support capability that our existing fourth generation aircraft provide. So, that is a quote from an Air Force report. I have written evaluations that are consistent with that quote.

So, and then there are the problems with the 35 availability. The fleet-wide availability is at best 50 percent, sometimes bottoming out around 20 or 30 percent. So, why it is that a commander would choose to send an aircraft that has two bombs, limited endurance, low availability to fight ISIS is, I think --

Chairman McCain: And the cost --
Dr. Gilmore: -- a question.
Chairman McCain: And the cost of an F-35 is per copy roughly?
Dr. Gilmore: You know, I hesitate to give a number. It is well over the initial cost estimates. I think it is up around -- it is up around -- it is between $80 and $100 million. It is coming down.
Chairman McCain: And the cost of an A-10?
Dr. Gilmore: Mr. Chairman, I do not know.
Senator Ayotte: Except that the --
Dr. Gilmore: A lot less.
[Laughter.]
Senator Ayotte: -- the A-10 has the lowest cost per flying hour.
Dr. Gilmore: Oh, yes.

Senator Ayotte: So, I do not think we are going to have the low cost per flying hour with the F-35.

Chairman McCain: I believe it is -- I believe it is -- I believe the A-10 is $15 million per --

Senator Ayotte: Yeah.

Dr. Gilmore: I --

Chairman McCain: Your time has --

Senator Ayotte: May I follow up briefly, Chairman, on one other issue with regard to the A-10? So, given the timing that we are hearing this comparison testing, one of the provisions that is also -- that if the NDAA is passed, which we hope it is, that has been publicly released is that the Secretary -- one of the issues that I have been going back and forth with the Air Force on has been the actually removal -- of not ensuring that the A-10 continues to be viable.

And the 2018 budget requests make sure that the Air Force cannot remove any active inventory of A-10 from flyable status due to unserviceable wings or other components. So, I think this is really important given the timing that you have just talked about about this comparison test and what the A-10 is doing right now against the fight against ISIS.

Dr. Gilmore: So, let me just be as clear as I can be
about the timing. So, if I am correct, we would not start training for the operational test until mid-2018, which takes about six months. Then the test would be conducted beginning in very late 2018 or early 2019. And by the time the test is over and the reporting gets done, another year has gone by. So, the report that is mandated in the -- in the bill would not be available until the end of 2019 or early 2020.

Senator Ayotte: Thank you.

Chairman McCain: Senator King.

Senator King. Thank you, Mr. Chairman. As I listen to this discussion, it strikes me that it would profit us -- profit us to talk about a broader issue. Mr. Stackley, first I start with the premise that nobody involved in this process was malicious or meant to do harm. And I want to say that you are one of the most capable officials that I have met in this -- in this business.

However, we could have had this same hearing today and you cross out "LCS" and put in "F-35." You cross out "F-35" and put in the "new class of carrier." You cross out the "new class of carrier" and put in the "future combat systems." It seems to me there is a more -- a deeper issue going on here, and it strikes me that it is our desire to have the latest and greatest new technology as soon as possible, and at the same time control costs and do it on
time. We are trying to invent things while we are building them.

Could you comment on this larger question?

Mr. Stackley: Senator, I think -- I think you nailed it right there. We have spent a lot of time reviewing programs that either have failed or have just gone out of bounds in terms of cost and schedule, and almost invariably there are common themes. One of them is a lot of concurrency in terms of developing multiple technologies and trying to integrate them at the same time on a major weapons platform or major system. And there is -- and GAO has written a number of reports.

There is an inclination to underestimate the cost --

Senator King: Particularly of something that has never been built before.

Mr. Stackley: Yes, sir. Yes, sir. And then, when you get into that contract environment and you get started, it is difficult to stop. You press forward. Now --

Senator King: On the other hand, if you stop and say we are going to fully test -- build a prototype and fully test, then that is going to lengthen your --

Mr. Stackley: Yes, sir.

Senator King: -- your deployment window, and that conflicts with the need of the Navy, or the Air Force, or the Army to have these weapons to meet current threats.
Mr. Stackley: Yes, sir. So, what we are doing is, and this is the CNO and myself. We are co-chairing requirements reviews, design reviews, production readiness reviews, program reviews. And we are -- we are challenging every requirement, every specification in terms of do we absolutely have to have that, or is there another way, a less -- a lower risk way to deliver the ultimate capability that we have got to have.

And I would point out a couple of examples. The decision to, frankly, to truncate the DDG-1000 and to revert back to the DDG-51 was a recognition in the 2009 timeframe that we had overreached in terms of technology versus what we really needed in terms of warfighting capability. So, we go back to the tried and true DDG-51 --

Senator King: But that -- but that decision made it likely that only building three ships --

Mr. Stackley: Yes, sir.

Senator King: -- in one class was going to make them more expensive and all that.

Mr. Stackley: It is going to drive cost into those three ships, but --

Senator King: The first DDG back in the 80s was very expensive.

Mr. Stackley: Yes, sir, but what it avoided was the recognition -- it recognized the cost that was coming --
Senator King: Right.

Mr. Stackley: -- in terms of completing that ship program. And then going back to the 51 and incrementally introducing the capabilities that we need to keep pace with the threat, particularly in the 51's mission areas.

Senator King: The key word is "incrementally," not trying --

Mr. Stackley: Absolutely.

Senator King: We had a hearing on carriers, and as I recall, what we learned was we were trying to do too much in the -- in the new carrier.

Mr. Stackley: That is exactly right. The original carrier concept was incremental over three ships. It was collapsed onto a single hull ole called CVN-78, and we are paying the price in terms that concurrent development and integration on that ship.

Senator King: Okay. How do we avoid this in the future?

Mr. Stackley: Well, we --

Senator King: We have got the B-21 coming down the road.

Mr. Stackley: I gave you the 51 example. On the next amphib, the LXR, we threw away the notion of a clean ship sheet design. We took the proven LPT-17 hull form, and what we are doing is tailoring that ship to meet the requirements
associated with replacing the LSD-41. That was a year-long effort with myself, the commandant, and the CNO co-chairing those design reviews to get down to a design that we are confident that it is mature enough. We are not introducing unnecessary risk. We understand the cost, and now we are ready to put it into the --

Senator King: It seems to me, though, that one of the -- one of the things, and I know I am running out of time. But one of the things we need to think about is how to design these weapon systems in a -- a way, and I hesitate to use the word -- the word "modular" because that is not a good word in today's hearing, but in a modular way so that they can be upgraded as technology improves instead of having to rebuild the whole -- the whole thing.

Mr. Stackley: And we are getting there. It is open architecture, that general term. If you take a look at the vertical launching system on the DDG-51, that is an open system design. So, it started off with the SM-2. It now handles the SM-3. It handles the SM-6. It handles the Tomahawk. It handles the evolved cease-fire missile. So, now we can develop the missiles in their environment and bring them to the ship, and then we will deal with the upgrades to the software and the land-based system.

Senator King: So, the whole system is not -- is not built from scratch.
Mr. Stackley: Yes, sir.

Senator King: Mr. Chairman, thank you very much for holding this hearing, and I look forward to future hearings. And I hope we can continue this broader discussion of why does this keep happening. Thank you.

Mr. Francis: Mr. Chairman, could I follow up for a moment with Mr. King? So, Mr. King, I think you are right on about the broader problem, and we have done quite a bit of work. I think what we have is an age-old acquisition culture problem where there are really strong incentives when a program is getting started to over promise on its abilities to perform and underestimate cost and schedule.

Senator King: And to load requirements on.

Mr. Francis: And to load requirements on, especially if you are only going to have platforms once a generation, you had better get everything on that platform you can.

So, we have to look at what those incentives are and why they occur, some as competition for funding in the -- in the Pentagon. And if you show any weakness, your lunch is going to get eaten. Your program is not going to go forward. So, you have to be a strident supporter of those programs going through.

We have to learn where to take risk and how to take risk, and I would say it is before that Milestone B decision. That is where we really need to make investments,
and try things out, and be willing to put money there.

And you're right, there is -- there is an aversion to if we take time to do that, that is going to delay the capability of the warfighter, and we find that to be unacceptable. But when we have approved the program and then it runs into delays, we find that is acceptable. So, I think we can get it right.

And I -- and I empathize with Secretary Stackley. He is in a very difficult position, and I think he is one of the best service acquisition executives I have -- I have had the pleasure to work with. But he is charged dually with executing these programs and defending the programs, and that is a very tough position to put somebody in, but our acquisition process demands it.

Dr. Gilmore: Mr. Chairman, I know -- I would just like to say one thing on this topic based on my experience over 26 years. What we have to do is quit denying the facts. There are plenty of facts that were available about what was happening with LCS all along. Yet as recently as 2013 when it comes to the Mine Countermeasures System on LCS, that Navy testified, and I will quote here, "Most of the systems in the first few increments consist of off the shelf products. The risk in these early increments is very low and very well managed." That turned out not to be the case. Again, in 2013 the Navy testified, "The linchpin of the MCM
package, the remote -- the RMMV, now has over 850 hours of reliability growth over the span of 47 missions in five months, which has shown the mean time between operational mission failure substantially exceeding requirements."

That statement was absolutely incorrect. I have been reporting for several years that those claims were incorrect, and the program office and the Navy could not bring themselves to deal with what the facts were. Ultimately, they did to their credit with the independent review team.

But what I have seen repeatedly is an inability, a refusal to deal with what the facts are of how well the systems are or are not performing, and it is because of these incentives and other the other things that have been discussed. But it keeps happening, and it is a real problem.

Chairman McCain: And, Doctor, that is why some of us express such extreme frustration because we are only as good as the information we receive as that the LCS would cost $220 million dollars per ship, which now Secretary Stackley says, well, that was absolutely wrong. Nobody said it was wrong at the time. Everybody said it was wrong at the time. Everybody said it was right.

And yet -- I do not want to take the senator's time, but there are two stories here that I could relate to. One was the MRAP, which we needed very badly in Iraq, and then
the Secretary of Defense had to preside over a weekly meeting in order to get the MRAP to the battlefield to save lives from the IED. Then we had the other extreme, an RFP for a new pistol that is 200 hundred pages long, for a pistol because it has gone through layer, after layer, after layer.

And this -- and the reason why I am frustrated and other members are, we are only -- we can only make decisions on the information we get. If that information is incorrect or false, as Secretary Stackley just said about the LCS, then how can we function effectively for the people we represent? That is why you sense this frustration here amongst members of the committee, including this chairman, because we see it time after time.

We have not even talked about the aircraft carrier, and the arresting gear, and the catapults, but -- and I do not want to take more time of the committee. But I hope that our witnesses understand that we have to bring this to a halt. And fooling around on the fringes is not -- has proven to be unsuccessful.

Senator Ernst.

Senator Ernst: Thank you, Mr. Chair. I agree with the chair that we have to have honest brokers, and we have to have people that will be held accountable. I do not know that we have seen that so far. But I do want to thank all
of you for coming in today.

And as you may be aware, improving acquisition program management is a priority for me, and I have passed legislation to improve program management government wide. Not just in the DOJ, but government wide, with an emphasis on areas that are designated by GAO as high risk. And this especially includes DOD acquisition program management.

And I know we can all agree that this LCS has become really an example of one of those DOD challenges. We mentioned the aircraft carrier. We will not go there today, but that is another one that we need to take a look at.

But during times of defense spending caps, we know how difficult it is, and we have looming entitlement spending which will further squeeze our military budgets. We cannot have repeats of acquisition failures like we have seen with the LCS. Acquisition success is bottom line a matter of national security.

And the -- this is a question for all of you, if you could just briefly respond, please. The LCS Program changed its acquisition approach several times, something cited by the GAO as a reason for the increase in costs, and it also created performance issues. In your opinion, would the LCS Program and others throughout DOD benefit from a standardized approach to managing the portfolio based on the best practices, not only of the industry, but also the
government, before fully moving forward? If you could
briefly respond, please, starting with you, Mr. Stackley.

Mr. Stackley: Let me just describe that, you know, the
experience of LCS, it broke the Navy, and we retooled the
entire way that we do business when it comes to acquisition
programs, and I think we are trying to pull best practices
in. I described CNO and RDA sitting side by side reviewing
requirements, reviewing specifications that lead to design,
that lead to production.

We have our program managers pretty much under a
microscope right now, and we have taken things like cost,
and we have put cost into our requirements so that you do
not get to -- you do not get to ignore cost while you are
chasing a requirement. So, just like speed, range, power,
and payload, if you start to infringe on the cost
requirement that we put -- we put into our documents, then
you have to report to RDA and CNO just like you do if you
infringe on one of the other requirements. And you have to
identify what are you going to do to revert that, either
trading away or otherwise. We would look at either
canceling or, if necessary, padding costs to the program.

Senator Ernst: And would that have been good to have
had before the process was started?

Mr. Stackley: Absolutely. Mr. Chairman's reference to
the $220 million ship, the witnesses that informed the
Congress, I do not think they knew. I do not think they knew or understand what this ship would cost. And so, the system led to information that was provided.

Chairman McCain: If they did not know, why did they tell the Congress that it would be -- that the cost would be --

Senator Ernst: Absolutely.

Mr. Stackley: Because I think they believed or they desired it strongly enough that they believed that it would cost $220 million, but the underpinnings below that was broken. And that is why -- that is why I am sitting side by side with the CNO reviewing our programs, holding program managers accountable, understanding the details of the cost element by element, time phase by time phase. And if we need to make trades, we will make trades.

Senator Ernst: Very good. Thank you very much. Vice Admiral?

Admiral Rowden: Yes, ma'am. With respect to the application of lessons learned, feeding back into the acquisition system and from my perspective as a -- as the commander of the Surface Forces, clearly one of the things I think that the review that we recently conducted, the 60-day review, showed that we needed to take a -- take a step back, take a pause, and apply, and look at what lessons we had learned associated with the program, and make the
appropriate adjustments in order -- in order to get the value down to the combatant commanders, in order to get the operational availability of the ships up.

And I think that the -- it is a constant process, and I know that we will be continuing to look at the ships as we continue to deploy more of them, applying those appropriate lessons as we -- as we learn them, and then feeding them back into the system. And as it applies to the acquisition system, if we can apply those lessons back, then certainly we are going to do that.

Senator Ernst: And, Dr. Gilmore, if you could respond as well. And it is well and good. I am amazed that we are only now just discovering that we should be reviewing these processes and having a finished product in mind before we start the process. Could you respond, please?

Dr. Gilmore: We should use best practices, and if you read the Department's acquisition -- the documents that describe its acquisition process, they incorporate most of these best practices that people talk about, except they are often waived.

And what I have watched over 26 years is what I call a constant search for process solutions to what I think are fundamentally leadership problems. So, when leadership is presented with a cost estimate that a number of people, and I was working at CBO at the time when the original cost
estimates were put out, and we were warning that they were probably quite low. When leadership does not make itself aware, does not critically question the information that it is being given, and lets it go forward, that is a big problem. And a process can help give them that information, but if they do not do their jobs as real leaders and critically question the information that they are being given and that it is being recommended that they send to the Congress and elsewhere, then they are failing.

And I have watched those kinds of failures occur for 26 years, and it -- I am certainly for process improvements. And if you have a bad process that stops information from getting forward from the, you know -- does not enable the reviews to peruse that information to occur, then that is all bad. But if you have leadership that does not do its job, those process solutions will not fix things.

Senator Ernst: That is very well put, Dr. Gilmore.

Thank you. Mr. Francis?

Chairman McCain: Senator Blumenthal.

Senator Ernst: Thank you.

Senator Blumenthal: Thank you, Mr. Chairman, and thank you for having this hearing. Thank you to each of you for being here today, realizing that this topic is a challenging one for you. But as the chairman said at the very beginning quoting Ronald Reagan, "Facts are stubborn things," and
leadership is important.

Dr. Gilmore, I find your testimony probably the most damning document concerning any government program I have ever read, not just as to what has happened in the past, and my colleagues have amply and ably focused on the procurement process, but the decision what should we do going forward.

And not only is the survivability of this ship in question, but is very ability to accomplish the essential missions and endure the testing that has been reduced, in effect, because the ships are not sufficiently shock hardened, and, in fact, its cybersecurity defenses are not amply developed.

So, in this approach that Mr. Francis has outlined of a procurement process rather than a block purchase, what is the case now for going forward with this program at all?

Dr. Gilmore: Well, sir, it is not my purview to say what ships the Navy should buy or what capabilities the Navy should have in those ships. That is -- that is the Navy's decision. What we have seen is that the ships thus far are not meeting the Navy's own performance requirements, and we are well into the program.

I cannot predict what the future will hold. And I know it sounds parochial, but I will say it again. I said it in my opening comments. Whatever the Navy decides to do with regard to going forward, the history here in this program, as well as in many other programs, is clear, and that is
that the only way you are going to discover the problems
with performance that are significant that you will have to
deal with, you have to deal with before you send sailors
into harm's way in combat. You do not want to discover
these problems for the first time when you are in combat.

Senator Blumenthal: Well, that --

Dr. Gilmore: The only way you're going to discover
those problems is by doing realistic testing along the way.

Senator Blumenthal: And I agree completely that you
want to fly before you buy, which apparently has not been
done here, and obviously test before you use the ship in
combat. But what is -- what assurance can any of the
witnesses give us that the ship is actually going to be
capable of accomplishing its mission and protecting the
sailors who are going to be on board?

Dr. Gilmore: Well, the -- again, we can give you
information along the way about how well the ships and the
crews are doing with regard to what the Navy expects the
ships and crews to do. And, of course, the Navy's views of
what the Navy -- the ships and crews are going to do is
changing along the way as they learn more, which is
appropriate. Which is appropriate. It is late in the
process, but it is appropriate.

You are never going to get from me or anyone else an
honest, ironclad guarantee that the ships are going to
perform the way people now say they hope they will. Those
hopes are sincere, but, again, and I know it sounds
parochial. What you have to continue to do is to do the
testing that will tell you along the way whether your hopes
are actually going to be realized, not deny the results of
that testing, and adjust accordingly along the way. And
now, finally, the Navy is doing some of that adjusting, and
I actually commend them for it, but it took a while for all
that to occur.

Senator Blumenthal: Admiral, did you have a comment?
Admiral Rowden: Yes, sir, if I could just add. There
are a number of things that we are doing to ensure the value
of the ships to the combatant commanders as they go forward.
And in my discussions with forward commanders, both in the
Mediterranean and the Western Pacific, one of the things
that they constantly tell me is we cannot get enough of
these ships here to provide the presence and to provide the
operational availability forward.

I am excited about the direction that we are taking the
ships. I am excited about the capabilities that we are
bringing to the fleet. I am excited by the conversations
that I have with the sailors on the ships as they look
forward to innovating with the capabilities that we are
delivering forward.

There is no doubt that we have a lot of work to do, but
as recently as 18 months ago, one of the things that we did
was we stood up the Surface and Mine War Fighting
Development Center, an organization that we are building,
which mirrors a similar organization that the aviation
community has had for a long time and the submarine
community, where we can take those good ideas, take the
equipment and the -- and the -- and the capability that the
acquisition system is delivering, and put that in the hands
of the sailors and get it forward.

And I think that what we are finding and what I am
finding as I talk to these young men and women that take
these ships to sea, yes, there are problems, and they are --
and they are not shy about telling me what needs to be fixed
about the Littoral combat ships. But they are also very
excited not only about the potential or the capabilities
that they do deliver, but also that the potential that are
built into these particular ships.

Senator Blumenthal: Thank you.

Mr. Francis: Mr. Blumenthal, may I make a comment? As
regards to the ships, once you do produce a hull, then the
Navy is going to have to support it. So, for the ones that
we have already committed to and are under contract, the
Navy will have to do whatever is required through mission
equipment and so forth to make them viable. As we know,
there is no guarantee it is going to work out the way we
thought. It is hard to -- hard to say, as Mike Gilmore said.

The Navy is committed to the full buy of LCS and the frigate, and they are obviously entitled to that decision. But you have to make your own decision. It is at least a $14 billion commitment, and there are opportunity costs. So, really the question for the committee is, is that the next best use of $14 billion.

Senator Blumenthal: Thank you very much. Thank you, Mr. Chairman.

Senator McCain: Senator Tillis.

Senator Tillis: Thank you, Mr. Chair. Mr. Chair, I hate to take exception to something you said earlier. You said that the handgun RFP was 200 pages. It is actually almost 680 pages, and it has been in the works for 10 years. It is a shining example of a, to me, disastrous procurement process.

Chairman McCain: Thank you for that correction.

Senator Tillis: But the acquisition people did tell me that there are only 39 nine pages of specifications, so I asked them are the other pages just blank pages for notetaking, or are they relevant to the acquisition.

Mr. Francis, look, first off, I believe everyone here is trying to do the very best to put warfighting capabilities out there to protect our men and women and to
let them accomplish their mission. I think everybody's intention is to do that. And, Mr. -- or Secretary Stackley, I think you have inherited a problem. There is a great joke that I will not use my time on now that talks about the difference between a bear skinner and a bear hunter, and you are trying to skin a bear that somebody took down. They did not quite wrestle it to the ground. So, I appreciate the fact that you are dealing with something and expectations that were set back over a decade ago. I do think that there are things even in this Administration that we have to face up to in going forward.

Mr. Francis, I worked in complex consulting environments in research and development. And when we would go about estimating large projects, we would use past history as a basis for going out and creating an estimate for what we are doing now. And once we did that, we would still handicap it with examples of other projects that we did not hit our -- did not hit our mark.

It seems to me until we come up with an acquisition process that actually comes close to its original mark, we have got to start handicapping any estimates here. And in my -- if I go through the LCS, the F-35, the carrier, the future combat systems, it would seem to me anytime someone comes in here -- either you or your successors come in here, I should multiply somewhere on the order by two or two and a
half times the amount of money and the length of time that
is going to be necessary to deliver this platform, because
past history has proven that to be the case most of the
time. Would you agree with that?

Mr. Francis: I would, sir.

Senator Tillis: And I have to ask you just as a point
of interest on my part, I do not know how on earth anybody
who has worked in your -- in your position for 42 years
could possibly have the amount of hair that you do --

[Laughter.]

Senator Tillis: -- because I have got to believe you
are tearing it out. I mean, why can we not front end load -
- the insights that you are providing here, why can that not
be instructive to the estimating process to begin with? In
other words, in the same way that we would handicap these
large, complex projects, not anywhere approaching the
complexity of what we are talking about here in the IT
world, why do we not have a function that says, you know,
you guys, you think you have got it, an ideal circumstance,
$200 200 million, it is going to be great, time horizon.
But then have somebody come in and say, but because all of
you have been consistently and habitually wrong, we are
going to require handicapping of some multiplier.

Why should we not have that sort of methodology until
we actually get our act together and deliver something on
time and on budget?

Mr. Francis: So, it is a really interesting discussion. And then, if you look at the private sector and I think this is the point the chairman is getting to, accountability is pretty clear. I mean, if you blow the estimate and you cannot sell your product at a profit, then the company loses money, and you know who is accountable.

Senator Tillis: And, Mr. Francis, I want to keep to my time. I know that the committee has gone long. But that is another point that the chair has made and a source of frustration for many of us that I think we also have to change in the procurement process. I used to call them memorable moments.

When I would have a team who would come out and do these sorts of estimates, and then we do the handicapping, I would put a tag on every single one of them. Who was ultimately responsible for this, whether the supplier -- whether inputs or, in my case, subcontractors, staff on board. I would create a memorable moment so if that person still worked for the government at a point in time that we were two and a half times over a cost or two and a half times over time budget, they lost their job.

And I think that in this process we have to start looking that way, we are going to continue these poor results, and we are going to continue to be frustrated at
the expense of having more money to put to more warfighting
systems that make our men and women safer and more -- and
the probability of our completing our missions more likely.
And I think we have to start doing this.

And I am going to reach out to your office and speak
with you about maybe how we can front end load some of this
handicapping. It is clear to me it has not happened. If it
has happened, we have got incompetent people doing it. So,
thank you, Mr. Chairman, and I yield back my time.

Dr. Gilmore: Senator, could I just --

Senator Tillis: All two seconds.

Dr. Gilmore: Senator, could I just add something
because in my previous life I actually worked as a career
person in what is called cost assessment, is now called cost
assessment and program evaluation in OSD. And there is a
group there that does cost estimates. There are independent
cost estimates, independent of the services and the program
offices, cost estimates of programs.

And they do it on the basis that you just described,
historical experience. And there is a very rigorous process
that exists and good literature that exists about how to do
that, and they do it very well. And they present their
estimates, and then the acquisition leadership starts
rationalizing why the next time this time things will be
different, things will be better. So, they go through the
handicapping that you talked, but in exactly the opposite way that you just described.

Mr. Stackley: Sir, if I may, Dr. Gilmore's description of the role of the CAPE cost estimating is correct. His description of what happens between the acquisition community and the CAPE regarding that estimate is not correct.

Senator Tillis: But the bottom line -- the bottom line, Secretary Stackley, with all due respect --

Mr. Stackley: Oh, yes, it is.

Senator Tillis: -- and I have gone over -- with all due respect, they have been wrong. The LCS, the F-35, the carrier. If I had more time, I would ask Mr. Francis in his 42 years many -- this is a bipartisan failure. It has transcended Administrations. But at some point you have to look at history and recognize history for what it is. It is the only way you will not repeat the mistakes.

And the fact of the matter, if somebody wants to come up to me and say, you know, Senator Tillis, look at all these programs in DOD that we have gotten right, it is just unfair for you to say that we are off almost every single time, I do not believe that the data would be very compelling to support that argument. So, let us figure out a way to handicap it so that we can have discussions and set realistic expectations so that we can help the warfighter.
I am sorry, Mr. Chair. I have gone over. Thank you.

Chairman McCain: Secretary Stackley, you wanted to comment.

Mr. Stackley: No, sir. What I was going to -- well, two things. One, I think we owe you the data. I think we - as a task here we should be providing the data in terms of cost growth on programs, and it is not a pretty picture cost growth programs over history.

My comment with regards to the CAPE's estimate, I cannot point to many programs in the Navy, I cannot think of any off hand, where we are not, in fact, budgeted to the CAPE's estimate, with the exclusion of programs where we have a fixed price contract in hand, and so we do not budget above the fixed price. I think we actually try to work very collaboratively with the CAPE to arrive at the best estimate for our programs going forward.

I would go back Mr. Francis' discussion regarding the importance of Milestone B and getting -- that is the critical point where we have got to get it right, lock in the program baseline, get the independent cost estimate as best as possible, budgeting the risks and everything else accounted for. That is -- that is the critical point. And, in fact, LCS went forward without a Milestone B. That rigor was not there.

Chairman McCain: On, again, wonders why and who did
Senator Graham: Thank you, Mr. Chairman. Admiral, we have gone from 52 ships to 40. Why? Why are we going to just buy 40 of these things?

Admiral Rowden: So, the requirement for the Small Surface Combatant remains 52. And so --

Senator Graham: But Secretary Carter said we are going to build 40. Is it because of budgets?

Admiral Rowden: That was a budget driven decision, yes, sir.

Senator Graham: Okay. So, one, the committee needs to know sequestration probably. Is that right? Is that right, Mr. Secretary?

Mr. Stackley: Let me weigh in. The Budget Control Act, yes, sir. Secretary Carter's decision was we have to take risk due to the budget and where we are going to take risk --

Senator Graham: Okay, I got you. So, he said I got to do something because I just do not have enough money, so I am going to, like, go from 52 to 40. Admiral, you said that people out in the field out on the -- you know, fighting the wars and preventing wars, they like this. They want more of these ships. Is that right?

Admiral Rowden: That is correct, sir.

Senator Graham: Okay. What does this ship do that is
so important? What can it do that is different than the ships we have today? Very briefly.

Admiral Rowden: Well, certainly, sir, as we -- as we move forward, the building of the -- of the -- of the --

Senator Graham: Is it more stealthy? What makes it different?

Admiral Rowden: It gives us -- it will deliver higher operational availability forward. I think it will give -- deliver more capacity forward I think as we bring in the minesweeping capabilities, as we bring in the anti-submarine capabilities, which I think will significantly improve our ability to hunt and track --

Senator Graham: Is this a modernization program? Are we trying to modernize ships? Is that what this is about?

Admiral Rowden: Well, certainly the advanced technologies will be -- that we will deliver will be -- will be of much use to the -- to the -- to the sailors as we move them forward, yes, sir.

Senator Graham: Okay. All right. So, modernization of the existing fleet is one of the goals to be achieved if this ship comes online, right, and operates. It would be more effective.

Admiral Rowden: Yes.

Senator Graham: That is why we are doing this, right?

Admiral Rowden: Yes, sir.
Senator Graham: And the reason we are not building 52 is because of money, not because demand. The world is not safer to justify 40 versus 52. Is that correct?

Admiral Rowden: That is correct, sir.

Senator Graham: Okay. When it comes to estimating ships, who actually said $220 or mean whatever the number was?

Mr. Stackley: Sir, we are going to have to go back to the record --

Senator Graham: All right. Let us do that.

Mr. Stackley: -- the leadership.

Senator Graham: Right. Well, that is a lot of people. So, let us find the guy or gal or the groups of guys and gals that said it is $220 million, and see who they are, and figure out what we should do about that. I think we should, like, call him in Mr. Chairman, and talk to them.

So, this $448, why did it go up so much? Was it because we asked for things additional to what was originally required? Was it sort of add on capability?

Mr. Stackley: Sir, the one major change that was done to the program early on after contract award or commensurate with contract award, was we changed the specifications to go to what is referred to as naval vessel rules to give it the degree of design details associated with --

Senator Graham: How much did that add to the cost?
Mr. Stackley: It is hard to pin a number on it, but it created extraordinary disruption at the front end of the program.

Senator Graham: So, you cannot blame the original people who gave the cost estimate because they were not confronted with that requirement.

Mr. Stackley: That is a good point that that requirement was added after the $220.

Senator Graham: Who put that requirement on?

Mr. Stackley: I would have to go back to the record to find out.

Senator Graham: I want to find out who did the 220. I want to find out who said it needs to do this, not that so we can talk to them as to why they decided that. Mr. Francis, do you have any idea who did that?

Mr. Francis: I do not remember at this point, Senator. But I think what happened with the ship is it was thought to be a relatively simple derivation of high-speed ferries of commercial vessels when they got in, and they made that estimate before they entered the detail design. When they got into detailed design and they got naval vessel rules, then they found out it was way more complicated than they thought. And that was --

Senator Graham: They found that out after they started building the thing.
Mr. Francis: Yes.

Senator Graham: Okay. So, I want to end with this.

If we do not modernize our force, we will pay a price. The A-10 works today, but it is not going to work forever because we will not be fighting ISIL forever. There will be an environment where the F-35 makes more sense. It makes no sense to me to retire the A-10 because it actually works. But all of us need to know what you are trying to do is modernize the force so that the next war we are in or the next war we need to prevent that we are capable of doing both, right?

Modernization is not an exact science. So, part of the problem is when you modernize your force, it is not like just duplicating something. It is not a commodity. But what have I learned, that in the effort to modernize the force, our estimates of what it cost and the capabilities we need are ever changing. And the process is completely broken, and it goes back to what you said, Doctor, about leadership.

If you want this to stop, somebody needs to get fired. One of the reforms we did in this committee is to make every service secretary and service chief responsible for the big programs under their control. Hopefully in the future someone will be held accountable and get fired if this happens again. And if nobody ever gets fired, nothing is
going to change. Thank you.

Chairman McCain: Senator Sullivan.

Senator Sullivan: Thank you, Mr. Chairman.

And, Dr. Gilmore, I wanted to follow up on some of the questions you received from Senator Blumenthal. You were talking about kind of the hopes that you had. Matter of fact, I think you use the word "hopes" three or four times just in answering the questions on the capability of the ship. But in your written testimony -- your written testimony is not full of hope at all, so let me -- let me read a little bit of what you said with regard to the written testimony.

"With respect to survivability, neither of the LCS variant is expected to be survivable in high intensity combat. Neither of the LCS designs include survivability features necessary to conduct sustained operations in a combat environment. The LCS' limited lethality makes these ships a shadow of the abilities of modern Navy frigates. So, with regard to combat capability, you seem very concerned, so let me ask him more operationally focused question, Admiral. Given what Dr. Gilmore said, do you think -- are you confident that these ships could, say, for example, go into the South China Sea, conduct a FONOP near Mischief Reef or other places, and be able to survive if Chinese frigates responded with force, or could an LCS in
the fleet today survive attacks from small boats and other
patrol craft like the ones that were used in the recent
capture of American sailors by Iran? Are you confident of
that given what Dr. Gilmore clearly states is a ship that is
not combat survivable?

Admiral Rowden: Yes, sir, I am. And I --

Senator Sullivan: Are you, Dr. Gilmore?

Dr. Gilmore: No, for the reasons that are stated in
detail and all the reporting that I have done at the
classified level and other levels.

Senator Sullivan: So, Admiral --

Dr. Gilmore: These ships -- the original vision for
these ships was that they could use unmanned systems that
would go in and conduct combat operations, and they could
stand off away from threats. But those unmanned systems
that can reach out and conduct combat operations we do not
have, and it is not clear when we ever will.

So, the ship was built to not be nearly as survivable,
as, for example, the Fig 7s that we used to have. It was
built according to high-speed naval vessel rules, which
fundamentally limits the amount of compartmentalization and
redundancy you can put on the ship. So, it is not nearly as
survivable as other ships, and, frankly, it was not meant to
be in that regard.

And the original CONOPs, if it could be -- ever be
realized, that might have been fine. But as I understand
the CONCOPs and the way it has been written, and the Navy is
continually revising it based on what it learns, the CONOPs
still says that the ship would be out there preparing the
way for the battle fleet. And if that is true, then it will
be subject to attack by anti-ship cruise missiles,
torpedoes, and mines. And the Navy's own requirements show
that the only the -- only thing the Navy expects if it is
hit by one of those kinds of threats is for it to be able to
exit the battle area and/or provide for an orderly abandon
ship.

So, against those kinds of threats, which ASCMs, for
example, the Chinese are fueling thousands of them, and they
are supersonic, and they are very threatening. And those
are going to be a challenge for any ship, but a particular
challenge for this kind of ship.

Senator Sullivan: So, Admiral, how do you respond to
that, and, you know, are you -- are you confident, you know,
in putting our Marines and sailors on these ships to conduct
those kind of operations, say, again, in the South China Sea
or a standoff or a confrontation with Iranian small boats?

Admiral Rowden: Yes, sir. So, there are a number of
variables that go into the equation associated with the
survivability of the ships. Certainly, the manufacturer of
the ship, the watertight integrity of the ship, the way the
ship is manufactured. That is part of the survivability. Part of it is the damage control systems that we put on the ship in order to ensure the survivability. Part of it is the defensive systems that we put on --

Senator Sullivan: So, you do not -- you do not agree with Dr. Gilmore's written testimony.

Admiral Rowden: I think there are a number of -- there are a number of variables that have to be looked at when you look at the survivability of the ship. For example, one of the variables that you have to look at is the intensive training that we provide to all of our sailors, not only to fight the ships, but also to fight battle damage.

And I go back to the example of the USS Samuel B. Roberts that hit the mine in the Arabian Gulf. Every analysis said that ship should have gone to the bottom of the Arabian Gulf. It did not. Those sailors fought, and they saved that ship. And that is -- and that is one aspect that I think is sometimes lost in talking about the survivability of a ship.

Clearly, we do not want to have any of our ships get hit, and we -- and we -- and we rely on operations, we rely on intelligence, we rely on operating those ships to hopefully not have to lean into a punch.

Senator Sullivan: So, despite Dr. Gilmore's written testimony, you are comfortable putting Marines and sailors
on these ships in combat situations against Chinese frigates
or Iranian naval ships.

Admiral Rowden: Yes, sir, but I think you have to take
it in the proper context in that I do not think that
necessarily we would find these ships operating alone and
unafraid in the middle of an adversary's fleet.

Senator Sullivan: If they were?

Admiral Rowden: If they were, then I think that we
would do our best to fight the ship, and we would do our
best to defend the ship. And if the ship took a hit, the
crew would fight to save the ship and exit the area as the
ship is designed.

Dr. Gilmore: Can I add something, Senator?

Senator Sullivan: Sure.

Dr. Gilmore: We do something called a total ship
survivability trial, and it gets at exactly the issues that
the Admiral was just raising. Now, of course, we do not
actually let an ASCM, an anti-ship cruise missile, hit a
ship. Obviously not. But we do have the crew there. They
are trained in all the damage control measures that they are
supposed to take. And we do then go through a simulation of
one of these threat systems, like an anti-ship cruise
missile -- we have done this -- hitting the ship -- we have
done this for the LCS. And we then have the crew fight to
save the ship.
And in the total ship survivability trials that we did, the crews did their best, but in almost every instance there was major damage to the ship, and the combat capability was fully lost. And in some instances, the ship would have been lost.

And, again, an anti-ship cruise missile hit on any ship is going to be a problem, no doubt about it. But a hit on one of these ships with their lack of redundancy, their lack of compartmentalization, which is driven by, you know, their small size and the speed requirement, and their construction according to high-speed naval vessel rules. A hit on one of these ships is going to be a real problem, and we have analyzed that, and we have done the kind of testing that enables the crew to fight -- try to fight to save the ship. And there are definitely problems with these ships.

If you can keep them out of harm's way, okay, but the current CONOPs says that they will be out ahead of the battle fleet preparing the way. So, again, they will -- if they are going to do that, they will be subject to being hit and attacked by these threats.

Chairman McCain: Senator Cruz.

Senator Cruz: Thank you, Mr. Chairman. Good morning, gentlemen. Thank you for your testimony this morning, and thank you for your dedicated service to our men and women in uniform.
The near peer threat we are facing is increasing across the globe, with our Nation's adversaries bolstering their defense capabilities and focusing on new technology in the hopes that they can deny access to the United States Navy or, if necessary, compete militarily with the United States in a more limited scenario.

Recent acts of aggressions by our adversaries prove that the men and women in the United States Navy operate in an incredibly difficult environment every single day. Whether facing threatening shows of force from Iran, Russian belligerents, and unsafe practices, or China's egregious claims and illegal expansions into the South China Sea, our Navy sailors are to be commended for their professionalism and steadfast service. However, these actions should remind us that there is simply too much at stake if we willfully choose to ignore the ambitions of our foes.

There is undoubtedly room for improvement in the LCS Program, and I appreciate your candid testimony regarding several of the reviews and efforts that are already underway. But instead of looking back, I am most concerned that future problems might plague the program, and that it could have a crippling impact on the Navy's entire modernization efforts. Between the Ford Class carrier, F-35 procurement, the LCS, and an Ohio Class replacement ballistic submarine, the Navy simply must make the most
effective and efficient use of every single dollar it receives if we are to have any hope of rebuilding the fleet.

Now, Secretary Stackley, there have been many studies that have attempted to determine the appropriate size and mix of Navy forces, including the 1993 bottom-up review in the 2010 Quadrennial Defense Review, to name a couple. Most of the studies indicate that we need more than the Navy's current plan to build 308 ships in order to defend our global interests.

In the time since those reports, our Navy has now shrunk to around 275 ships, while commitments and the number of deployments have remained relatively constant. This has resulted in a larger percentage of the force being at sea on any given day, often for longer deployments than their predecessors, and add an -- at the expense of other mission requirements. The incoming Administration has set a goal to increase the Navy to 350 ships and to reverse this damaging trend. That is a goal with which I strongly agree.

My question to you is can you provide your professional opinion to this committee on how we can accomplish a 350-ship fleet, what an appropriate high/low mix of platforms might look like, and where you believe the LCS and its successor will fit into that construct?

Mr. Stackley: Yes, sir. Let me -- let me describe that right now the CNO and his staff is conducting an update
to the force structure assessment that was last updated in 2014. He has been very clear and testimony in the public describing that the threat vector has only -- has only increased. And so, the 308-ship Navy that is currently on the books, all pressure says that number has got to go up.

So, the force structure assessment taking place right now is identifying what number and mix of ships we need for the future, mid 2020s and beyond. And he has been clear, the number is going to go -- the number in terms of requirements will go north. That going to put more pressure on the budget. And what we have to determine is in that mix of ships, what the specific modernized capabilities that we will need platform by platform, and then how to procure those as affordably as possible so we do not add more pressure to the budget than absolutely necessary.

Inside of that construct, high-low mix, LCS is the small service combatant today, and we have talked about the frigate modification to the LCS platform going forward. The today 52 in the force structure assessment, 40 in terms of a budget determination. If we fail to deliver the small surface combatant in those numbers, then what that means is we are going to put more pressure on the high end of our -- of our force structure. That is going to add costs, and that is going to take those ships off of the -- where they need to be, tax them in terms of operational demand compared
to where they need to be, and that is going to put more pressure in terms of turnaround time and the entire operations and maintenance cycle.

Senator Cruz: So, what do you see as the biggest challenges facing growing to a 350-ship fleet, and what do you see as a realistic timeframe for that?

Mr. Stackley: Yes, sir. Let me -- let me first say the first big challenge that is already in the program of record is the High Replacement Program due to its uniqueness, its imperative in terms of schedule and the capability that we have to provide, and then its cost. It is a -- it is a high-cost program.

And so, we are, and when I say "we," it is CNO and myself are on top of that program in terms of the design process, in terms of the planning to ensure that it does not grow. In fact, we are looking to find ways to make it more affordable than it is today. That already stands as a challenge going forward.

The next -- the next thing we need to do is leverage existing designs. What we do not want to do is bring a whole bunch of new design to the table, add the technical risk that that brings, the startup costs that that adds, and the uncertainty that that introduces, and add the amount of time that that will take to go through the design and production cycle. So, let us leverage the existing
production lines that we have and introduce capability to
those platforms as best as possible looking at that future
threat. And that is the path that we are on.

And then the next is raising the rate at which we
produce those ships. I will tell you the first part of it
is going to be looking at our attack submarines. When you
look at our force structure going forward, we have a very
serious shortfall in attack submarines in the late 2020s.
We have got to stem that as best as possible. So, that
would be the first place that we go in terms of increasing
our production rates.

Surface combatants. Right now, we are building surface
combatants at a rate that in the long-term results in
dropping off in terms of total number of large surface
combatants, because we built at such a high rate during the
Reagan buildup years. Well, if we -- if we stay at two per
year, we are going to start settling down to a 60 to 70
number of large surface combatants, which will not meet our
operational requirements.

And then amphibs. Today, we are -- we are below what
the CNO and the commandant agreed to in 2009 in terms of the
amphibs force structure. We have got to get up to that
number, and we are on that path. But the reality is that
these are high utility platforms. They are high demand,
high utility, very flexible. Wherever we have operations
going, amphibs find a way to support that operation. And so, there is -- that will be the next leg in terms of increasing our production rates.

Senator Graham: Thank you.

Chairman McCain: I am sure that you will get support from this committee on that. You will not get support if we have double -- redouble the cost of these systems. We owe the taxpayers a lot more than that.

This has been a very helpful hearing, and I thank the witnesses. We are adjourned.

[Whereupon, at 11:48 a.m., the hearing was adjourned.]