

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

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

Washington, D.C.

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U.S. Senate

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Committee on Armed Services

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Washington, D.C.

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

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Committee Members Present: Senators McCain

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[presiding], Inhofe, Wicker, Ayotte, Fischer, Cotton,

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Rounds, Ernst, Tillis, Sullivan, Graham, Cruz, Reed, Nelson,

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McCaskill, Manchin, Shaheen, Gillibrand, Blumenthal,

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Donnelly, Hirono, Kaine, King, and Heinrich.

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1 OPENING STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR
2 FROM ARIZONA

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

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

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

14 Senator Reed: So moved.

15 Chairman McCain: Is there a second?

16 Senator Inhofe: Second.

17 Chairman McCain: All in favor, say aye.

18 [A chorus of ayes.]

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

25 The Honorable Sean Stackley, assistant secretary of the

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

13 The Littoral Combat Ship, or LCS, is an unfortunate,
14 yet all too common, example of defense acquisition gone
15 awry. Since the early stages of this program, I have been
16 critical of fundamental LCF shortcomings. And here we are
17 15 years later with an alleged warship that, according to
18 Dr. Gilmore's assessment, cannot survive a hostile combat
19 environment, and has yet to demonstrate its most important
20 warfighting functions, and a program chosen for
21 affordability that, as the GAO has reported, has doubled in
22 cost with the potential for future overruns.

23 Like so many major programs that preceded it, LCS'
24 failure followed predictably from an inability to define and
25 stabilize requirements, unrealistic initial cost estimates,

1 and unreliable assessments of technical and integration
2 risk, made worse by repeatedly buying ships and mission
3 packages before proving they are effective and can be
4 operated together.

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

15 Despite such serious concerns, it will not come as a
16 surprise to many members of this -- of this committee, to
17 you, that Congress then approved funding for LCS. And when
18 the Navy awarded the first LCS construction contract in
19 2004, it did so without well-defined requirements, a stable
20 design, realistic cost estimates, or a clear understanding
21 of the capability gaps the ship was needed to fill.

22 Taxpayers have paid a heavy price for these mistakes.
23 The LCS was initially expected to cost \$220 million per
24 ship, but the cost of each ship has more than doubled to
25 \$478 million, and we are not through yet.

1 The LCS' first urgently needed combat capability and
2 mine countermeasures was supposed to be delivered in 2008.
3 That capability is still not operational, nor is it expected
4 to be until 2020, 12 years late. Twelve years late. Today,
5 26 ships of the planned 40-ship LCS fleet have either been
6 delivered, are under construction, or are on contract. In
7 other words, taxpayers have already paid for 65 percent of
8 the planned LCS inventory.

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

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

23 The Navy failed to meet its own commitment to deploy
24 LCS sea frames with these mission packages in part because
25 for some reason, Navy leaders prioritized deploying a ship

1 with no capability over completing necessary mission package
2 testing. In other words, the taxpayers have paid for, and
3 are still paying for, 26 ships that have demonstrated next
4 to no combat capability. This is unacceptable, and this
5 committee wants to know, Secretary Stackley, who is
6 responsible and who has been held accountable.

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

12 Mission packages are not the only problem. Keeping the
13 LCS sea frame underway at sea has also been challenging.
14 Despite commissioning the first ship eight years ago in
15 2008, the Navy continues to discover "first of class
16 problems." This year is 2016. Since 2008 when it was
17 commissioned first, we continue to discover "first of class
18 problems."

19 Since 2013, five of the eight LCS's delivered have
20 experienced significant engineering casualties resulting in
21 lengthy import repair periods. Amazingly, despite nearly no
22 proven LCS combat capability and persistent debilitating
23 engineering issues in both design and operation, the Navy is
24 charging ahead with an ambitious plan that keeps most ships
25 deployed more than half the time, stationed around the world

1 far from supports of facilities in the United States. In
2 contrast, most Navy destroyers are planned to be deployment-
3 - deployed from the United States far less than 25 percent
4 of their service lives. The rush to put four ships forward
5 in Singapore by 2018 without proven combat capability, and
6 to maintain a deployment tempo more than twice that of
7 destroyers, is a recipe for more wasted taxpayers' dollars.

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

18 The recent -- the recently concluded LCS review was
19 long overdue, and it yielded some promising initiatives.
20 But I am concerned that several critical fundamental
21 assumptions of the program were not challenged, including
22 excessive operational availability goals, insufficient in-
23 house technical support for LCS, unexamined manpower
24 requirements, and no urgency in transitioning to a new small
25 surface combatant.

1 Fortunately, the Department of Defense is curtailing
2 the LCS Program at 40 ships and down selecting to a single
3 ship design. Given the cost overruns, mission package
4 testing lows, and the rate of engineering failures, reducing
5 the size of this program is a necessary first step. And I
6 am prepared to go even further by taking a hard look at any
7 further procurement of ships until all of the mission
8 packages reach IOC.

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

18 Senator Reed.

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1 STATEMENT OF HON. JACK REED, U.S. SENATOR FROM RHODE
2 ISLAND

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

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

18 However, since the mission packages and the vessels are
19 divorced from each other, we are now experiencing a new set
20 of difficulties, many of them indicated by Senator McCain.
21 While the shipbuilders had problems with costs and schedule
22 early in the program, that has not been the big issue since
23 the Navy conducted the competition for fixed price contracts
24 in 2010. The shipbuilders and shipyard workers have been
25 performing well under those contracts since then, so well,

1 in fact, that we now have built are in the process of
2 building 26 of the LCS vessels, when not a one of the
3 single-- of the three types of mission modules has passed
4 full operational testing. Since LCS combat capability
5 largely resides in the mission packages, the Navy will have
6 to operate LCS vessels for several more years in relatively
7 benign circumstances, waiting on combat capability to
8 complete testing.

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

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

25 Saying that we will attain the 50 percent deployment

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

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

21 The chairman I also asked that the Navy conduct a
22 bottom-up review of the manpower requirements for each LCS
23 to validate or re-validate the quantity and quality of
24 manpower requirements to determine if sufficient personnel
25 are assigned to perform all watch standing, warfighting,

1 damage control force, protection, maintenance, and other
2 duties. The CNO responded that the Navy's LCS Review Team
3 have already assessed manpower requirements. I would just
4 say that I am skeptical that the LCS Review Team would have
5 had sufficient time to do much more than decide how to
6 allocate the 70 sailors which building space would be
7 available. Such an allocation process would not constitute
8 the manpower requirements review that I had in mind at
9 least.

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

17 I understand that CNO Richardson needs time to review
18 overall future fleet requirements. However, I believe that
19 when the Navy begins a program for a follow-on small surface
20 combatant, it should avoid repeating what we did with the
21 LCS Program, where we were in such a hurry to field the ship
22 we did not take the time to go through important parts of
23 the acquisition process, such as deciding what our
24 requirements are, deciding how much we are willing to pay to
25 achieve those requirements, and programming ahead of time

1 for the manpower and logistics programs that we needed to
2 support the program. If the Navy waits too long, we may
3 face similar urgency in the schedule.

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

6 Chairman McCain: Thank you. We will begin with you,
7 Director Gilmore. Welcome, Dr. Gilmore.

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1 STATEMENT OF HON. J. MICHAEL GILMORE, PH.D., DIRECTOR,
2 OPERATIONAL TEST AND EVALUATION, UNITED STATES DEPARTMENT OF
3 DEFENSE, WASHINGTON, D.C.

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

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

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

25 In a June 2016 report based on the testing conducted

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

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

1 least Fiscal Year 2020.

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

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

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

25 Testing conducted during the past two years on LCS-2,

1 3, and 4 also revealed significant cybersecurity
2 deficiencies. Now, the Navy is developing plans and taking
3 actions to correct some of the problems identified, but the
4 severity of the problems discovered will degrade the
5 effectiveness of both LCS variants until the problems are
6 fully corrected.

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

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

23 Thank you.

24 [The prepared statement of Dr. Gilmore follows:]

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1 Chairman McCain: Thank you. Secretary Stackley?
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1 STATEMENT OF HON. SEAN J. STACKLEY, ASSISTANT
2 SECRETARY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION, UNITED
3 STATES DEPARTMENT OF NAVY, WASHINGTON, D.C.

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

10 Chairman McCain: Without objection.

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

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

1 for the ship.

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

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

21 There are four cornerstones of the program that I would
22 like to briefly summarize. First, the Shipbuilding Program.
23 As the committee is well aware, the LCS Program was
24 initiated with unrealistic cost and schedule estimates and
25 with highly incomplete design, resulting in extraordinary

1 budget overruns and scheduled growth. The program was
2 subsequently restructured. Production was placed on hold
3 pending the insertion of production readiness reviews to
4 verify design quality and completeness. Authorizations to
5 approve design requirement changes was raised to the four-
6 star level, specifically the CNO and myself.

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

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

22 Of note, the CNO and I have implemented a similar rule
23 set across all of shipbuilding, and though we were not able
24 to get out in front of all of our lead ship programs, cost
25 discipline from requirements, to design, to production and

1 testing has been firmly drilled into place throughout the
2 Navy.

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

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

24 These are relative success stories that demonstrate the
25 benefit provided by the LCS modular design and mission

1 package approach. And as the Navy develops or requires new
2 weapons systems appropriate to the LCS mission, we will
3 leverage the ship's modular design and flow these new
4 weapons to this ship, and be able to do so in rapid fashion
5 once they are mature.

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

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

23 The true workhorse of the MCM Mission Package, however,
24 is the high-endurance unmanned vehicle with its towed sonar
25 system, which we rely upon to achieve the high area

1 clearance rate required by our operational plans. The Navy
2 is satisfied with the performance of the towed sonar system
3 and its ability to detect mines as demonstrated in
4 developmental testing. And we expect to demonstrate further
5 improvements to the sonar in conjunction with ongoing
6 upgrades.

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

23 As a result of these findings, we have restructured the
24 MCM Mission Package to utilize the unmanned surface vehicle
25 that is currently being built to tow the Mine Sweeping

1 System to likewise tow the mine detection sonar. Testing
2 with this vehicle is scheduled to commence in 2019.

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

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

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

24 Chairman McCain: Mr. Secretary, you will have to
25 summarize here.

1 Mr. Stackley: Yes, sir.

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

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

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

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

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

1 the review.

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

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

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

20 [The prepared statement of Mr. Stackley follows:]

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1 Chairman McCain: Thank you. Admiral?
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1 STATEMENT OF VICE ADMIRAL THOMAS S. ROWDEN, COMMANDER,
2 NAVAL SURFACE FORCES, AND COMMANDER, NAVAL SURFACE FORCE,
3 U.S. PACIFIC FLEET, UNITED STATES NAVY, WASHINGTON, D.C.

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

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

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

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

24 The CNO testified in his posture statement that for the
25 first time in 25 years there is competition for control of

1 the seas. This statement underpins my entire approach to
2 the LCS fleet introduction.

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

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

18 We have learned quite a bit from the Freedom Fort Worth
19 and Coronado deployments and the options provided to our
20 fleet commanders by their presence. The challenges
21 encountered during these early deployments prompted the
22 recent CNO directed 60-day review, which resulted in a
23 number of straightforward changes that will drive simplicity
24 and stability into the program, even as we increase unit
25 lethality. I am confident we are on the right track to

1 increasing crew ownership and reliability of this ship,
2 while delivering critical warfighting capability to the
3 fleet.

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

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

9 [The prepared statement of Admiral Rowden follows:]

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1 Chairman McCain: Mr. Francis.
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1 STATEMENT OF PAUL L. FRANCIS, MANAGING DIRECTOR,
2 ACQUISITION AND SOURCING MANAGEMENT, GOVERNMENT
3 ACCOUNTABILITY OFFICE, WASHINGTON, D.C.

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

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

16 To adjust to this or accommodate the lesser performance
17 of the ship, we have accepted a number of workarounds,
18 higher crew loads, more shore support. We have kind of
19 dialed down the concept of operations, and we have reduced
20 some mission expectations for the ship. Still it will be
21 2020 by the time we know the ship and all its mission
22 modules will work.

23 I was doing my own math. I think we did the first
24 contract for the first ship in 2004 or 2005, but it is 16
25 years from first contract to when the ship will be finally

1 tested with all its mission modules. So, that is 16 years.
2 To me, that is aircraft carrier territory. So, the miracle
3 of LCS did not happen.

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

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

23 So, let me switch now to a little discussion about
24 oversight. On any major weapon system, Milestone B is the
25 most important milestone. That is when you lay down -- that

1 is when the legal oversight framework kicks in. So, your
2 approved baseline, your Nunn-McCurdy requirements, your cost
3 estimates, your operational test and evaluation, selective
4 acquisition reports all kick in at that time. Usually on
5 ships, you have a Milestone B decision when detailed design
6 and construction is approved for the first ship.

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

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

1 the frigate itself.

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

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

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

22 There is an instrument that exists for that, and it is
23 called multiyear procurement. And the Navy was able to use
24 multiyear procurement after the fourth Virginia Class
25 submarine. You have to ante up what your savings are going

1 to be. You have to test to the stability of the design. It
2 is a real commitment. For the frigate, they are going to
3 use the same contracts that they used for the LCS, and we
4 know how well they have worked in holding down costs.

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

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

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

21 I think that your first oversight question is going to
22 be is a program that has doubled in cost and has yet to
23 demonstrate its capabilities worth another \$14 billion in
24 investment, and that is the floor. That is assuming
25 everything goes well.

1 If you do think it is worth it, and that is a big if, I
2 would say -- my counsel to you in Fiscal Year 2018 is do not
3 approve a block buy. Have the Navy do a competition on
4 detailed design, and let them compete the two -- the two
5 ship designs and down select. And make it a major
6 acquisition program with its own baseline, and its own
7 milestones, and its SARs.

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

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

20 Thank you, Mr. Chairman.

21 [The prepared statement of Mr. Francis follows:]

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1 Chairman McCain: Thank you very much.

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

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

17 Mr. Stackley: Sir, let me start with the reference to
18 the \$220 million ship, that number that dates back to the
19 2004, 2005 timeframe. Everybody here would absolutely agree
20 that was unrealistic.

21 Chairman McCain: No, I would not because it was
22 testified before this committee that that would be the cost
23 per ship. In retrospect, we see that it was unrealistic,
24 but at the time this committee and this Congress, which
25 approved it, was on the basis of \$220 million per ship. If

1 we had been told it was \$478 million and 12 years late for
2 some of the programs, I do not think that this committee and
3 the Congress of the United States would have approved it,
4 Mr. Secretary.

5 Mr. Stackley: Yes, sir. I am telling you that the
6 \$220 million number was unrealistic.

7 Chairman McCain: Well, then why --

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

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

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

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

20 Mr. Stackley: I would have to go back to the records
21 to see who testified. The number was directed from the top
22 down. I can tell you that the Naval Sea Systems Command's
23 estimate for the program at that point in time was not \$220
24 million. That was the number that was in place as a cost
25 cap for the program, and they pressed down to try to achieve

1 what could not be achieved, and industry followed suit.

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

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

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

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

22 Chairman McCain: And obviously you could not.

23 Mr. Stackley: Correct, we failed in that assessment.
24 We believed we could. We did a redesign effort. We did not
25 go back and build new vehicles in accordance with the

1 redesign. What we did was took the existing vehicles and
2 back fit what fixes we could, and took that to test.

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

5 Mr. Stackley: Yes, sir.

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

14 2016, contamination of a main engine, 258 days and \$12
15 million dollars to fix. LCS-3, 2016, combined gear
16 bearings, 184 days and \$5.6 million to fix. LCS-4 in 2016,
17 water jet failure, 24 days, and we do not know the cost.
18 LCS-5 in 2015, high-speed clutch failure, 355 days and
19 counting. LCS-8 in 2016, water jet failure.

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

22 Admiral Rowden: Yes, sir. Starting specifically back
23 in the early part of this year when -- with the Fort Worth
24 failure associated with personnel errors on the USS Fort
25 Worth, I started to look very hard at the training and the

1 qualification of the men and women that serve on our ships
2 to see if we had short-changed them with respect to the
3 training that they had been provided.

4 Chairman McCain: Who was held accountable for that?
5 They were not well trained. Somebody is supposed to train
6 them.

7 Admiral Rowden: Absolutely, sir.

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

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

12 Chairman McCain: Should you be getting your job?

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

18 The men and women, when we -- I stepped back and got
19 our Surface Warfare Officer School to conduct an assessment
20 of the engineering knowledge of the men and women on the
21 ships, it was found to be deficient. One of the things that
22 we found was that, and that I directed, was that we start to
23 import much more of the training than we had been relying on
24 for the vendors to provide to our sailors that serve on
25 these ships.

1 And so, given the fact that we have pulled that
2 engineering training in, given the fact that we have -- are
3 moving to get the curriculum necessary in order to be able
4 to get the right knowledge into their heads in order to
5 operate the propulsion plants, I think we are in a much
6 better place going forward.

7 Specifically associated with the accountability --

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

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

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

21 Senator Reed.

22 Senator Reed: Well, thank you, Mr. Chairman.
23 Secretary Stackley, in the letter that the chairman I wrote
24 to the CNO, we talked about the replacement of the LCS. And
25 as I understand it, the current plan is to stop building LCS

1 in Fiscal Year 2025. Mr. Francis' assessment was
2 interesting. He suggested that LCS is simply going to morph
3 into something called a frigate, and we are going to buy
4 frigates, but we are not going to have a real opportunity to
5 review, nor are you going to have the opportunity given the
6 compressed timeframe, to do all the requirements, to
7 validate the requirements, to do the testing, to do the
8 proving, if you will.

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

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

21 And the plan going forward that we then presented in
22 our subsequent budget was to take the ASW Mission Package
23 capabilities, plus the Surface Warfare Mission Package
24 capabilities that are currently planned for the LCS, and
25 combine them and permanently install them on the LCS

1 platform to give it the multi-mission capabilities, trade
2 away modularity, but to give it multi-mission capabilities.
3 Add to that over-the-horizon missile, and add to that
4 upgrades to electronic warfare and decoys, specifically, our
5 Nulka decoy, in effect, using existing capabilities or
6 capabilities that we already have in development and that
7 the ship is already designed to accommodate, permanently
8 install them on the platform to give them multi-mission
9 capability I have referred to as a frigate.

10 That work was done -- was chartered in 2014, done in
11 2015, shared with the defense committees at least at the
12 staff level, included in our budget. The capabilities
13 development document has gone through the JROC for
14 validation of the requirements. And the shipyards have been
15 turned on to do the design associated with permanently
16 integrating those existing capabilities into their
17 platforms. That design effort is going on today.

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

25 Senator Reed: Okay. And will that plan include a

1 block buy of the frigates or a block buy of another group of
2 LCS's?

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

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

18 And what we are telling them is somebody is going to
19 win this, one is going to win this, and they will get 12
20 ships of this frigate design. The details in terms of
21 whether that is one plus options, whether that is 12
22 options, or whether we convert that to a multiyear in the
23 future, that is not decided today. But we do want to get --
24 to ensure we procure those ships as affordably as possible
25 when we go through that competitive down select.

1 Senator Reed: Again, just to get my perspective, it
2 appears that the LCS Program is morphing into the frigate
3 program. Is that fair?

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

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

16 Now, let me ask --

17 Mr. Stackley: Yes, sir.

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

20 Mr. Stackley: Yes, sir. First, we will be adding
21 capability which will add weight to the ship. However, the
22 impact on speed is marginal. Today, the requirement is 40
23 plus knots. These ships will still be faster than any other
24 combatant or warship that we have today with the added
25 weight.

1 Second, a part of our -- in this requirement cycle --
2 requirement and design cycle, we are not trading off
3 endurance. In fact, as we look at our -- the competitive
4 strategy that we are going to put out there in our best
5 value criteria, we are -- we are not just going to not trade
6 off endurance. We are going to place a premium on being
7 able to increase endurance. So, endurance is not going to
8 go down, and speed is only going to be affected at the
9 margins.

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

13 [The information referred to follows:]

14 [COMMITTEE INSERT]

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1 Chairman McCain: Senator Inhofe.

2 Senator Inhofe: Thank you, Mr. Chairman.

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

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

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

19 Mr. Stackley: Yes, sir. I think all the previous
20 discussion and testimony regarding delays in the program,
21 the LCS delays have been unacceptable. And, frankly, when
22 we think about going forward and what we are doing
23 different, LCS, DDG-1000, I would add CBN-78 to the mix.
24 There is a period of time where the Navy went forward with
25 all clean sheet designs, high risk, a lot of new development

1 wrapped up in the lead ships. That is in our -- we are
2 still working through those lead ships, but that approach is
3 in our rearview mirror. We are not going forward with that
4 approach today and in the future

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

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

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

18 Mr. Francis: Forty-two years.

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

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

24 [Laughter.]

25 Senator Inhofe: No, I am serious about this because

1 you have watched all this, and one of your recommendations
2 was -- there are a lot of good recommendations in your --
3 the final part of your statement that says, "Congress should
4 consider not funding finding any requested LCS in Fiscal
5 Year 2017, and should consider requiring the Navy to revise
6 its acquisition strategy for the frigate." Is this one of
7 your recommendations?

8 Mr. Francis: Yes, sir.

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

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

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

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

25 Admiral Rowden: Sir, I agree with Secretary Stackley.

1 It is --

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

5 Admiral Rowden: I am sorry, sir?

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

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

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

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

24 Mr. Francis: I would like to do that.

25 Senator Inhofe: Thank you, Mr. Chairman. Thank you.

1 Chairman McCain: Senator Hirono.

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

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

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

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

25 Mr. Francis: Well, actually, Senator, I think the

1 competition could be done under the detail design phase. My
2 concern is oversight for this committee once you approve the
3 block buy. Now, the Navy will execute, and I would believe
4 they would do a good job of trying to lay it out in a
5 program. But your opportunity to influence what gets done
6 is going to be largely compromised once you approve the
7 block buy. So, your ability in the future to make changes
8 is going to be limited.

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

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

22 Senator Hirono: Well, I'm sorry. You know, that is
23 all well and good, but the entire history of this program
24 has been that, yes, we have always had that decision-making
25 capability. But, you know, you can go down a path, and next

1 thing you know a ship is costing twice what it originally
2 started because we have gone down a particular path.

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

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

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

25 I think Mr. Francis' concerns about a Milestone B, I

1 would be happy to sit down with the committee staff and walk
2 through what you need to ensure that you do, in fact, have
3 confidence that all the statutory requirements in terms of
4 cost estimates, in terms of acquisition program baselines,
5 in terms of requirements, documentations, just like a
6 Milestone B.

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

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

19 Mr. Stackley: I recommend --

20 Senator Hirono: Thank you very much.

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

24 Senator Hirono: Thank you.

25 Mr. Francis: Ma'am, if I -- if I may, I would say

1 while these are modifications, they are rather significant,
2 at least the \$100 million dollars per ship, and that cost
3 has not independently validated yet. My thinking is if we
4 are that close to being able to have everything ready for
5 Milestone B, let us have the Milestone B.

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

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

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

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

25 Mr. Stackley: Sir, I believe it was uniform leadership

1 in the Navy at that time.

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

6 Senator Ayotte.

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

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

21 So, I have been getting some mixed signals between what
22 has been happening with the Air Force. The Air Force
23 Secretary testified before this committee that the A-10 --
24 that, in fact, the F-35 will not replace the A-10. And so,
25 this comparison testing for what happened in terms of close

1 air support is very, very important. And, in fact, I want
2 to thank the chairman as well for working, and it was an
3 honor to work with him to make sure that there are
4 provisions in the NDAA, which we are going to consider
5 shortly, hopefully next week, that will make sure that this
6 comparison test is done before there is any retirement of
7 the A-10.

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

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

21 The test design includes comparison testing with the A-
22 10 and the F-35 conducting close air support, combat search
23 and rescue, and forward air controller airborne missions.
24 And it is a rigorous test, and if it is conducted it will
25 provide excellent information on how well the F-35 can

1 conduct those kinds of missions in comparison with what the
2 A-10 can do. We are also going to be doing other comparison
3 testing, suppression of air -- enemy air defenses with the
4 F-16 and surface attack with the F-18.

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

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

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

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

25 And at that point, you could get a fleet release of the

1 mission system's capability software together with the
2 mission data file, which enables the aircraft to actually
3 deal with the threat environment. And the joint -- and the
4 Joint Program Office's own projections are that that mission
5 data file will not be ready until the summer of 2018. You
6 cannot do meaningful testing until that time.

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

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

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

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

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

19 Dr. Gilmore: There are people who argue it could. I
20 kind of wonder about that argument because right now the
21 capability that the F-35 has is two air-to-air missiles and
22 two bombs, with limitations in close air support that
23 actually are discussed -- that are significant and discussed
24 in detail in the Air Force's own IOC readiness assessment,
25 which states clearly that the current F-35 with the Block 3i

1 software does not provide the close air support capability
2 that our existing fourth generation aircraft provide. So,
3 that is a quote from an Air Force report. I have written
4 evaluations that are consistent with that quote.

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

11 Chairman McCain: And the cost --

12 Dr. Gilmore: -- a question.

13 Chairman McCain: And the cost of an F-35 is per copy
14 roughly?

15 Dr. Gilmore: You know, I hesitate to give a number.
16 It is well over the initial cost estimates. I think it is
17 up around -- it is up around -- it is between \$80 and \$100
18 million. It is coming down.

19 Chairman McCain: And the cost of an A-10?

20 Dr. Gilmore: Mr. Chairman, I do not know.

21 Senator Ayotte: Except that the --

22 Dr. Gilmore: A lot less.

23 [Laughter.]

24 Senator Ayotte: -- the A-10 has the lowest cost per
25 flying hour.

1 Dr. Gilmore: Oh, yes.

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

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

6 Senator Ayotte: Yeah.

7 Dr. Gilmore: I --

8 Chairman McCain: Your time has --

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

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

25 Dr. Gilmore: So, let me just be as clear as I can be

1 about the timing. So, if I am correct, we would not start
2 training for the operational test until mid-2018, which
3 takes about six months. Then the test would be conducted
4 beginning in very late 2018 or early 2019. And by the time
5 the test is over and the reporting gets done, another year
6 has gone by. So, the report that is mandated in the -- in
7 the bill would not be available until the end of 2019 or
8 early 2020.

9 Senator Ayotte: Thank you.

10 Chairman McCain: Senator King.

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

18 However, we could have had this same hearing today and
19 you cross out "LCS" and put in "F-35." You cross out "F-35"
20 and put in the "new class of carrier." You cross out the
21 "new class of carrier" and put in the "future combat
22 systems." It seems to me there is a more -- a deeper issue
23 going on here, and it strikes me that it is our desire to
24 have the latest and greatest new technology as soon as
25 possible, and at the same time control costs and do it on

1 time. We are trying to invent things while we are building
2 them.

3 Could you comment on this larger question?

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

13 There is an inclination to underestimate the cost --

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

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

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

22 Mr. Stackley: Yes, sir.

23 Senator King: -- your deployment window, and that
24 conflicts with the need of the Navy, or the Air Force, or
25 the Army to have these weapons to meet current threats.

1 Mr. Stackley: Yes, sir. So, what we are doing is, and
2 this is the CNO and myself. We are co-chairing requirements
3 reviews, design reviews, production readiness reviews,
4 program reviews. And we are -- we are challenging every
5 requirement, every specification in terms of do we
6 absolutely have to have that, or is there another way, a
7 less -- a lower risk way to deliver the ultimate capability
8 that we have got to have.

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

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

17 Mr. Stackley: Yes, sir.

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

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

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

24 Mr. Stackley: Yes, sir, but what it avoided was the
25 recognition -- it recognized the cost that was coming --

1 Senator King: Right.

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

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

8 Mr. Stackley: Absolutely.

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

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

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

19 Mr. Stackley: Well, we --

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

22 Mr. Stackley: I gave you the 51 example. On the next
23 amphib, the LXR, we threw away the notion of a clean ship
24 sheet design. We took the proven LPT-17 hull form, and what
25 we are doing is tailoring that ship to meet the requirements

1 associated with replacing the LSD-41. That was a year-long
2 effort with myself, the commandant, and the CNO co-chairing
3 those design reviews to get down to a design that we are
4 confident that it is mature enough. We are not introducing
5 unnecessary risk. We understand the cost, and now we are
6 ready to put it into the --

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

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

24 Senator King: So, the whole system is not -- is not
25 built from scratch.

1 Mr. Stackley: Yes, sir.

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

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

13 Senator King: And to load requirements on.

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

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

23 We have to learn where to take risk and how to take
24 risk, and I would say it is before that Milestone B
25 decision. That is where we really need to make investments,

1 and try things out, and be willing to put money there.

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

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

15 Dr. Gilmore: Mr. Chairman, I know -- I would just like
16 to say one thing on this topic based on my experience over
17 26 years. What we have to do is quit denying the facts.
18 There are plenty of facts that were available about what was
19 happening with LCS all along. Yet as recently as 2013 when
20 it comes to the Mine Countermeasures System on LCS, that
21 Navy testified, and I will quote here, "Most of the systems
22 in the first few increments consist of off the shelf
23 products. The risk in these early increments is very low
24 and very well managed." That turned out not to be the case.
25 Again, in 2013 the Navy testified, "The linchpin of the MCM

1 package, the remote -- the RMMV, now has over 850 hours of
2 reliability growth over the span of 47 missions in five
3 months, which has shown the mean time between operational
4 mission failure substantially exceeding requirements."

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

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

17 Chairman McCain: And, Doctor, that is why some of us
18 express such extreme frustration because we are only as good
19 as the information we receive as that the LCS would cost
20 \$220 million dollars per ship, which now Secretary Stackley
21 says, well, that was absolutely wrong. Nobody said it was
22 wrong at the time. Everybody said it was right.

23 And yet -- I do not want to take the senator's time,
24 but there are two stories here that I could relate to. One
25 was the MRAP, which we needed very badly in Iraq, and then

1 the Secretary of Defense had to preside over a weekly
2 meeting in order to get the MRAP to the battlefield to save
3 lives from the IED. Then we had the other extreme, an RFP
4 for a new pistol that is 200 hundred pages long, for a
5 pistol because it has gone through layer, after layer, after
6 layer, after layer.

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

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

21 Senator Ernst.

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

1 of you for coming in today.

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

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

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

18 And the -- this is a question for all of you, if you
19 could just briefly respond, please. The LCS Program changed
20 its acquisition approach several times, something cited by
21 the GAO as a reason for the increase in costs, and it also
22 created performance issues. In your opinion, would the LCS
23 Program and others throughout DOD benefit from a
24 standardized approach to managing the portfolio based on the
25 best practices, not only of the industry, but also the

1 government, before fully moving forward? If you could
2 briefly respond, please, starting with you, Mr. Stackley.

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

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

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

24 Mr. Stackley: Absolutely. Mr. Chairman's reference to
25 the \$220 million ship, the witnesses that informed the

1 Congress, I do not think they knew. I do not think they
2 knew or understand what this ship would cost. And so, the
3 system led to information that was provided.

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

7 Senator Ernst: Absolutely.

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

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

18 Admiral Rowden: Yes, ma'am. With respect to the
19 application of lessons learned, feeding back into the
20 acquisition system and from my perspective as a -- as the
21 commander of the Surface Forces, clearly one of the things I
22 think that the review that we recently conducted, the 60-day
23 review, showed that we needed to take a -- take a step back,
24 take a pause, and apply, and look at what lessons we had
25 learned associated with the program, and make the

1 appropriate adjustments in order -- in order to get the
2 value down to the combatant commanders, in order to get the
3 operational availability of the ships up.

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

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

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

21 And what I have watched over 26 years is what I call a
22 constant search for process solutions to what I think are
23 fundamentally leadership problems. So, when leadership is
24 presented with a cost estimate that a number of people, and
25 I was working at CBO at the time when the original cost

1 estimates were put out, and we were warning that they were
2 probably quite low. When leadership does not make itself
3 aware, does not critically question the information that it
4 is being given, and lets it go forward, that is a big
5 problem. And a process can help give them that information,
6 but if they do not do their jobs as real leaders and
7 critically question the information that they are being
8 given and that it is being recommended that they send to the
9 Congress and elsewhere, then they are failing.

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

17 Senator Ernst: That is very well put, Dr. Gilmore.
18 Thank you. Mr. Francis?

19 Chairman McCain: Senator Blumenthal.

20 Senator Ernst: Thank you.

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

1 leadership is important.

2 Dr. Gilmore, I find your testimony probably the most
3 damning document concerning any government program I have
4 ever read, not just as to what has happened in the past, and
5 my colleagues have amply and ably focused on the procurement
6 process, but the decision what should we do going forward.
7 And not only is the survivability of this ship in question,
8 but is very ability to accomplish the essential missions and
9 endure the testing that has been reduced, in effect, because
10 the ships are not sufficiently shock hardened, and, in fact,
11 its cybersecurity defenses are not amply developed.

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

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

21 I cannot predict what the future will hold. And I know
22 it sounds parochial, but I will say it again. I said it in
23 my opening comments. Whatever the Navy decides to do with
24 regard to going forward, the history here in this program,
25 as well as in many other programs, is clear, and that is

1 that the only way you are going to discover the problems
2 with performance that are significant that you will have to
3 deal with, you have to deal with before you send sailors
4 into harm's way in combat. You do not want to discover
5 these problems for the first time when you are in combat.

6 Senator Blumenthal: Well, that --

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

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

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

24 You are never going to get from me or anyone else an
25 honest, ironclad guarantee that the ships are going to

1 perform the way people now say they hope they will. Those
2 hopes are sincere, but, again, and I know it sounds
3 parochial. What you have to continue to do is to do the
4 testing that will tell you along the way whether your hopes
5 are actually going to be realized, not deny the results of
6 that testing, and adjust accordingly along the way. And
7 now, finally, the Navy is doing some of that adjusting, and
8 I actually commend them for it, but it took a while for all
9 that to occur.

10 Senator Blumenthal: Admiral, did you have a comment?

11 Admiral Rowden: Yes, sir, if I could just add. There
12 are a number of things that we are doing to ensure the value
13 of the ships to the combatant commanders as they go forward.
14 And in my discussions with forward commanders, both in the
15 Mediterranean and the Western Pacific, one of the things
16 that they constantly tell me is we cannot get enough of
17 these ships here to provide the presence and to provide the
18 operational availability forward.

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

25 There is no doubt that we have a lot of work to do, but

1 as recently as 18 months ago, one of the things that we did
2 was we stood up the Surface and Mine War Fighting
3 Development Center, an organization that we are building,
4 which mirrors a similar organization that the aviation
5 community has had for a long time and the submarine
6 community, where we can take those good ideas, take the
7 equipment and the -- and the -- and the capability that the
8 acquisition system is delivering, and put that in the hands
9 of the sailors and get it forward.

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

18 Senator Blumenthal: Thank you.

19 Mr. Francis: Mr. Blumenthal, may I make a comment? As
20 regards to the ships, once you do produce a hull, then the
21 Navy is going to have to support it. So, for the ones that
22 we have already committed to and are under contract, the
23 Navy will have to do whatever is required through mission
24 equipment and so forth to make them viable. As we know,
25 there is no guarantee it is going to work out the way we

1 thought. It is hard to -- hard to say, as Mike Gilmore
2 said.

3 The Navy is committed to the full buy of LCS and the
4 frigate, and they are obviously entitled to that decision.
5 But you have to make your own decision. It is at least a
6 \$14 billion commitment, and there are opportunity costs.
7 So, really the question for the committee is, is that the
8 next best use of \$14 billion.

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

11 Senator McCain: Senator Tillis.

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

18 Chairman McCain: Thank you for that correction.

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

23 Mr. Francis, look, first off, I believe everyone here
24 is trying to do the very best to put warfighting
25 capabilities out there to protect our men and women and to

1 let them accomplish their mission. I think everybody's
2 intention is to do that. And, Mr. -- or Secretary Stackley,
3 I think you have inherited a problem. There is a great joke
4 that I will not use my time on now that talks about the
5 difference between a bear skinner and a bear hunter, and you
6 are trying to skin a bear that somebody took down. They did
7 not quite wrestle it to the ground. So, I appreciate the
8 fact that you are dealing with something and expectations
9 that were set back over a decade ago. I do think that there
10 are things even in this Administration that we have to face
11 up to in going forward.

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

19 It seems to me until we come up with an acquisition
20 process that actually comes close to its original mark, we
21 have got to start handicapping any estimates here. And in
22 my -- if I go through the LCS, the F-35, the carrier, the
23 future combat systems, it would seem to me anytime someone
24 comes in here -- either you or your successors come in here,
25 I should multiply somewhere on the order by two or two and a

1 half times the amount of money and the length of time that
2 is going to be necessary to deliver this platform, because
3 past history has proven that to be the case most of the
4 time. Would you agree with that?

5 Mr. Francis: I would, sir.

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

10 [Laughter.]

11 Senator Tillis: -- because I have got to believe you
12 are tearing it out. I mean, why can we not front end load -
13 - the insights that you are providing here, why can that not
14 be instructive to the estimating process to begin with? In
15 other words, in the same way that we would handicap these
16 large, complex projects, not anywhere approaching the
17 complexity of what we are talking about here in the IT
18 world, why do we not have a function that says, you know,
19 you guys, you think you have got it, an ideal circumstance,
20 \$200 200 million, it is going to be great, time horizon.
21 But then have somebody come in and say, but because all of
22 you have been consistently and habitually wrong, we are
23 going to require handicapping of some multiplier.

24 Why should we not have that sort of methodology until
25 we actually get our act together and deliver something on

1 time and on budget?

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

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

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

23 And I think that in this process we have to start
24 looking that way, we are going to continue these poor
25 results, and we are going to continue to be frustrated at

1 the expense of having more money to put to more warfighting
2 systems that make our men and women safer and more -- and
3 the probability of our completing our missions more likely.
4 And I think we have to start doing this.

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

10 Dr. Gilmore: Senator, could I just --

11 Senator Tillis: All two seconds.

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

19 And they do it on the basis that you just described,
20 historical experience. And there is a very rigorous process
21 that exists and good literature that exists about how to do
22 that, and they do it very well. And they present their
23 estimates, and then the acquisition leadership starts
24 rationalizing why the next time this time things will be
25 different, things will be better. So, they go through the

1 handicapping that you talked, but in exactly the opposite
2 way that you just described.

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

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

10 Mr. Stackley: Oh, yes, it is.

11 Senator Tillis: -- and I have gone over -- with all due
12 respect, they have been wrong. The LCS, the F-35, the
13 carrier. If I had more time, I would ask Mr. Francis in his
14 42 years many -- this is a bipartisan failure. It has
15 transcended Administrations. But at some point you have to
16 look at history and recognize history for what it is. It is
17 the only way you will not repeat the mistakes.

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

1 I am sorry, Mr. Chair. I have gone over. Thank you.

2 Chairman McCain: Secretary Stackley, you wanted to
3 comment.

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

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

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

25 Chairman McCain: On, again, wonders why and who did

1 it. Senator Graham.

2 Senator Graham: Thank you, Mr. Chairman. Admiral, we
3 have gone from 52 ships to 40. Why? Why are we going to
4 just buy 40 of these things?

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

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

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

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

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

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

24 Admiral Rowden: That is correct, sir.

25 Senator Graham: Okay. What does this ship do that is

1 so important? What can it do that is different than the
2 ships we have today? Very briefly.

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

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

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

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

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

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

23 Admiral Rowden: Yes.

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

25 Admiral Rowden: Yes, sir.

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

4 Admiral Rowden: That is correct, sir.

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

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

10 Senator Graham: All right. Let us do that.

11 Mr. Stackley: -- the leadership.

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

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

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

25 Senator Graham: How much did that add to the cost?

1 Mr. Stackley: It is hard to pin a number on it, but it
2 created extraordinary disruption at the front end of the
3 program.

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

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

9 Senator Graham: Who put that requirement on?

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

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

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

24 Senator Graham: They found that out after they started
25 building the thing.

1 Mr. Francis: Yes.

2 Senator Graham: Okay. So, I want to end with this.
3 If we do not modernize our force, we will pay a price. The
4 A-10 works today, but it is not going to work forever
5 because we will not be fighting ISIL forever. There will be
6 an environment where the F-35 makes more sense. It makes no
7 sense to me to retire the A-10 because it actually works.
8 But all of us need to know what you are trying to do is
9 modernize the force so that the next war we are in or the
10 next war we need to prevent that we are capable of doing
11 both, right?

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

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

1 going to change. Thank you.

2 Chairman McCain: Senator Sullivan.

3 Senator Sullivan: Thank you, Mr. Chairman.

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

13 "With respect to survivability, neither of the LCS
14 variant is expected to be survivable in high intensity
15 combat. Neither of the LCS designs include survivability
16 features necessary to conduct sustained operations in a
17 combat environment. The LCS' limited lethality makes these
18 ships a shadow of the abilities of modern Navy frigates.

19 So, with regard to combat capability, you seem very
20 concerned, so let me ask him more operationally focused
21 question, Admiral. Given what Dr. Gilmore said, do you
22 think -- are you confident that these ships could, say, for
23 example, go into the South China Sea, conduct a FONOP near
24 Mischief Reef or other places, and be able to survive if
25 Chinese frigates responded with force, or could an LCS in

1 the fleet today survive attacks from small boats and other
2 patrol craft like the ones that were used in the recent
3 capture of American sailors by Iran? Are you confident of
4 that given what Dr. Gilmore clearly states is a ship that is
5 not combat survivable?

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

7 Senator Sullivan: Are you, Dr. Gilmore?

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

11 Senator Sullivan: So, Admiral --

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

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

25 And the original CONOPs, if it could be -- ever be

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

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

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

22 Admiral Rowden: Yes, sir. So, there are a number of
23 variables that go into the equation associated with the
24 survivability of the ships. Certainly, the manufacturer of
25 the ship, the watertight integrity of the ship, the way the

1 ship is manufactured. That is part of the survivability.
2 Part of it is the damage control systems that we put on the
3 ship in order to ensure the survivability. Part of it is
4 the defensive systems that we put on --

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

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

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

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

24 Senator Sullivan: So, despite Dr. Gilmore's written
25 testimony, you are comfortable putting Marines and sailors

1 on these ships in combat situations against Chinese frigates
2 or Iranian naval ships.

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

7 Senator Sullivan: If they were?

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

13 Dr. Gilmore: Can I add something, Senator?

14 Senator Sullivan: Sure.

15 Dr. Gilmore: We do something called a total ship
16 survivability trial, and it gets at exactly the issues that
17 the Admiral was just raising. Now, of course, we do not
18 actually let an ASCM, an anti-ship cruise missile, hit a
19 ship. Obviously not. But we do have the crew there. They
20 are trained in all the damage control measures that they are
21 supposed to take. And we do then go through a simulation of
22 one of these threat systems, like an anti-ship cruise
23 missile -- we have done this -- hitting the ship -- we have
24 done this for the LCS. And we then have the crew fight to
25 save the ship.

1 And in the total ship survivability trials that we did,
2 the crews did their best, but in almost every instance there
3 was major damage to the ship, and the combat capability was
4 fully lost. And in some instances, the ship would have been
5 lost.

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

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

21 Chairman McCain: Senator Cruz.

22 Senator Cruz: Thank you, Mr. Chairman. Good morning,
23 gentlemen. Thank you for your testimony this morning, and
24 thank you for your dedicated service to our men and women in
25 uniform.

1 The near peer threat we are facing is increasing across
2 the globe, with our Nation's adversaries bolstering their
3 defense capabilities and focusing on new technology in the
4 hopes that they can deny access to the United States Navy
5 or, if necessary, compete militarily with the United States
6 in a more limited scenario.

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

17 There is undoubtedly room for improvement in the LCS
18 Program, and I appreciate your candid testimony regarding
19 several of the reviews and efforts that are already
20 underway. But instead of looking back, I am most concerned
21 that future problems might plague the program, and that it
22 could have a crippling impact on the Navy's entire
23 modernization efforts. Between the Ford Class carrier, F-35
24 procurement, the LCS, and an Ohio Class replacement
25 ballistic submarine, the Navy simply must make the most

1 effective and efficient use of every single dollar it
2 receives if we are to have any hope of rebuilding the fleet.

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

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

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

24 Mr. Stackley: Yes, sir. Let me -- let me describe
25 that right now the CNO and his staff is conducting an update

1 to the force structure assessment that was last updated in
2 2014. He has been very clear and testimony in the public
3 describing that the threat vector has only -- has only
4 increased. And so, the 308-ship Navy that is currently on
5 the books, all pressure says that number has got to go up.

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

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

1 to where they need to be, and that is going to put more
2 pressure in terms of turnaround time and the entire
3 operations and maintenance cycle.

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

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

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

19 The next -- the next thing we need to do is leverage
20 existing designs. What we do not want to do is bring a
21 whole bunch of new design to the table, add the technical
22 risk that that brings, the startup costs that that adds, and
23 the uncertainty that that introduces, and add the amount of
24 time that that will take to go through the design and
25 production cycle. So, let us leverage the existing

1 production lines that we have and introduce capability to
2 those platforms as best as possible looking at that future
3 threat. And that is the path that we are on.

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

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

20 And then amphibs. Today, we are -- we are below what
21 the CNO and the commandant agreed to in 2009 in terms of the
22 amphibs force structure. We have got to get up to that
23 number, and we are on that path. But the reality is that
24 these are high utility platforms. They are high demand,
25 high utility, very flexible. Wherever we have operations

1 going, amphibs find a way to support that operation. And
2 so, there is -- that will be the next leg in terms of
3 increasing our production rates.

4 Senator Graham: Thank you.

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

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

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

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