HEARING TO RECEIVE TESTIMONY ON MARINE CORPS ACQUISITION PROGRAMS IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2013 AND THE FUTURE YEARS DEFENSE PROGRAM

THURSDAY, APRIL 26, 2012

U.S. SENATE,
SUBCOMMITTEE ON SEAPOWER,
COMMITTEE ON ARMED SERVICES,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m. in room SR–222, Russell Senate Office Building, Senator Jack Reed (chairman of the subcommittee) presiding.

Committee members present: Senators Reed, Blumenthal, Wicker, and Ayotte.

Majority staff member present: Creighton Greene, professional staff member; and Thomas K. McConnell, professional staff member.

Minority staff member present: Bryan D. Parker, minority investigative counsel.

Staff assistant present: Brian F. Sebold.

Committee members' assistants present: Carolyn Chuhta, assistant to Senator Reed; Ethan Saxon, assistant to Senator Blumenthal; Joseph Lai, assistant to Senator Wicker; and Brad Bowman, assistant to Senator Ayotte.

OPENING STATEMENT OF SENATOR JACK REED, CHAIRMAN

Senator REED. The subcommittee will come to order. I thank our ranking member, Senator Wicker and my colleagues. We particularly thank Sean Stackley, Assistant Secretary of the Navy for Research, Development, and Acquisition, and Lieutenant General Richard Mills, Deputy Commandant for Combat Development, for joining us here today. We are grateful for your dedicated service to the Nation and to the Marine Corps and the marines and families who represent us so well and so bravely every day. So thank you, gentlemen, for what you do.

A year ago at our last hearing on this topic, Marine Corps ground force acquisition programs were in turmoil following the termination of the Expeditionary Fighting Vehicle, amidst the realization that the Marine Corps could not afford either the cost to procure or to subsequently operate and maintain the portfolio of ground vehicles it had on the books.

In the last year, the Marine Corps leadership has taken action to address this impending bow wave. The target price for the replacement of the terminated EFV, called the Amphibious Combat Vehicle, or ACV, is about one-third less than the EFV. This cost reduction is to be achieved mainly by greatly reducing water speed and the complexity complexity associated with transforming a tracked combat vehicle into a speedboat. This procurement cost reduction should directly translate into operations and maintenance savings as well.

The Army and the Marine Corps also have dramatically reduced the costs of the Joint Light Tactical Vehicle and the Marines have pared their projected inventories of trucks and other wheeled tactical vehicles by 25 percent.

In the National Defense Authorization Act for Fiscal Year 2012, the committee enacted a requirement for the Marine Corps to conduct a comprehensive vehicle portfolio life cycle affordability study before proceeding further with its modernization plans. That study should be completed soon and we hope that it will show whether the actions that the Marine Corps has taken thus far are sufficient.

For the remainder of my opening statement, I want to focus on what I see as the central planning issue facing the Marine Corps at this time. Since the end of the Cold War and Desert Storm, the size of the assault echelons of the largest amphibious operation that the Navy and Marine Corps could conduct has dwindled from four Marine expeditionary brigades to two. The entry assault portion of that force consists of six battalions. The Marine Corps currently has enough AAV–7 Amphibious Assault Tractors to self-deploy all self-deploy all of those battalions ashore plus many more. The supporting tanks, heavy artillery, light armored vehicles, and trucks would be brought ashore with ship-to-shore connectors once the assault infantry has established a secure beachhead.

When the cost of the EFV ballooned in the middle of the last decade, the Marine Corps took two related steps. It cut the number of EFVs it planned to produce almost in half, reducing the number of infantry battalions that could be self-deployed in amphibious assault craft from 12 to 8; and it initiated plans to procure a non-amphibious wheeled armored personnel carrier to lift four infantry battalions.

This would appear to represent an erosion of the Nation's amphibious assault capability. Marine personnel carriers, at least as currently envisioned, would require the use of ship-to-shore connectors to enter the battle and cannot conduct an assault against a defended shoreline. These connectors, the LCACs and utility landing craft, are large, expensive, and few in number. To the extent they are used to transport infantry assault forces, they cannot be used to move tanks, artillery, and other critical supporting elements. The rate at which combat power could be built up on shore would be substantially decreased and there would be increased risk to the infantry assault forces themselves.

In addition, whereas one amphibious tractor, AAV, can lift a rifle squad, it would take two armored personnel carriers, MPCs, to do so, which will consume significantly more volume and weight on already stressed amphibious shipping.

When the Marine Corps terminated the EFV and decided to acquire a substantially cheaper substitute, the committee assumed that the Marine Corps would want to return to a strategy of acquiring enough self-deploying amphibious tractors to equip 12 infantry infrastructure infantry assault battalions. This assumption was buttressed by the likelihood that a slower speed assault vehicle would have the weight margin to support armor protection equal to a prospective armored personnel carrier.

However, the Marine Corps may be headed in the opposite direction, towards a further reduction in the acquisition objective for the ACV. The subcommittee is informed that the Marine Corps is seriously considering an option to limit ACV procurement to four infantry assault battalions and making up the difference with MPCs and other vehicles such as MRAPs.

Marine Corps staff have stated that there is an independent requirement for a wheeled armored personnel carrier apart from any consideration of ACV cost, mobility, or armored protection, and rather than sustaining the time-honored doctrine that splitting rifle squads in two, necessitated by the small internal volume of wheeled armored personnel carriers, would seriously degrade combat capability, this is being characterized as a potentially positive method of coping with distributed land warfare environments.

We are concerned, the committee, that substituting wheeled armored personnel carriers for amphibious tractors could erode the Marine Corps's amphibious assault capability, the capability that separates the Marine Corps from the Army in one dimension at least. The Marine Corps is now conducting a so-called fleet mix study to help it decide how many of what vehicle types it should buy in the future.

The Marine Corps also points out that it is possible to postpone a decision on how many ACVs to procure until full-scale development is under way. I look forward to a dialogue about this issue today with our witnesses.

Let me—before I turn it over to Senator Wicker, we are at a critical moment. The Marine Corps has performed magnificently for the last ten years in a non-amphibious role. In fact, amphibious operations have essentially take a back seat to the extraordinary and courageous actions in Iraq, Afghanistan, dealing in a counterinsurgency environment, using equipment that's designed for urban warfare, not beach assaults. And we're at the point now where doctrinally, operationally, and in terms of acquisition we've got to make a decision, are we getting back into the amphibious business with both feet or are we putting one foot in and still looking back at potential operations that require skill, courage, but they're not amphibious operations.

I think that's why I think this hearing and the timing of this hearing and your deliberations is so important and I wanted to go at length at some of the concerns that we have. These are concerns I think we all share.

With that, let me recognize the ranking member and apologize for the length of my statement.

STATEMENT OF SENATOR ROGER F. WICKER

Senator WICKER. Thank you, Mr. Chairman, for holding this important hearing, and thanks to our witnesses, very talented public servants, for your participation and continued service to our Nation.

Since our last hearing on the Marine Corps acquisition programs, we've witnessed some significant developments. In August, Congress passed and the President signed the Budget Control Act, which threatens further, deeper cuts to our military. Meanwhile, the United States is rebalancing its national security strategy and realigning its forces with greater focus on the Asia Pacific region. However, the President's proposed budget seeks to reduce Marine Corps end strength by 20,000 marines and delay or defer certain weapons system purchases.

I would like our witnesses to elaborate on the Marine Corps' strategy for modernizing its ground combat and tactical vehicle fleet, including the Amphibious Combat Vehicle, the Joint Light Tactical Vehicle, and the Marine Personnel Carrier. I'm particularly interested to learn how the Marine Corps plans to meet its ground vehicle requirements within current and projected budget constraints, yet still maintain high operational capability and readiness.

Our Nation's increased emphasis on the Asia Pacific region underscores the importance of the core competency that distinguishes the Marine Corps from other ground forces—its ability to conduct amphibious assaults against a defended shoreline. However, in today's threat environment the Marine Corps cannot continue to rely on the Vietnam era Assault Amphibious Vehicle.

Many supporters of the Marine Corps, including this Senator, were disappointed by the cancellation of the Expeditionary Fighting Vehicle, but we also understood that it was not a financially viable solution. I hope our witnesses can explain how the current program will benefit from the more than $3 billion spent on this Expeditionary Fighting Vehicle. The American taxpayer needs to be assured that this program was not a complete loss. As such, I look forward to hearing from our witnesses the specific steps the Marine Corps is taking on the Amphibious Combat Vehicle program to ensure the delivery of a vehicle that: One, meets Marine Corps requirements; two, is cost effective; and three, is delivered as quickly as possible.

On the issue of the Joint Light Tactical Vehicle, I'm encouraged by the progress that the Marine Corps and the Army have made on this multi-service program. The JLTV Program Office will award prototype development contracts in June. I trust our witnesses will reassure this subcommittee subcommittee that the Marine Corps JLTV requirements are stable to ensure that the Marine Corps can afford to field this important replacement for our HMMWVs as soon as possible.

Now, with regard to both the amphibious combat vehicle and the JLTV, I'm told that the Marine Corps is relying on competition to gauge early on what is technologically feasible and to reduce cost. Secretary Stackley, I commend you and your team for your efforts to pursue competitive acquisition programs for the Navy and Marine Corps. However, competition requires viable competitors,

which we do not always have. So I'd like our witnesses' best assessment of the state of the U.S. industrial base for ground combat and tactical vehicles and what can be done to sustain the vitality of our manufacturing base at the contractor and supply chain levels.

Finally, the Marine Corps faces significant budget challenges ahead. As I have mentioned repeatedly, the Budget Control Act passed by the Congress and signed by the President last August requires sequestration to be implemented across all departments, including DOD. Sequestration is not a hypothetical. It is the law of the land. On January 3rd of next year, 250 days from today, sequestration will take place unless legislation is passed to undo it and signed by the President.

Our national defense is solely a Federal responsibility. Defense spending is also a two-fer, as we all know. It supports our national security and our high tech manufacturing workforce.

The Marine Corps budget accounts for approximately 8 percent of the DOD total budget. I'm gravely concerned that sequestration could disproportionately impact the Marine Corps on everything from modernization to readiness. As such, I hope our witnesses today will elaborate on their assessment of the impact that sequestration will have on our expeditionary Marines and our industrial base.

Thank you very much, Mr. Chairman.

Senator REED. Thank you very much, Senator Wicker.

We'll recognize Senator Stackley and then General Mills if he has comments. Mr. Secretary, please.

STATEMENT OF HON. SEAN J. STACKLEY, ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT, AND ACQUISITION)

Mr. STACKLEY. Yes, sir. Chairman Reed, Senator Wicker, thank you for the opportunity to appear before you today to address Marine Corps modernization. I will be testifying alongside Lieutenant General Mills and if it's acceptable to the subcommittee I propose to keep opening remarks brief and submit a formal statement for the record.

Senator REED. Without objection and with great enthusiasm. [Laughter.]

Mr. STACKLEY. Sir, your Marine Corps serves as America's expeditionary force in readiness, a balanced air-ground-naval force, forward deployed and forward engaged. Today over 30,000 Marines are deployed around the world, on the ground in Afghanistan in support of Operation Enduring Freedom and at sea deployed aboard amphibious ships operating off coasts from Northern Africa to Japan, conducting air operations and ship-to-shore operations, building partnerships, deterring enemies, and responding to crises and contingencies.

Unequivocally, our top priority is to support these Marines, who by their service and sacrifice have placed in the hands of our Nation's leaders the tools and options that that they need to respond to today's world events and shape future events, all the while defending those freedoms we hold most dear.

Over the past year, the Navy and Marine Corps have responded to a rapid succession of unpredicted political upheavals, natural

disasters, social unrest, piracy, and emerging threats in various unstable areas of the world's littoral regions. Marines were first on the scene to provide humanitarian assistance and disaster relief in Japan in the wake of that nation's devastating tsunami; the first to fly air strikes over Libya in Operation Odyssey Dawn. They were on scene to evacuate noncombatants from Tunisia and reinforced our embassies in Egypt, Yemen, and Bahrain. Of course, all of these and similar global response operations were conducted against the backdrop of sustained combat and counterinsurgency operations in Afghanistan.

To say that your Navy-Marine Corps team is the best at what they do does not do justice, for among the world's fighting forces none other can do what they do. Accordingly, we will develop for the current and future force those capabilities that give our Marines the ability to respond rapidly and to shape, deter, defeat, and deny our enemies sanctuary.

In readying for its role as the post-OEF expeditionary force in readiness, the Marine Corps will accept risk in extended ground operations while reshaping the force for scaleable crisis response missions such as countermeasures, counterproliferation, disaster relief, protection of U.S. citizens overseas, security cooperation, and support of our allies. We'll rebalance our force posture back to the Pacific, remain postured to the Middle East, yet remain globally responsive, ever mindful of the world's choke points and prepared to respond where needed, as needed, as directed by the President.

The seamless maneuver of Marines from the sea to conduct operations ashore, whether for training, humanitarian assistance, or combat operations, remains a key priority as the Marine Corps shapes its future force. To this end, the Marine Corps modernization strategy includes sustainment of amphibious lift capabilities as outlined in the Department's 30-year shipbuilding plan. Landing craft, air cushion and utility, will be replaced with more capable, more reliable connectors. Recapitalization of critical aviation capabilities, from the STOVL version of the Joint Strike Fighter to modernized attack and utility H–1 helicopters to the development of the heavy lift H–53K helicopter.

Modernization of the Corps' expeditionary combat command, control, and communication capabilities with the development of the Ground-Air Task-Oriented Radar, the Common Aviation Command and Control System, and the Global Combat Support System; and modernization of the Marine Corps' ground combat vehicles.

The Department has developed and is implementing a four-phase strategy, the Ground Combat Tactical Vehicle Strategy, to guide the planning, programming, and investment required to provide balanced maneuver and mobility capabilities to the force. The strategy is focused on achieving the mix of wheeled and tracked vehicles that best balances performance, payload, survivability, fuel efficiency, transportability, and cost.

It is within this construct that the Department will determine the future capabilities and numbers of the Amphibious Combat Vehicle, the Joint Light Tactical Vehicle, and the Marine Personnel Carrier. Within the ground vehicle portfolio, our top priority is the Amphibious Combat Vehicle. In the highly complex and uncertain future security environment, the execution of amphibious oper-

ations will require a self-deploying amphibious vehicle. This vehicle is essential to our ability to conduct surface littoral maneuver and seamlessly project ready-to-fight Marines ashore from sea to land in permissive, uncertain, and hostile environments.

It allows us to maximize available amphibious lift and increase the rate at which we build power ashore. This capability is key to overcoming access challenges posed by the lack of improved infrastructure or the threat of an adversary.

Throughout 2011 we conducted a comprehensive systems engineering review of amphibious vehicle operational requirements. The review evaluated the requirements for water mobility, land mobility, lethality, and force protection for the future combat environment. It provided well-informed preliminary cost estimates for development, production, and sustainment for the range of capabilities suited for these requirements. The systematic review ultimately provided well-informed analytical data to support the currently ongoing Amphibious Combat Vehicle analysis of alternatives.

Alongside the ACV program, the Joint Light Tactical Vehicle addresses shortfalls for select light combat vehicles which perform our most demanding missions. These two critical programs are being developed in concert with the overall integrated vehicle strategy, which includes select upgrade and sustainment of the HMMWV fleet, upgrade of the legacy Amphibious Assault Vehicle as a bridge to the ACV, continued research and development for the Marine Personnel Carrier in support of vehicle fleet mix alternatives, and management of the overall vehicle fleet, reduced by greater than 20 percent as a result of the most recent force structure review.

For our entire portfolio and particularly the ACV and JLTV, the Marine Corps has taken a textbook approach to developing these critical combat vehicles, placing priority on getting the requirements right at the front end, employing mature technology where possible to reduce cost and risk in development, establishing affordability as a requirement, conducting comprehensive systems engineering and cost analysis, streamlining the acquisition process where feasible, leveraging competition, and, perhaps most importantly, integrating the requirements and acquisition team to enable effective cost performance trades throughout the requirements definition and systems development process.

Mr. Chairman, thank you for the opportunity to appear before you today. We look forward to answering your questions.

[The prepared joint statement of Mr. Stackley and General Mills follows:]

Senator REED. Thank you very much, Mr. Secretary.

General Mills, do you have a comment?

STATEMENT OF LT. GEN. RICHARD P. MILLS, USMC, DEPUTY COMMANDANT FOR COMBAT DEVELOPMENT AND INTEGRATION/COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

General MILLS. Sir, I'll just add my personal thanks to both of you for your continued support to our Marines, the sailors who support us, and of course our families. Without your support we simply could not do our mission. Thank you.

Senator REED. Thank you very much, gentlemen.

I propose an 8-minute first round, and then we have a long list of questions, so we'll go back and forth after that. But I want to get a few questions and then recognize my ranking member.

General Mills, we've talked about the recent exercise that you conducted, major amphibious exercise. When we were younger, this used to be an annual operation under various code names. I remember Solid Shield. We got out of that business for about ten years, frankly, because of the requirements in Afghanistan and Iraq.

Could you give us some details on what you learned, both strengths and the deficiencies of the Corps from that amphibious operation? One point you mentioned was inserting a Marine unit 150 miles downrange, which raises questions of how to support. So comments on that I'd appreciate. appreciate.

General MILLS. Yes, sir, I appreciate the opportunity to discuss that. That's Exercise Bold Alligator, which was our largest amphibious exercise in the past ten years. Obviously, over the past ten years we have been primarily focused on providing well-trained forces to Iraq and Afghanistan and therefore we haven't attempted an exercise of this scale in a while. So it's going to be both an experiment and interesting for us to see how we do it.

Let me preface this by saying, however, there's kind of a myth that we have been ignoring amphibious operations over the past ten years, and that's really not true. In the past ten years we have not missed a MEU deployment. We've had three MEUs on the water deployed at all times, working with our Navy counterparts. So we have retained that amphibious capability over the years in which our main focus, of course, has been the war in Afghanistan. But again, I just remind everyone that we have not lost that experience level nor that capability.

For Bold Alligator, it was a very, very aggressive schedule of events. We wanted to see whether we could composite two MEUs into a MEB afloat, work with our Navy counterparts then to plan an amphibious operation ashore in support both of special operations forces already operating within the AOA and in order to resolve a series of tactical scenarios which we would face.

The highlight I think was our emphasis on distributed operations, realizing that we are going to have to attack through different means to avoid hard spaces and avoid enemy defenses and move and looking for gaps and openings, which requires the force to be spread out further than perhaps when you and I did operations when we were younger. We felt that was very successful. We were able to insert the reinforced company, really a battalion minus, several hundred miles inland and we were able to sustain them over a period of time as they linked up with friendly forces ashore and conducted a series of tactical evolutions.

We were expressly interested in communications and our ability to command and control at those kinds of distances. So, taking some experimental projects that we're working on down at the Marine Corps Laboratory in Quantico, we were able to do that. At the same time, we were able to lighten the load of the force going in and of the individual Marines and sailors ashore. Some of the experimental communications equipment that we have takes one

radar and replaces three that would normally be carried at the squad, platoon, and company level.

Other areas in which we found some success were in logistically being able to self-sustain them through energy conservation methods, bringing in things like solar blankets blankets and our greens experiments so we wouldn't have to carry as many batteries nor as much fuel to sustain forces at that level. We found that to be very, very successful.

Logistically, we looked at things like being able to purify our own water once ashore, once again to alleviate that logistics burden that's placed on units that are that deep into enemy territory.

We had lessons learned, of course, but we found that staff interaction at sea was very successful. We worked very well with the Navy counterparts at the flag officer level and the staffs that were fully integrated. Our ship to shore movement was done well and was done successfully, and again reinforced many of the things that we've been working at over the past ten years.

So all in all, a very good exercise, but one in which we didn't simply want to replicate things we had done 10 years ago, but one in which we wanted to stretch the boundaries and take a look at how we conduct amphibious operations in the future, and I think at that level we were successful.

Senator REED. And you plan to have a similar operation this year and following years. Has this become the new routine?

General MILLS. We do intend to, we do intend to. We're going to have a regular series of exercises, both on the east coast and on the west coast and afloat in WESTPAC, again to revalidate some of our concepts, to test some of our new concepts out, and as our new equipment comes on line to ensure that that's fully integrated in the amphibious capability.

Senator REED. As I mentioned in my opening comments, we're at a critical juncture here where we're moving from a major focus on ground operations in Afghanistan and counterinsurgency into more a focus on the Pacific, inherently amphibious, maritime operations. Can you, General Mills and Mr. Stackley, but General Mills first, give us a notion of the alternatives or the strategies and doctrines that you're looking at going forward, and also based of course on the threats that you perceive? I know this could fill 15 volumes of single-spaced, but in as succinct as possible a way what is the threat-driven doctrine that you're trying to rebuild the Marine Corps to face?

General MILLS. We believe, I think, that under the current threat, if you look at the high end threat in the Pacific area, that that's going to force us to have, initially at least, more standoff distance of our amphibious forces and more pre-assault operations as you move forward towards the objective area. Those shaping operations, if you will, that would take place on the ground at the target ground at the target area would involve such things as long-range air, involve special operations forces, and other, more highly classified systems that you could bring to bear on that area in which you were going to attempt to land.

We also believe that distributed operations, both at sea and once we arrive on the ground, will alleviate some of that, some of that threat. Working with our U.S. Navy partners, we take a look at

what the ranges are, what the capability of the enemy threat would be, and once we arrive in the area again to bypass those defended beaches that we spoke about a little bit earlier and by using concepts such as ship-to-objective maneuver to bypass the hard surfaces, if you will, bypass those objectives, and move to areas in which we can accomplish our mission without doing an old-fashioned, if you will, amphibious assault.

So again, it's a combination of new equipment, new tactics, techniques, and procedures, and some new strategy, I believe, that will allow us to remain relevant. We certainly believe that forward-deployed amphibious forces is a requirement and a price that the United States has to bear in order to be a world power. We provide you with a flexible force, forward deployed, ready to respond to crisis, ready to give our decisionmakers here in Washington time to make key decisions. We believe that interacting with our allies, especially in the Pacific, reinforcing our old ties with the Australians, looking back at some of our other old allies and again reinforcing them through our training, through our presence, and through our engagement will pay large benefits in the long run.

Senator REED. Let me follow up with one very quick question, then recognize Senator Wicker. That is, again this is—your first exposure to the Marine Corps as a child in the fifties was watching a landing craft go to the beach. Do you have in your doctrine sort of a ratio between sealift, airlift, getting Marines to the shore? Is that a number that's situationally determined or is it doctrinally we want to have two-thirds landing craft a third lift, or vice versa?

General MILLS. Yes, sir. Doctrinally, the rule of thumb would be two-thirds of the force would land by surface, one-third would go in by air. Of course, there's a lot of other factors that play into that, weather, sea conditions, things like that. But essentially that allows you to get your combat power quickly ashore and then allows you to build up that beachhead, bringing in your logistics trains, bringing in your supporting arms, expanding that beachhead, and then conducting your subsequent operations ashore.

As we look at the portfolio of vehicles, for instance, and decide what mix we're going to have between tracked amphibians and wheeled MPCs, if you will, much of that depends on our analysis of how much activity we need—what do we need to bring in initially across that beach. But then 90 percent of that time is going to be spent expanding that beachhead, so what's the capability you're going to need for subsequent operations ashore.

Those are the kind of factors that we're looking at as we balance what that ultimate portfolio mix will be between our tracked amphibians, our MPCs, and our JLTVs.

Senator REED. Thank you, sir.

Senator Wicker.

Senator WICKER. Thank you very much.

General Mills, the Marine Corps and Army were able to reduce the JLTV vehicle cost from a projected $634,000 to $266,000 per vehicle. I understand you're trying to reduce that vehicle cost even further. How did you do this? Describe briefly to our subcommittee the requirements that were eliminated? Were they key requirements, and how will they affect the vehicle performance?

General MILLS. Sir, we believe probably the biggest driving factor in cost reduction will be competition in order to provide that. For instance, currently we have six major organizations that are interested in providing that vehicle to us. So we believe competition within the acquisition process will naturally drive the price down as those companies compete for the business.

Second of all, working with the Army—and the Army has been extraordinarily cooperative and it's been a great team effort to take a look at the vehicle and maybe pare down maybe not what we want, but what we need on board a vehicle. Both of us were very concerned about protection levels and we arrived at a solution set that allowed us to take the protection level that we needed, yet keep the weight down, so that we were able to both transport it on our amphibious ships and load it—or sling it beneath our heavy lift helicopters and get it ashore quickly.

We also looked at perhaps, rather than buy everything we wanted at one time, have a vehicle that would give us some capability for growth, that would allow us later on to perhaps upgrade the weapons system that might be on board it, take a look at weight growth that could be allowed if we wanted to add armor, and then take a look at kits, if you will, that would allow us to increase the levels of armor based on threat that we would see ashore.

So I think it's been a real teamwork effort between the Army and the Marine Corps to lay our requirements on the table and then look for ways in which we could compromise and yet ensure that we were providing our soldiers and our Marines with the right level of protection, with the right protection, with the right speed and mobility on the ground, and with equipment that we know would be reliable and available to them for years to come.

Senator WICKER. So we reduce protection levels, weight, cut back on weapons systems and levels of armor; is that a fair summary?

General MILLS. What I would really say, sir, is we took—we scrubbed our requirements extraordinarily hard. We didn't surrender any of our requirements, but we really studied them and saw, what is it that we absolutely needed, what level of protection was needed by our forces on the ground, what would be—what weapons system best serves our purpose, and all of which could fold into an affordability matrix.

Mr. STACKLEY. If I can add to that, one of the challenges that JLTV has had over in its history has been taking this joint requirement between the Army and the Marine Corps and arriving at a single family of vehicles. There are—there is a divergence when it comes to mobility, the impact of weight, transportability of the JLTV when you look at what the Marine Corps needs to load these vehicles onto amphibious ships, get them to shore, and to have the maneuverability that it needs ashore, versus some of the requirements on the Army side that drives greater reliance on armor and that drives up weight.

So one of the keys to arriving at a more affordable program was to tailor JLTV so that that armor solution could be scaleable, it could be provided by kits, so that the Marine Corps could get the vehicles of the size and weight that it needs for its mobility purposes, and if the situation warrants or dictates upgrade, if you will, the additional armor kits.

That helps tremendously in terms of affordability, transportability, and the mobility requirements for the Marine Corps while also serving the Army. That solution was one of the keys to really getting to a more affordable vehicle, really just hammering out the requirements on the front end between the two services to stay with the family of vehicles that gives you the benefit of large-volume procurement, which helps to drive down, not just through competition, but just the large volume helps to drive down the cost.

Senator WICKER. Mr. Secretary, you mentioned in your statement getting the requirements right at the front end. Is it accurate to say that now the requirements of the JLTV are stable?

Mr. STACKLEY. Yes, sir. Yes, sir. We went through what's referred to as a defense acquisition board with the joint program, Army, Marine Corps, and AT and L, to review the acquisition plan, and with the Joint Staff present and subsequently through the requirements definition process with the Joint Staff; and a lot of good discussion and debate over how much capability was required for the JLTV, and the Joint Staff helped shape some of those requirements to bring back, scale back some of those requirements to drive affordability of the program.

Senator WICKER. General Mills mentioned that competition was a key factor. I think I told you in my opening statement that I'd like some assurances that we're going to continue to have viable competitors. What reassuring words can you give the subcommittee about what you've done to maintain, to sustain the viability of these competitors in the manufacturing base?

Mr. STACKLEY. Yes, sir. First, General Mills referred to, we'll call it, about a half a dozen——

Senator WICKER. Right.

Mr. STACKLEY.—interested industry members. In fact, what we expect to see is teaming in industry for competition on the program.

One of the keys to keep the industrial base primed in this particular case is time. If this were going to be a long, drawn-out development program, in fact the industrial base would be marching through a valley waiting for JLTV to emerge in production. So again going back to looking at the sweet spot between capability and affordability, the industrial base piece, if you can leverage mature technologies and make this more of an integration effort as opposed to a development effort, you can cut down significantly on the timeline to get to production.

In fact, for the JLTV program we're doing that. We're driving integration of existing capabilities as opposed to a significant development effort, so we can get through the design, into the limited rate initial production phase, more quickly. That helps in terms of meeting the capability gap and it helps in terms of the industrial base, it helps in terms of cost.

So we think we have that about right. We've managed the risk in the definition of the requirements and balanced that against the affordability of the program. The Marine Corps and the Army have worked very closely in terms of when the Marine Corps buys its vehicles, when the Army buys its vehicles, looking at respective gaps and also looking at respective budgets in terms of what they can

afford, and then adding them together so that the industrial base ramp is nice and stable.

So we're working that with industry. There has been very open dialogue with industry in every regard in terms of through the development of the requirements and looking at the ramp in numbers.

Senator WICKER. You two can decide who will take this question. Assuming we prevent sequestration, give us your best guess on the schedule for the Marine Corps to procure JLTV? When will the Marine Corps receive its first delivery of operationally capable vehicles and how many do you expect in that first delivery lot?

Mr. STACKLEY. Yes, sir. The first Marine Corps buy for production units is about 2015. Right now the plan is 2015 and we're on the front end of that procurement process. It goes up in a ramp. So in the FYDP, through the end of the FYDP, the Marine Corps procures about 400 JLTVs on a ramp between 2015 and 2017, and the delivery time frame is about two years lag. So until industry gets up into a steady state in terms of production, you'll see a solid 2-year lag between when we procure and when those vehicles are delivered.

Senator WICKER. I wonder if I could squeeze in one more question. General, what did we get out of our $3 billion on the Expeditionary Fighting Vehicle?

General MILLS. Yes, sir. We're taking the lessons learned from that across the board and applying them to our ACV. Now, specifically we still have—we still have several of those at Camp Pendleton that we can operate and learn from. But we're looking at things like the stability in the water, habitability, because the Marines are going to be in those vehicles, the new ACVs, for longer periods of of time. So there were lessons learned that we can apply directly to our AOA as we look at that coming down.

Again, some of our power train and power requirement lessons learned from the previous vehicle could be applied to the new one as we look at the AOA and decide which vehicle we want to proceed with.

Senator WICKER. What have you learned about habitability? How long can a Marine stay in one of those vehicles?

General MILLS. Well, we've done some experiments on the West Coast with Marines in vehicles, in both the old EFV and our AAVs, and we have found that the rule of thumb is less than an hour. We actually can put Marines in them and it can last longer. It depends obviously on a number of things: sea state, for instance; the number of Marines you put in the back of these kind of vehicles.

We just recently completed an experiment off Camp Pendleton, where we put some of our old AAVs in the water at 12 miles, floated them in. Some of those vehicles were in the water for up to three hours. Now, they did not have Marines in the back. They had crews on board. But the crews landed and were surprisingly fit. So we are doing some studies to look at, to see what is the time that we could put Marines in the back of them, how far can we move them in the water, and what can we expect of them once they land. That's still in the study process.

Senator WICKER. Thank you.

Senator REED. Thank you.

Mr. Secretary—Senator Blumenthal.

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Let me pursue that line of questioning for just a couple moments if I may. I understand the lessons learned from the EFV in terms of its capabilities. How about in terms of cost control, either you, General Mills, or Secretary Stackley?

Mr. STACKLEY. Let me start. The lessons learned in terms of cost control were extraordinarily fundamental. In fact, they're similar to lessons learned we have picked up in other programs that broke along the way. I stated at the opening, getting the requirements right at the front end. That is so critical. The EFV concept was developed probably 20 years, greater than 20 years ago now, and the requirements at the front end were very far-reaching. It was orders of magnitude beyond the fleet's experience and also beyond industry's ability at the time, without an understanding of cost.

One of the things that we have done through the EFV is we've done a complete teardown of cost in terms of development and, equally or more importantly, procurement, and then through that you extrapolate to operating and support cost. One of the things that broke the EFV was operating and support costs.

So we've done that teardown, so we have a fairly strong understanding of a cost basis for the alternatives that are being evaluated today through the Amphibious Combat Vehicle analysis of alternatives, a fairly good cost breakdown that we're putting side by side during the requirements definition process, so that requirements aren't being written unconstrained or uninformed by costs.

Then that effort is being done jointly between the requirements and the acquisition offices. So they're locked together debating, assessing, and ultimately arriving at a set of requirements for the Amphibious Combat Vehicle with a good understanding of what it will cost to procure and to support, and then that is being overlaid by what the projections are for Marine Corps procurement and budgets, so that you have a good balance between requirements and capability, cost, and then affordability as defined by the budget.

This work has been going on since the decision to cancel the EFV program and it is, frankly, moving pretty smartly forward. I think when we come out of the AOA we'll have a half a dozen alternatives that we'll be well postured for and be able to make decisions that three, four, five years from now the basis of those decisions will still ring still ring true.

Senator BLUMENTHAL. It sounds to me like those are very profound lessons that could be useful not only in the Amphibious Combat Vehicle context, but really for many other procurement programs across the services.

Mr. STACKLEY. Yes, sir. We're struggling to get to a point where we can make affordability a requirement. So while we have key performance parameters that go into our requirements document, that document does not capture what those systems will cost. So in our overall acquisition process we want to be able to tag affordability against those requirements, so we don't end up out of bounds when we're halfway through development or at the front end of production.

Senator BLUMENTHAL. Thank you.

General Mills, I had occasion yesterday to speak with Major General Toolan about the progress and the outstanding performance of our Marines in Afghanistan. I know you're very familiar with it. He emphasized the gains that we've made, but the continuing dangers to our troops. We all know that one of the greatest sources of those dangers is the IEDs, the roadside bombs that continue to maim and kill our brave Marines there.

I wonder if you could update the committee on the ability of the Marine Corps to equip our troops with the protective gear, pelvic protective gear and biker shorts and so forth, but also what perhaps in the way of new programs might be in the works, because this kind of warfare will no doubt continue in the future. It's asymmetric, extraordinarily damaging, but cost effective for our enemies to use. So any comments you would have I would appreciate.

General MILLS. Sir, I would thank the Senate and the Congress for their support on being able to provide very quickly needed countermeasures to IEDs to the Marines in the field. Our UNs process, our Urgent Needs process, in which we respond very quickly to commanders' absolutely urgent warfighting requirements, has been very successful for us across the board, I think everything from the MRAP program, which was done extraordinarily rapidly, as efficiently I think as possible, but bottom line was it saved countless lives on the battlefield, is a great example of that. Everything from that large project down to protective devices that Marines now wear across their hips in order to protect vital organs, which was responded to very, very quickly.

Everything in between, when a commander on the ground sees a need and there is either a commercially available or rapidly—a process to rapidly develop to fill that need, it's done extraordinarily quickly and given to those Marines. So I saw in my time in Afghanistan and in talking to General Toolan during his time, whenever they came up with a new idea that was useful, whether it be the low metal detectors that were in response to the insurgent capability to fashion these IEDs out of wood and plastic, whether it be the mine clearing equipment that went forward that was needed, everything from boat hook type things to very, very sophisticated EOD robots, again very, very quickly.

So I think the process worked. I think that there was a point there where cost or competition perhaps was not the driving factor, but it was what does that Marine need on the ground to save his life, and that was met very, very well.

In the lessons learned, we certainly agree with you that this is a threat that will carry on. It's cheap, it's easy to do, and it has a significant asymmetric effect on the battlefield. We've taken that into consideration. I point to probably the JLTV as a great example. If you look at the HMMWV, which the JLTV will replace, the HMMWV was an unarmored vehicle, it was a Jeep, soft-skinned, and proved itself extraordinarily vulnerable to IEDs and small arms. HMMWVs don't go outside the wire in Afghanistan any more. They're all inside the wire. Only armored protection goes outside the wire.

When the JLTV requirements were put together, armored protection was a significant requirement. Probably 10 years ago, 15 years

ago, it wouldn't have been. We would have produced another soft-skinned vehicle.

If you look at our MPC, our Marine Personnel Carrier, once again, protection underneath from the IED threat becomes a critical requirement that we have to look at as we go forward. So I think the lessons learned both from the protection, the self-protection equipment that a Marine wears into combat to the vehicle suite that he's going to have access to, all are going to show lessons learned from the war and have IED protection, explosive protection, mine protection, built into it. Again, the ACV is another example of that.

Senator BLUMENTHAL. Thank you very much, General Mills. Thank you both for your excellent testimony this morning.

Thank you.

Senator REED. Thank you, Senator Blumenthal.

We'll initiate a second round, presumably eight minutes. If my colleagues want to come back and ask questions, I certainly want to give them that opportunity.

General Mills, one of the urgent procurement initiatives because of Afghanistan and Iraq was the MRAPs, the MATVs. They don't seem to fit into the amphibious strategy that we're talking about. So it begs the simple question: What are you going to do with these vehicles? Park them someplace, or will they be a portion of them used? Can you give us some ideas?

General MILLS. Sir, we have a little over 4,000 of them in the inventory right now as we come out of Afghanistan. We're going to do several things with them. Our plan, we're going to keep about 2500 of them on inactive service. They will be used in countermine with our EOD folks, with our combat engineers, with our rout clearance units. That is a requirement developed directly out of the war and they'll play an important role in there.

We'll have some available to the operating forces, whether they're pre-staged forward at a location or here in the United States. We'll have some available for training at our various training locations and some available for training for our maintainers and our operators.

The remainder will be—we'll work through Marine Corps Systems Command to rid ourselves of. We don't want to maintain an excessive number of those due to costs. So it'll be kind of a split strategy of divesting ourselves of what we don't need for the future, but also keeping that capability and being able to deploy it.

The deployment piece will be an issue we have to work our way through. As you stated, they're heavy. They're big. They do take up an awful lot of footprint if you put them on your forward-deployed ships. However, I will keep them accessible to our forward-deployed forces, able to come forward through a transportation method when needed and when called for by the commander on the ground.

Senator REED. One aspect of both the Navy and the Marine Corps budget which I think has huge implications is the F–35B, with the shear size of the procurement dollars required for that activity. General Mills, and then I'll ask Secretary Stackley: Your view is that this is critical to your doctrinal approach to the future in terms of amphibious operations, and if you have to pay some of the costs indirectly you're prepared to do that, I presume?

General MILLS. Sir, I believe the F–35 is an absolutely critical requirement for the Marine Corps. The ability to forward deploy with our large-deck amphibs and bring fixed wing aviation, with all the benefits that has attached to it, is critical to the Marine air-ground task force concept in which we fight now and will fight in the future.

Certainly one of the things you want when you're conducting amphibious operations is the ability to put supporting arms ashore to support your landing force in the initial hours of any operation. With a decline in naval gunfire surface support that we've seen, I think the use of Marine aviation becomes even more critical, that you can impact targets well inland. We talk about a threat that has been developed against the amphibious forces which can be launched from well beyond the beachhead. So you've got to be able to reach out and touch those MAGTAF commander, that capability to do that, absolutely critical.

Our Harriers have done a great job for us. They're beginning to run out of life, as we know. General Roebling has done some excellent programs to extend that as far as possible, but they are beginning—they will run out of life in the early 20s and the F–35, the VSTOL capability, is critical to Marine capabilities going forward into this century.

Senator REED. Secretary Stackley, the cost factor is significant and, despite the best planning, it's going to impact probably every system in the Marine Corps and the Navy. From both perspectives, how do you soften the blow, if you will, in terms of not only what the Marine Corps has to acquire, but what the Navy has to acquire to support the Marine Corps, to complement the new doctrine or the emerging doctrine? I shouldn't say "new doctrine."

Mr. STACKLEY. Yes, sir. With particular regard to Joint Strike Fighter, as you're well aware, two factors come to play inside of this FYDP. First is the program schedule, and the schedule has moved to the right, which has as a has as a result resulted in the product ramp being brought down while we complete the developmental testing and get to a more mature point in the program where we can ramp up to steady production.

The unit cost on the aircraft has increased as well, and we're battling that through—one is through the design and development phase, and also through the way we buy the aircraft. But it does put significant pressure on the overall TACAIR portfolio for the Navy and the Marine Corps.

So we don't try to solve the JSF cost in isolation. The requirement is unchanged, for the Department of the Navy 680 Joint Strike Fighters split between a carrier version and a STOVL version. What we are managing in the near to mid-term is the total TACAIR portfolio, where we're at risk of a TACAIR shortfall. And that's more than just the effects of the Joint Strike Fighter. We do have the aging Harriers and the F/A–18A through D versions that need to go through a service life extension program, as well as completing the production and procurement of the E and F aircraft.

So between those three, we're balancing within the budget to determine how many A through D's can we afford to SLEP, what's the right production ramp for Joint Strike Fighter that we can sustain within our budget. We count on the E and F in terms of its

service life. It's a healthy aircraft for the near- to mid-term. What that leaves us with is managing the amount of risk inside the TACAIR portfolio.

We've briefed the committee over the last several years as that picture has unfolded. This past year we've revised our estimates in terms of the TACAIR shortfall, which peaks in about six or seven years from now. The revision was, frankly, a downward revision, despite the upward pressure on costs on the Joint Strike Fighter program, simply as a result of—primarily as a result of the revised estimates of fly rates as we have gotten out of Iraq and we look forward to getting out of Afghanistan.

It still is—frankly, it's one of the two things that keep me up at night. But we're managing it closely. We've got to continue to manage the execution of the SLEP. We've got to make sure that the aircraft, the F–18 aircraft that go through the SLEP, that they get the upgrades they need to be combat-capable, while we continue to work the introduction of the Joint Strike Fighter.

So it's a complex problem, many variables. JSF has put some pressure in terms of cost, but what we're managing is total portfolio.

Senator REED. Thank you.

We've got a chart, if you can bring that up. I think you have it available. I think you're familiar. This is the chart we used last year. If there's not, let's get everybody a chart.

I think it's useful because it's the O&M cost of the vehicles. The bottom orange line is the Expeditionary Fighting Vehicle. That's gone, so you just pull that out. But still the rest of the colored areas representing individual vehicles go above that dark line, which is sort of the steady state without a significant combat operation, and even above the dotted line, which is steady state with combat operations.

So if you can just give us a notion of, one, how well you're doing to bring those lines underneath your expected budget; and then, two, another question which I raised before was, curiosity: They suddenly start coming down towards the tail end, when you would think because of the wear and tear on vehicles, et cetera, that the cost of operations and maintenance would go up. So, Mr. Secretary, you might kind of just comment generally on what we're doing.

The final point I'll make is this chart was available last year for the testimony and what I think repeatedly we heard was the way we're going to deal with this is reducing the overall number of vehicles. Is that still sort of the bottom line, what we have to do? So if you can elaborate?

Mr. STACKLEY. Yes, sir. Let me—I'll start and then let General Mills finish.

Senator REED. Yes.

Mr. STACKLEY. First, the approach we took on looking at the affordability of ground combat tactical vehicles for the Marine Corps, we're adopting this same approach across the board program by program, because we have to look at—we can't afford to look at the individual program. We have to look at its affordability inside of a total portfolio. Then quite often when we do that, we realize in the out years we're overprogrammed.

So the Marine Corps has done—I will give them credit for doing a tremendous job here of taking a look at the problem—this goes back 2 years ago—and realizing we can't get there from here. We are overprogrammed. The first decision that came out of that was we have to do a scrub of the fleet mix of vehicles, and in that was the decision to terminate the EFV program.

But by itself—and we were very clear—by itself, that's not enough to solve this problem. So a part of the ground combat tactical vehicle strategy was taking a look at the total fleet size and mix and determining what can we do to get from what has built up over the years down to what we absolutely need going forward.

I'll call it the first cut coming out of that strategy was a readiness of about 10,000 vehicles planned for the portfolio for the foreseeable future, greater than 20 percent. That has a direct impact on the O&M projections going forward.

The other half of the equation was looking at what we buy and when we buy it. So while this is O&M, there's a similar picture that reflects the procurement side at the same time frame. So the vehicle strategy has placed a sequence of what we buy and also has driven affordability into what we buy. So that as far forward as we can look and project today, our vehicle procurement strategy aligns with our budget projections.

The other aspect that's built into this chart, not immediately apparent, is the front end of that chart, the left-hand side, frankly is augmented by OCO, OCO funding. So one of the challenges that remains before us is a post-OCO environment, what does that mean for sustaining our vehicle fleet? We're continuing to work that. We have a, I'll call it, a near-term reset that we've got budgeted, but there is a longer term strategic buildout there that we've identified to everyone. But that's very much contingent upon basically when we get out of Afghanistan.

Your specific question regarding why does that tail down. I can't reconstruct the last couple of years of that chart, but I'm going to tell you that that's probably more than anything else a budget peculiarity in terms of how far forward we project certain programs, and since we don't have other programs identified yet the budget numbers probably took over the chart at that point in time.

Senator REED. Realistically, the chart is accurate, but with the right assumptions the lines would continue to go up, or be level at least?

Mr. STACKLEY. Yes, sir.

Senator REED. Thank you.

I have additional questions, so we'll have another round. But let me recognize Senator—

General MILLS. Senator, if I could just add.

Senator REED. Oh, excuse me, General.

General MILLS. Yes, sir.

Senator REED. I'm sorry. Forgive me.

General MILLS. He covered very clearly what our procurement piece was. Regarding O&M costs, other things which we're doing to take a look to try to control some of those costs, because we realize that will be pressurized under the new budget system when you look at the budget amounts that are available to us, regarding our older vehicles we do have a plan to do a sustainment package on

81 percent of the vehicles that we're going to retain in the fleet, both our HMMWVs, our ACVs, and our other vehicles. So as they come out of theater, we have a very thorough very thorough sustainment package we put them through that will restore them to we think a good, reliable level.

For our newer vehicles, of course, we're looking at reliability standards, raising them, challenging the builders to give us vehicles that are more reliable, longer time between major breakdowns. Also fuel efficiency. Fuel is a big piece of O&M costs and we're looking at vehicles that are more fuel efficient, and that becomes really a factor that we're going to consider heavily, where in the past perhaps we didn't give it as much set. Again the reset that Mr. Stackley talked about. We want to bring those vehicles that are coming out of theater, that have been used and have been ridden hard, we want to bring them back to as good a state as we can so they are reliable in the future, driving down future maintenance costs.

So we have really I think a pretty comprehensive effort to keep those costs as low as possible, understanding also that O&M costs drive training, and you've got to be able to make sure that you keep levels there that you're able to use vehicles, train on them and keep them in the field for preparation.

Senator REED. Thank you, sir.

With that, Senator Ayotte.

Senator AYOTTE. Thank you, Mr. Chairman.

I want to thank both of our distinguished witnesses for for being here and for their service to our country.

Secretary Stackley, I want to follow up on your testimony from last week's shipbuilding hearing and particularly ask you about the *Virginia*-class submarine. First of all, is the *Virginia*-class submarine performing well?

Mr. STACKLEY. Yes, ma'am, absolutely. It's performing well in terms of production, but more importantly performing well in terms of the fleet. If you had one of the fleet sailors on board here talking about when they compare a *Virginia* to even an LA-class, it's a leap forward in terms of combat capability. They're very excited about it.

Senator AYOTTE. Terrific.

As you're probably aware, the Chief of Naval Operations has testified that the Navy's only able to meet 61 percent of the combatant commander requirements and requests for attack submarines. Are you familiar with that number?

Mr. STACKLEY. Yes.

Senator AYOTTE. Yet, as you know, for budget reasons the Navy has recommended, because of the numbers that were given in the Budget Control Act, that we postpone the procurement of one *Virginia*-class submarine from 2014 to 2018. I wanted to ask you about some of your testimony before the shipbuilding hearing about this issue, particularly the issue of if we were able to move to say that if we were to lower the cost by doing it, the cost to purchase on an incremental basis—and I believe that you testified last week about the fact that if you look at, assess the bottom line or the net cost impact of adding a second *Virginia*-class, in other words bringing it back up to 2014, that it's near neutral. In other words, the

net savings associated with pulling the boat to the left if we did it on an incremental basis would effectively, adding the boat by pulling it to the left, outweigh the up-front cost if we had to purchase the entire submarine up front.

As I understand it, the HASC committee just—the HASC Seapower Subcommittee did just that and recommended that we actually push back the purchase, but do it on an incremental basis.

So can you help me? Can you comment on this and also explain that if we were to purchase the *Virginia*-class in the incremental way that you described in the shipbuilding hearing, what impact that would have?

Mr. STACKLEY. Yes, ma'am. First, the way the cost analysis works out is we assess the *Virginia*-class program as opposed to individual boats, what the program cost would be, not simply moving a boat from 2018 back to 2014, but literally moving a boat from the end of the program to 2014, 2014, because we want to sustain two per year.

Senator AYOTTE. Right.

Mr. STACKLEY. So then when you look at the total program cost for those two different procurement profiles, the upfront cost for that second boat in 2014 is offset by savings across the program in the later years.

Senator AYOTTE. By moving it up, right.

Mr. STACKLEY. Yes, ma'am. So at the bottom line, at the bottom line, for the *Virginia* multi-year, 9 versus 10 boats, it is near neutral adding that second boat in 2014. That's independent of how you fund it.

The discussion regarding incremental funding simply reflects the constraints that we have for our top line in 2014. We did not have sufficient head room to fully fund the second boat in 2014. So there is an exception to the full funding policy that's been put in place for carriers and large-deck amphibs that allows you to spread those costs over a number of years to eliminate the spike that it causes in the budget.

In this particular case, that would enable us to fund a second boat in 2014 without giving up the second boat in 2018 and stay near neutral at the bottom line.

Senator AYOTTE. The only reason that you weren't able to recommend that to us is because you didn't have that capacity for the submarine fleet, is that right, in terms of of how you could budget?

Mr. STACKLEY. You say "capacity." We didn't have——

Senator AYOTTE. I mean you didn't have the authority, is what I meant to say.

Mr. STACKLEY. Yes, ma'am. The policy is that we fully fund our capital investments in the year in which we procure them. There are exceptions to that, but we do not have an exception in this case for *Virginia*. So while it works out analytically, policywise we don't have the authority to incrementally fund it.

Senator AYOTTE. Wouldn't it make sense to have an exception for *Virginia*, the way you just described it in terms of how we look at this?

Mr. STACKLEY. Well, when you simply look at the fact that—you described in your question the fact that we have this demand for submarine service that exceeds our capacity, and you look longer

term, in fact longer term our number of attack boats in the fleet goes down until we hit a valley in the 2030s.

Senator AYOTTE. Right, the nine-sub valley then, right, by 2030?

Mr. STACKLEY. Well, our requirement is 48 boats.

Senator AYOTTE. Right.

Mr. STACKLEY. And our force structure out in the 2030s timeframe drops well below 48 boats. So to affect that, to that, to try to improve upon that, you really have to sustain two boats per year as long as you can, until you get to the point where you have some flexibility in the buy rate. We're not at that point yet.

So it's a budget constraint that drove us to make this reduction in 2014, but the requirement, the requirement would insist otherwise, that we get back up to two boats and sustain it as best we can.

Senator AYOTTE. So this would be something that perhaps would be a very important authority that we could give you with respect to our attack submarine fleet and also making sure if we did what the HASC Seapower Committee just did we could ensure that the two remained constant in a way that would be much better in terms of trying to meet our combatant commanders' requirement for the attack submarines; isn't that true?

Mr. STACKLEY. Let me describe that the President's budget didn't request it, but I think it's important that we discuss and provide the information regarding this alternative to full funding, so that everyone can assess the value to the force, the value to the industrial base, and then, frankly, the affordability that adding that second boat provides, and weigh that against the importance of the full funding policy.

Senator AYOTTE. Right. But as we're talking about it in the testimony before the committee today, the affordability piece, this is a very sensible move, as well as making sure that we meet the requests of our combatant commanders, which are already we're not meeting them. We're only meeting 61 percent of those requests now.

Mr. STACKLEY. Getting that second boat in 2014 is the most affordable way to buy another submarine.

Senator AYOTTE. I very much appreciate your providing that insight to us. I want you to know that this is something that I am going to be proposing and pushing with the rest of the members of the Senate Armed Services Committee, and I think it only makes sense in terms of not only the cost, but also making sure that we maintain our attack submarine fleet and given the needs of our combatant commanders, and particularly if we look at our shift in strategy as a focus on the Asia Pacific region, obviously our naval fleet and the importance of it, that's very, very important that we have a robust attack submarine fleet, and the *Virginia* class is very important, obviously, very, very important to that. So I appreciate your testimony today.

I don't know if my time's expired. Did I get this? This is fine.

Thank you very much. Thank you for being here.

Senator REED. But as long as you want to speak about submarines, Senator, you may continue. [Laughter.]

Senator BLUMENTHAL. I'm prepared to speak about submarines.

Senator REED. In that case, we'll recognize Senator Blumenthal.

Senator BLUMENTHAL. Thank you.

I want to thank Senator Ayotte for that line of questioning, which you and I really engaged in at the last hearing. I think Secretary Stackley put it extraordinarily in that hearing, and I don't want to put words in your mouth, but effectively you suggested that the committee should adopt this incremental funding approach, which you said is an extraordinary method of funding, but we live, as you put it, in extraordinary times, facing extraordinary challenges. I agree with you completely.

Senator Ayotte, I'm glad you followed up with those questions, because I've already written to the chairman, and I know others have as well, endorsing the idea of moving that submarine forward without necessarily funding it up front and doing the incremental funding. I'm glad to see that the House committee has adopted that approach, which perhaps we can follow here.

So I want to thank you for the testimony this morning in effect endorsing—that may be too strong a word, but at least suggesting favorable consideration on the part of our our committee.

Senator AYOTTE. We may be able to have bipartisan agreement on this. I like that.

Senator BLUMENTHAL. I think we will, and I'm sure that Senator Reed may have favorable things to say about it as well.

Senator REED. I have made a note to myself.

Senator BLUMENTHAL. I would like to just move to another topic if I may, Mr. Chairman. It was really suggested by the testimony making reference to the Commandant's energy efficiency statement. I know there was a sort of more high-falutin term for it, but I want to commend and thank the Marine Corps for focusing on this issue. Secretary Stackley, you and I discussed it a little bit in the last hearing.

But I'm wondering. You know, in light of this chart and other analyses that show, as you put so well, General Mills, the costs of simply running these vehicles using our presence source of energy—and certainly I think one of the lessons in Afghanistan has to be the tremendous cost of providing fuel, which when you think about it is really staggering, not only the cost in dollars, but the vulnerability in terms of the Pakistan route that it creates and the cost in human lives in the convoys that is required.

I'm wondering whether, Mr. Secretary or General Mills, whether there is thought to alternative means of running these machines, so to speak. I don't know whether I can put it in a more sophisticated way, but just alternative sources of energy that can be used in these vehicles.

Mr. STACKLEY. Let me, if I could, start. The chart that was displayed regarding the O&M costs for the vehicle fleet—General Mills hit the issue when he described the majority of those vehicles, they are aging; they are going to go through a sustainment program. They'll get modernized. They'll go through improvements, so they can serve well beyond their service life.

Regarding your specific question, the point there is that the majority of those vehicles, those drive trains are what they are. If there's an opportunity to improve upon the drive train as we go through the modernization, we're going to explore that and do that

to the extent it improves the operation of the vehicle and drives down it's O&S cost.

But there's little opportunity to introduce, I'll say, new technologies for drive trains beyond the programs that we're introducing today. So the JLTV program in particular, we've discussed whether or not there's an opportunity to look at a more fuel efficient system. In fact, energy is one of the requirements that's being drafted up for that drafted up for that vehicle. But it doesn't drive you to, I'll call it, a leap-ahead technology in a drive train when it comes to military vehicles, not yet.

It is something that we've got to continue to look at. So while we do development in parallel on the components and the subsystems, at some point downstream we've got to explore how do we introduce these more efficient drive trains to the fleet of vehicles. It will be a slow, slow transition, frankly, because of the large numbers of legacy vehicles that we start with.

General MILLS. Sir, I would just add really two things that we're looking at from the Marine Corps perspective. One of course is life in the barracks when you're back, not in the field, not at war, not training, looking at various energy supplements there that we can use. Solar of course is the one that we're most active in, and we're having success at many of our bases in replacing fossil-driven fuels with our solar capabilities. Our Mountain Warfare Training Command up in Bridgeport, California, is soon to be a negative energy user, if you will. They're going to provide everything they need through solar and through thermo, which they have access to, and in fact may in fact be able to sell some of that energy out in town to the local power grid.

So we're looking at ways back in the barracks in which we can ensure those barracks are green, for want of a better term, and which we can save power.

Out in the field, in the vehicles, we're looking at ensuring our new vehicles have APUs, alternate power units, attached to them, so that you don't have to run a 10K generator that uses an awful lot of fuel when you simply want to keep some lights on in the COC. You can use a more efficient method of providing that electricity, looking for more efficiency. Lighting in our COCs and places like that again, those aren't huge savings, but they chip away at that requirements.

I found that when I was in Afghanistan, surprisingly, the troops were extraordinarily receptive to energy-saving devices, because they knew what that meant to them as far as the logistics trail they had to drag along and the risks they had to take in moving large quantities of fuel around the country in which fuel trucks were lucrative targets, both for the enemy and for corruption.

So we're looking for ways big and small to save power, save energy, reduce that logistics trail, and also to reduce costs, as pointed out by that graph.

Senator BLUMENTHAL. I thank you for those answers. Also, the March 2011 Marine Corps expeditionary strategy and implementation plan was the report that I was referring to before. I think it's a great step in the basis to battlefield strategy and I hope that it will be updated because technology is moving so quickly that there's a lot of opportunity.

General MILLS. Sir, if I can just add, twice a year we sponsor what we call an expeditionary FOB, expeditionary forward operating base, one at Camp Pendleton, one at Camp Lejeune. The one at Camp Lejeune goes next week and we're going to have a party of staffers accompany us down there. The intent of that is to look at expeditionary ways to save fuel, look both solar and through other experimental methods. It will expose us to them, it will allow us to identify some projects worthwhile to take forward to us on our deployments, try them out in the field under real conditions, and then report back as to whether there are things that we want to get—that we want to exploit. It's an ongoing project for us.

Senator BLUMENTHAL. Thank you.

Thank you very much.

Senator REED. Thank you, Senator Blumenthal.

Let me ask some additional questions. General Mills, I want to get a feel for sort of the procurement strategy. We started off with the notion of buying about a thousand EFVs to replace roughly a thousand AAV–7s which you have in your inventory now. The EFV is out and now we're looking at basically dividing your resources between the ACV, which would be the assault craft, and the wheeled armored personnel carrier.

The wheeled armored personnel carrier doesn't swim. It carries only half a squad, so it has some tactical consequences. It's about as heavy to lift as the ACVs, which raises the question, particularly if we're still doctrinally looking at roughly two-thirds of our assault forces going ashore by amphibious vehicle, why are we investing—or what is the ratio of investment in the ACV versus the personnel carrier, and why are we buying personnel carriers? Can you comment?

General MILLS. Sir, we feel the portfolio approach is the best one, that both from an affordability perspective, but more importantly for the flexibility it gives the commander on the ground. We don't believe that every marine has to swim ashore in a self-propelled amphibious vehicle, that the forces flown ashore off of the ships will go ashore through a series of means. A third of the force will go in by aviation, for instance, and land and link up with heavy equipment later on ashore. Initial assault waves will go in in our Armored Combat Vehicles because of the uncertainty of what they're going to meet once they reach that beachhead.

Once that beachhead's established, however, we can begin to run connectors in there, which are our LCAC and our our LCUs, bringing in the remainder of our vehicles. They can bring in these MPCs, Marine Personnel Carriers that you spoke of, the wheeled vehicles.

Then, once ashore, those vehicles give us great flexibility, give us better speed than the tracked vehicles do in the field, give us efficiencies in fuel, and provide us with I think better combat power for that commander as he pushes the beachhead in and proceeds on to exploit the opportunities on the ground.

We have a mixture of vehicles currently. We have a portfolio. It works. It fits into our concept of operations very, very well. And we think that, again, some number—we're not quite sure yet; we're still doing the study as to what that breakdown should be. We think that the total requirement is the ability to have 12 battalions

with some armored protection mobility. Whether we break down to all of them being on ACVs, probably an unaffordable strategy, or what the exact breakdown will be is an ongoing study and will be a decision that we're going to push down the road a little bit for the Commandant to make. But once the AOA on the ACV is complete, once we've got a better feel for the MPC characteristics and costs, we think we will give him an opportunity to make his decision as to how he sees the fleet motored up, if you will.

Senator REED. So you're teeing this up for a decision on numbers based on what you think is the optimal configuration for your doctrine, your tactical operations?

General MILLS. Exactly, sir. And of course, we are going to—cost has got to be a factor.

Senator REED. Let me go back to the point is, though, that you've got a vehicle that takes half a squad, which complicates command and control. That is a factor which I assume you're going to also consider. My sense, over the last several decades the thrust of buying military equipment for land forces was to at least have a squad size as the minimum organization point carrier, both lift as well as the personnel carriers. And this seems to be a diversion from that.

General MILLS. Sir, it is different. It is different. But we think that it does also mitigate some risk. It does disperse that unit, so should you lose one of the vehicles you haven't lost an entire squad. Some of our experience in Iraq, for instance, where we lost some AAVs that had full squads on board, and then you lost an entire fighting unit. So there is some advantage to splitting that squad into units.

There's challenges, command and control, as you pointed out. It also gives us some advantage in distributed operations as we begin to spread these units out, fight at greater distances, fight in smaller units. Again, there is Again, there is some capability there. But we do feel that the MPC will give us some flexibility, some efficiencies, some reliability that a tracked vehicle, which is more complicated and complex, doesn't give us.

Mr. STACKLEY. If I could just add.

Senator REED. Yes, Mr. Secretary.

Mr. STACKLEY. First, sir, you're asking the exact right questions, and they're the same questions that we're asking ourselves internally. And those are all built into the analysis of alternatives that's being accomplished for the ACV.

But also, as we look at that portfolio mix, the fleet mix of vehicles, it's very similar to the discussion we had earlier when you laid out the total O&M costs for the fleet of vehicle. It's the same portfolio approach that we're taking when we look ahead through the ground combat tactical vehicle strategy.

Senator REED. Let me raise a question with you, Mr. Secretary, on that. We have communicated back and forth about habitability issues with respect to the assault ships coming ashore. From General Mills' initial comment about the new threat, the new doctrine, is that you're going to have to swim a long way to the beach, longer than we thought before, there's been some testing and you responded to the committee that, inconclusive, but it does not appear that that the multi-hour water movements have degraded the capability of the Marines coming ashore.

We understand that this test was done under sort of mild weather conditions, etcetera. I raise the issue because I would presume this is again something that you're going to test again and again and again under a whole series of conditions, because getting—you've got to get to the beach, but if you get off the amphibious vehicle in a degraded state that's not doing your Marines any favors. And I know you don't want that to happen.

Mr. STACKLEY. Yes, sir. "Inconclusive" is a good word for this case. We did I think it was about a one-week habitability assessment test, submitted the report to Congress. The sea conditions, we did not get the challenging sea conditions that would have provided more meaningful results. But what we did gain from that is we did not find anything in that early testing that said it can't be done. The assessment and the testing of the Marines that participated concluded that, at least for these sea conditions and under the 1-, 2-, and 3-hour scenarios, when they got to the beach they were operationally effective.

The report describes that when it comes to cognitive skills and things, there was some marginal degradation, but when it came to marines being able to perform a combat mission, for those conditions everything looked okay. We've got to go beyond, though. We've got to do further testing. This is important, not just to development of the ACV, but it's important to how we operate going forward for amphibious operations.

Senator REED. Let me ask you—unless you have a comment, General?

General MILLS. Sir, I would just add one comment to that. We know what the optimum conditions are now. We've been probably doing it for years. 4,000 yards off the beach and sea state one. You know, you get ashore quickly and you barely know you're in the water.

Our challenge, as we plan to use the exercises that I talked to you about earlier to push those limits, is to find what's the worst case. We know what the best case is, 4,000 yards and sea state one. Now what's the worst case? How many miles off the beach could you be? What kind of sea states could you operate in, and what decisions will that MAGTAF commander have to make when he looks at amphibious operations in the future?

So we're going to do that. We're going to do it incrementally, we're going to do it safely, because we certainly don't want to put loaded vehicles well out at sea with Marines in the back and have a problem. So we're going to do it incrementally, we're going to do it safely, and and we're going to use what we've learned to help guide our decisions when we see those results of the AOA.

So it is very concerning to us and we are working it.

Senator REED. I have just a few additional questions, but, Senator Ayotte, if you would like to do an additional round.

Senator AYOTTE. Thank you, Mr. Chairman. I really appreciate it. I just have two areas of questioning. I appreciate it.

General Mills, I wanted to thank you certainly for coming to my office recently to talk about the Navy's proposal to eliminate one of the three maritime prepositioning squadrons and to reduce the number of maritime prepositioning ships in the 2013 proposal, fiscal year proposal. We just recently received the report that I had

asked for in the 2012 NDAA about this topic and also the risks associated in terms of our readiness with reducing the prepositioned squadrons.

As I read it from General Amos, that report, the report—obviously this is something that we're looking at. We're reducing status, but in the 2013 budget we're eliminating one because of the fiscal pressures that we face. In the report General Amos, of course, consulted with the European command and African commanders. They certified that the risk was acceptable, but still acknowledged that it's going to create acknowledged that it's going to create capability gaps and influence force closure and crisis response times in terms of some of the gaps we might have.

But the mitigating factor, as you and I also talked about in my office, was the prepositioning program in Norway. So I just have a couple of questions about that, which in terms of the equipment in Norway, that equipment's not on ships, is that right?

General MILLS. That's correct. It's in caves that are maintained by the Norwegians under an agreement.

Senator AYOTTE. And we would need probably to get it on a ship. That's one of the capacities we may need, unless we need it right there. But most likely we'd need to get it on a ship, correct?

General MILLS. Yes, ma'am.

Senator AYOTTE. So that's one additional step we would have to take, as opposed to already having the ship right there, the squad, and what we're eliminating in capacity now; is that right?

General MILLS. That's correct.

Senator AYOTTE. How long will it take to get the equipment on the ships?

General MILLS. That's a difficult question to answer because of the many factors that would play into that. So depending on how much equipment you needed, what that slice was, weather conditions, that kind of thing, I would think that—a marine expeditionary unit loads out in about a week from Camp Lejeune to Moorehead City and gets on board ships and moves out. I'd have to get back to you with exact planning figures to get out of the caves and get to commercially available shipping. But I think it's a reasonable amount that we could respond to large-scale contingencies.

Senator AYOTTE. If you're able to answer me more specifically as a follow-up, I'd appreciate it.

General MILLS. Yes, ma'am.

Senator AYOTTE. Then also, how is the equipment in Norway in the caves different than the equipment that's in a maritime prepositioning squadron? Is it a different type of equipment or is it the same?

General MILLS. It's basically the same. It's a cross-section of Marine equipment. The plan to reload the caves, because we're going to reload them, is to put in probably MEB—organize them around MEU or MEB-sized units, which are probably the appropriate size unit you'd want to have respond to something that was going to happen either in Africa or in the Levant.

Senator AYOTTE. Right. And as we sit here today, is it the level that we'd want it in terms of modern or well equipped or maintained, or do we need—in order for us to have the same—to use

that as a mitigating factor to eliminate one of the squadrons, are we going to have to do some modernization and update on the equipment in Norway?

General MILLS. We would have to—as we restock it—and we have a plan with all of our prepositioning, whether afloat or ashore, to modernize it on schedule at the times it needs to be done. But those caves are going to be restocked. They're low in our priorities, in all honesty, but they are on our priorities to restock them and have them prepared and ready to go.

Senator AYOTTE. So one of the factors we're dealing with in terms of just thinking about a difference in capability between the squadron and the caves is not only loading the ships, but also the equipment there isn't as modern as what's in the squadron right now, is it? Or is it?

General MILLS. I'd say it's comparable. I would say it's comparable.

Senator AYOTTE. It's comparable?

General MILLS. I can get you some info on that, but I would say it's comparable.

Senator AYOTTE. Okay. I would appreciate if you have any additional information on that as well. So thank you very much.

This has just been something I've been very interested in in terms of our capacity and our ability of eliminating one of these squadrons in terms of response times. So I do appreciate your follow-up on it. And we certainly are taking on additional risk by doing this. I think you'd agree with me on that.

General MILLS. Yes, ma'am, there is additional risk. Again, as we discussed earlier, the squadrons that we're going to have are enhanced. They are better than the squadrons that we had. They have newer ships, they have more capacity, and so they give us—the individual squadron gives us a better capability.

But the loss of the squadron—

Senator AYOTTE. But also, location is helpful, too.

General MILLS. Location is very helpful.

Senator AYOTTE. Especially with AFRICOM, yes.

General MILLS. Although those ships will be focused to the Pacific, they are—obviously, the advantage they give you is the flexibility of being able to move them should the right INW arise that you're going to have a crisis someplace in the European or African theaters. Certainly which coast of Africa; it depends on where that crisis is. But you always have the flexibility with forward-deployed amphibious capability to move it to the point of crisis.

Senator AYOTTE. Thank you, General Mills. I look forward to also continuing to talk with you about this issue.

With both of you, Secretary Stackley, as I understand it if we undertake what I think would be foolish, to allow sequestration to go into place, on an annual basis that's about $15 billion to the Navy, which as I understand it would be the equivalent of our entire shipbuilding budget in one year or the equivalent of 2 years of maintaining our fleet, and-or would be the entire naval air fleet procurement in 1 year. Is that true?

Mr. STACKLEY. In terms of numbers, that's about right, yes, ma'am. The impact of the first $487 billion over the decade to the Department of the Navy was about $50 billion over the FYDP, and

so the first thing when you talk about sequestration you have to recognize that we've already carved out $50 billion and the budget that you're looking at reflects those actions.

To consider sequestration and its impact, the next thing you have to recognize is a lot of the budget can't be adjusted, whether it's end strength. There's some core of operations and maintenance that you have to have. And so that 10 to $15 billion of additional impact per year really lays on top of a relatively small portion of the overall budget. So its impact will just be fairly devastating.

So we don't today play for sequestration. The first step of planning sequestration would probably have to be arriving at a new defense strategy because the defense strategy that's in place could not be supported if sequestration hit.

Senator AYOTTE. General, I assume that if sequestration goes forward it would be devastating to the Marine Corps as well?

General MILLS. Yes, ma'am, across the board, both acquisition, both in the operations and maintenance part of it, the training piece of it, assuming the personnel section was excused from it, if you will, would have a devastating effect on both our acquisition and our training and readiness.

Senator AYOTTE. Well, it is my hope that we will take this up, this issue up very quickly around here, so you don't have to undertake any type of planning for things that would be devastating to our military, for cuts that would be, as well as for our industrial base, who has to look ahead in terms of planning and the capacity. I think about our shipbuilding capacity. This is a very, very important issue. So I appreciate both of you being here today.

Thank you.

Senator REED. Thank you, Senator Ayotte.

Let me, two concluding questions. We've talked about the Littoral Combat Ship, a fact that gets a lot of attention. The Marine Corps has expressed some interest in developing and fielding some modules for the LCS that would support Marine Corps warfare missions. Can you discuss, General Mills, what these modules might be and how it would complement everything we've talked about this morning?

General MILLS. Certainly. We have a planning team right now, as a matter of fact, that's out visiting the ships and working with the Navy to take a look at ways in which the Marine Corps could complement the capability of the LCS ships. I think one that leaps immediately to mind, there's an overriding requirement out in the COCOMs for amphibious ships. A lot of that requirement is low-level, relatively low-level engagement opportunities. I think that, given the fact that we can get some helicopters on board one of the LCSs, we could put a module on board in which marines could live and do some training and get ashore. I think that would be ideal for those kind of low-level operations.

Second, I think when you look at operations in littorals, in the shallow waters and perhaps the bays and rivers, again those ships give you some capability in those areas, small-scale Marine units that you want to send forward.

So I think there's lots of opportunity there. We're going to take a hard look at it. We're going to work with the Navy fleet command

to find opportunities to experiment with it. I think that we'll find some use.

Senator REED. Mr. Secretary, the program of record for LCS doesn't have an expeditionary module or a Marine component. How are you sort of beginning to plan for this, or is this in such of the early stages that it hasn't reached your attention?

Mr. STACKLEY. No, sir, the program of record has the three mission modules, ASW, mine countermeasures, and anti-surface warfare. But we recognize that that's a starting point. What the LCS brings, it brings flexibility. It's a modular concept, so it brings space, volume, displacement, margin. It provides power and links. It provides aviation capability and also provides boat-handling capability.

So we're looking at missions that that capacity that the LCS brings can neatly support. General Mills just talked about the Marine Corps. We are also in discussions with SOF. We look at some specialty niches associated with humanitarian assistance, as well as search and seizure.

Admiral Harvey has been, frankly, pounding the table on this: Hey, we need to look beyond the first three mission packages. We need to be looking at where else can we employ LCS and get started now on developing the concepts so we can have that capability in hand sooner.

Senator REED. Thank you.

General Mills and Secretary Stackley, you're probably aware that the Chinese have an amphibious vehicle. One version is a tank in which a 105-millimeter gun appears. The other is an infantry fighting vehicle with a 30-millimeter cannon. They're both high speed planing vehicles. They look a lot or something like the EFV might have looked like. And they're also building their first set of large amphibious ships that compare to, roughly, the LPD–17 class.

Can you give us an assessment of your view or your take, or is this something that you're still considering?

General MILLS. I think it reflects the—I think it reflects the interest that China has in overseas areas in which they're very interested in looking for natural resources and things like that, and they begin to project, have the capability to project power. I think that any country, any world power, has to have that capability, the ability to project power, and I think that amphibious forces are the natural growth from making that assumption. So I think that it's their beginning steps on a way to being able to project power to areas that they're interested in.

Senator REED. Mr. Secretary?

Mr. STACKLEY. I would say that China's not alone. There are several nations around the world that are expanding their amphibious warfare capabilities. I think statistically there's a 200 percent increase when you look globally at investment in amphibious capabilities beyond the United States. More recently, it's been well advertised that the Russian navy is acquiring a French-designed, built, amphibious ship, the *Mistral* class.

So, as General Mills described, it is a method of power projection, increasing attention in the littorals; I think that simply reflects that.

Senator REED. Well, thank you very much, gentlemen, not only for your testimony today, but for your service to the Navy and the Marine Corps and to the Nation. Obviously, as always, please commend those that you lead for their extraordinary efforts.

We'll keep the record open for a week, and there may be additional statements submitted by colleagues or questions. We may have additional questions. We would ask you respond as quickly as you could to any written questions.

With no further business, the hearing is adjourned.

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