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FUTURE ROLES AND MISSIONS OF THE UNITED STATES NAVY AND MARINE CORPS

HEARING

BEFORE THE

SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

HEARING HELD
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DOCUMENTS SUBMITTED FOR THE RECORD:

[There were no Documents submitted.]

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING:

[There were no Questions submitted during the hearing.]

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[There were no Questions submitted post hearing.]

FUTURE ROLES AND MISSIONS OF THE UNITED STATES NAVY AND MARINE CORPS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE,
Washington, DC, Thursday, March 26, 2009.

The subcommittee met, pursuant to call, at 10:02 a.m., in room 2118, Rayburn House Office Building, Hon. Gene Taylor (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. GENE TAYLOR, A REPRESENTATIVE FROM MISSISSIPPI, CHAIRMAN, SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

Mr. TAYLOR. The hearing will come to order. Today the subcommittee meets in open session to explore future naval capabilities and force structure.

Today's hearing is unique for this subcommittee. We are typically addressing the budget directly or conducting oversight on troubled programs. Today, we have the opportunity to discuss alternative visions of roles and missions for the United States Navy and the United States Marine Corps with a very distinguished panel of witnesses.

Today's witnesses have not been handpicked to present any particular position of force structure requirements. The subcommittee has been particularly careful not to guide or steer our witnesses' testimony.

Our panel was selected by their expertise and strategic analysis along with widespread admiration for their previous published work. In fact, until I read their prepared testimony, prior to this hearing, I had no idea what any of them might say. That is exactly the type of hearing that the ranking member and I wanted to have.

Sometimes the field will get too focused here in Congress on budget requests and specific acquisition programs and fail to stand back and look at the big picture, to verify the overall strategy of the Navy and our Nation's needs.

Our Navy has evolved over the years to complement the national strategy. This was true long before we used terms like "national strategy." Our first Navy was a commerce protection force, not a global power. President Teddy Roosevelt and the Great White Fleet brought our Nation into preeminence on the world stage as a naval power, a power that was centered on battleships.

The Second World War changed the view of seapower to a carrier battle group and the dominance of air power. Who knows what the next 30 years will bring? I hope that our witnesses will share their

views on the future force and the challenges that that force may face.

The fact of the matter is, however, that within a few weeks, the Department of Defense will send over a budget request with a detailed plan for the construction of naval vessels and aircraft. This subcommittee will need to analyze that request in a very short period of time and make recommendations to our full committee and into the full House for acceptance or modification.

That is why a hearing such as today is so useful. Listening to varying opinions always helps the final decision process. We have an extremely distinguished panel with us today.

Mr. O'Rourke is no stranger to the subcommittee. We have routinely relied on his counsel during our yearly budget deliberations. Dr. Thompson, from the Lexington Institute, is widely regarded as an expert in naval affairs and has published extensively on maritime subjects.

Rear Admiral Houley is a retired submarine officer who has commanded at the ship, squadron, and group level with tours at the Pentagon crafting naval strategy. I recommend his recent article in the United States Navy Institute Proceedings Magazine for a detailed analysis of naval roles and missions.

Dr. Barnett is a widely published author and speaker who has led a transformation in Pentagon thinking with his first book, "The Pentagon's New Map—War and Peace in the 21st Century."

I would like to thank all of our witnesses for appearing with a special thanks to Dr. Barnett for coming from out of town. We look forward to their discussion today.

Without objection, it is the chair's opinion that due to the broad topic today, and the probability that the witnesses would have slightly different viewpoints, the subcommittee will relax the normal rules for questioning and allow dialogue between members and follow-up questions without the loss of time.

I would now like to recognize our friend from Missouri, the ranking member, Congressman Todd Akin.

[The prepared statement of Mr. Taylor can be found in the Appendix on page 35.]

STATEMENT OF HON. W. TODD AKIN, A REPRESENTATIVE FROM MISSOURI, RANKING MEMBER, SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

Mr. AKIN. Thank you, Mr. Chairman, and I must say that I have been looking forward to our hearing this morning with some considerable anticipation because of your reputations that proceed you. And as a new ranking member on this committee, I am in a sense the new guy. And so I have a lot of questions and that makes it even more interesting.

And I do understand that without a clear understanding of the world in which the Navy will operate in the coming years and the missions the Navy will likely be called upon to perform, we cannot possibly put any procurement or research program into context.

Therefore, it is useful to seek the Navy's opinion on these matters. I had the opportunity to discuss some of these ideas at length with the Chief of Naval Operations this week, actually about a 10-

hour meeting with him in an airplane where he was cooped up and couldn't escape.

I am confident that the Navy is actively attempting to adapt to changing threats, the diversity of threats and to meet the challenges of their latest maritime strategy. But any large institution has difficulty responding rapidly to changing threats and strategic objectives.

Sadly, such was the case with the Navy in 1941. The service and the Nation had to come to grips with the power of the airplane as a naval weapon the hard way. I believe that a similar paradigm shift may be underway, and we should do our best not to be taken by surprise.

This is why it is also important for the subcommittee to hear from independent observers, such as yourselves, to seek your assessment of the significant changes to the external environment in which our sea services operate.

We also seek your guidance as to the tough choices the services will have to make going forward. I hope this hearing will be a way for us to explore the constraint and assumptions that should frame any reasonable discussion about future force structure alternatives as well as possible force size.

I hope that you can offer suggestions about how we should evaluate recommendations that come to us via the fiscal year 2010 budget, the naval operating concept and the quadrennial defense review. For example, does Navy remain more or less relevant over the next 25 years given the United States strategic objectives, anticipated global threats and balance of power?

What is the role of our current weapons systems in the future? What is the role of emerging technology such as directed energy and unmanned vehicles in the future force structure? How important is the role of information in the future, and how should the Navy position itself to connect, analyze, disseminate and deny its adversaries access to information?

Given the cost of shipbuilding, how does the Navy maintain a global presence, incise itself for peacetime operations? Is it through ships or should it be through other platforms?

With these questions in mind, Mr. Chairman, I will conclude. I have slightly longer statement that I would ask be entered for the record. Thank you again for holding this hearing today.

To our witnesses, I appreciate you being with us and truly look forward to our discussion. Thank you.

Mr. TAYLOR. Without objection, the gentleman's full statement will be entered for the record.

[The prepared statement of Mr. Akin can be found in the Appendix on page 37.]

Mr. TAYLOR. I am told that Dr. Barnett is tied up in traffic. So if we don't mind, we are going to begin with Admiral Houley.

Admiral, normally in this committee, we ask our witnesses to speak for five minutes. Given the good fortune that we have to have all of our witnesses here today, we are going to deviate. So please, if you can, try to keep it under 10.

STATEMENT OF REAR ADM. WILLIAM P. HOULEY, USN (RET.)

Admiral HOULEY. I am very proud to be here this morning. And I am also very appreciative that you and your committee would take the time to have this kind of a conversation along the way, because even if we only have the slightest opportunity to influence the deliberations that are going on right now, I know that we are very, very appreciative.

Everybody thinks their own point of view is absolutely the right one. I am certainly no exception to that, and I find as I get older, I become even more and more certain of my position, even though the total number of facts I have to support it seems to go down with my age.

I am honored, Mr. Chairman, to be asked to join this discussion, and I am well aware that most of you in this room have been considering force structure issues for many, many years. I also know it is easy to criticize any end result.

I certainly have done so over my years of service. Let me first frame my remarks as follows: I respect the fact that those in a position of active Navy leadership are better informed than myself. I hope that none of my comments are interpreted as a challenge to the Navy's budget request.

I appreciate that every new year brings special circumstances, and obviously this year, in particular, is no exception. And the remarkable economic situation makes your decisions all the more important to our future.

While I know that a discussion of background material is extraneous here, and I have no desire to insult the wisdom of this committee, I must apologize beforehand for repeating some obvious facts in this statement.

The first is that the Navy's existing force level can be argued to be inadequate or barely adequate, but the oceans are vast. Our position of leadership in the free world is clear. And the number of ships we have cannot logically be argued to be excessive.

Second, since ship lifetimes can only be extended so far, we cannot solve our problems by painting over rust. Third, the mix of our ships can only be changed very gradually, and any war or conflict will have to be faced with a come-as-you-are force. That remains true even if we were suddenly to find ourselves in complete agreement about the kind of Navy that we need for tomorrow.

No matter what the arguments may be concerning how to prioritize future threats, we cannot delay augmentation of our current fleet numbers or allow continuing deterioration of those numbers through inaction. Ship construction and modernization is but one of many issues. This committee knows there is no magic out there, and I have none to offer. But some aspects of the Navy's challenges, as I see it, are quite clear.

I have mentioned one: We have too few ships. Replacements are being built and commissioned at a slower rate than existing ships are being retired. Since nothing is cheap, what can be done?

First, let's go back to those obvious facts that I mentioned. CVNs, that is nuclear powered aircraft carriers, are more than the backbone and heart of the Navy. They forestall the need for access that can be denied us in many parts of the world for many of the scenarios we will continue to face.

They are not only the first asset a President considers when faced with a military challenge. They are one of the few unquestioned resources our Nation will require in the future. These ships are enormously expensive and take a long time to build, but they are the essence of force projection, the ultimate expeditionary force. And any math required for the Navy budget should begin with CVNs.

I would spend my full time on this point, but it would be an insult to your intelligence. I have to say, I am very concerned about this topic. Carriers may be unassailable to budget cuts in my mind, but they are very expensive, and there are a lot of very important people who are desperately looking for money to fund urgent priorities.

This subcommittee has a better chance of protecting carriers than almost any entity. Stand firm in protecting this priority.

Moving on, as a lifetime submariner, I can only thank the Congress for its wisdom in permitting multi-year procurement of Fast Attack Submarines (SSNs), perhaps the one step that will permit this Nation to maintain a force level to execute their many missions with which this committee has first-hand familiarity.

The retirement rate of these ships is frightening, and you have already taken action to allow the Navy to do the right thing. Our submariners will always take care of these versatile ships. Unfortunately, addressing naval challenges through new classes of ships carries a heavy price.

Not only do they always cost more than predicted, no matter where the fault finger is pointed after the bill is added up, the money cannot be recaptured until we climb a long distance up a lessons-learned curve.

We must augment, not decrement, fleet size. Therefore, I would emphasize these points: First, I recommend against additional DDG–1000s (*Zumwalt* class destroyers), not because it will not be a fine ship, but it is too expensive. It takes too long to build and will inevitably lead to a lower total number of ships in the fleet. The one outcome we cannot permit.

I recommend as many improved DDG–51s (*Arleigh-Burke* class destroyers) as we can afford. We know how to build them. The value for cost is high. The maintenance is affordable. And we know how and when to make improvements in them.

Now how about the Littoral Combat Ship (LCS)? I used to have a nifty set of remarks appropriate only among retired admirals about how dumb an idea this was. It was not helpful, but guess what? After everyone is done beating everyone else up over the excessive cost, the lousy contractor performance, the poor coordination that was demonstrated, requirements creep and so on, we finally got two hulls built.

LCSs will move toward a reasonable unit cost much faster than the next idea that comes down the chute. Essentially, everyone agrees that part of the Navy mix must include a lower-end ship, not too many I hope. Once we get these ships running right, the Navy will converge on the right combination of war-fighting modules.

And these ships will become workhorses that we can move around the world and address some of the U.S. naval presence re-

quirements that do not require battle groups. I am beginning to wish I had thought up this idea.

In a recent article in Naval Institute Proceedings, to which the chairman referred, written in collaboration with Rear Admiral Jim Stark, we made two points I would repeat here.

The first dealt with the ship's requirement process where we talked about doing a better job of controlling the number of good ideas we would like to include in new ships. This, by the way, bears directly on the acquisition reform question.

Adding promising technologies, more robust combat, and command, control, communications, computers, and intelligence (C4I) systems is tempting for obvious reasons, especially given the range of solutions, range of scenarios that these ships may face.

But at some point, it is counterproductive to augmenting the number of ships in the Navy. Scrubbing the requirements process is easier said than done, but the key is that once we reach our decision at the outset, we must have absolute control over subsequent changes to those requirements.

In our opinion, the authority to approve such changes should be limited to the Secretary of the Navy. But the important point here is to limit the number of requirements-driven change orders that have such a big impact on ship construction costs.

The second point deals with Marine Corps support. This mission is fundamental and none of the variety of military challenges of the last few years has changed that. The number and mix of vessels needed to provide the requisite lift for the Marines has changed over the past two decades.

These ships have become larger, more expensive and more capable, while at the same time, the number required has declined. Because amphibious ships are employed in combination, they should be judged on the capability of the expeditionary strike group or amphibious ready group as a whole, rather than on the size and the cost of individual units. This should be a less controversial aspect of the fleet numbers and mix issue than some others.

On the subject of acquisition reform, I know we all agree it is important, and we would like to address the problems and prescribe the right cures. I listened with fascination the other night when the President addressed this issue. And, of course, nobody knows better than the people in this room, you can go and ask anybody if we ought to have acquisition reform, and it is impossible to have any answer other than yes.

The problem, of course, the devil is in the details. I hope before we enact new layers of directives in legislation that the Office of the Secretary of Defense (OSD), the Congress, and others will talk to folks who have demonstrated real expertise in buying expensive, complicated products from major defense contractors. Expertise is established by records of personal accomplishment not by the title on office doors.

We cannot address acquisition reform by adding more rules and regulations. That is how we got to where we are. Ostensibly, the idea of adding more rules and regulations has appeal because it precludes repetition of past problems.

Mr. TAYLOR. Admiral.

Admiral HOULEY. Sir,

Mr. TAYLOR. Before you go any further, I want a recommended list from you of the five people that you think are the best at that.

Admiral HOULEY. I would be delighted to——

Mr. TAYLOR. Thank you very much, sir.

Admiral HOULEY [continuing]. Provide that, sir.

Mr. TAYLOR. Please proceed.

Admiral HOULEY. Current regulations are excessive in number and in complication, and we are one of the sources of our own problems rather than part of the solution. We must avoid walking around the real problems and further complicating an already overly complex process.

There are a lot of serious-minded men and women who have proved themselves in acquisition and business. Making the system work should be their challenge to address.

And I might add parenthetically, since the chairman has given me this invitation to provide some names, one of my past experiences was the defense reform principal for the Secretary of Defense when Secretary Cohen was in his position.

I should have known before I went there that naive men and women should not walk into a job that is titled, "Defense Reform," because it—it sounds like a really good idea, but unsurprisingly, it is rather difficult to do, and one of the difficulties, and I believe everybody in this room knows it, is everybody is in favor of reform. Everybody is in favor of fixing things until it affects their job description, and then suddenly, their interest and enthusiasm seems to diminish very quickly.

You ladies and gentlemen are all students of history. So many of our Nation's predecessors in friendly and not-so-friendly countries have encountered financial pressures akin to our own today. Slowly, they saved money by agreeing to fewer and fewer ships with less and less capability.

Without apparently realizing when they were doing so, these nations eventually gave up their ability to project power in a meaningful manner. Even when the lights go on and the circumstances make it obvious that this has happened, they discover that to regain strength of this kind requires a reversal of policies that, in the best of circumstances, would take many years and be prohibitively expensive.

I guess one of the concerns that we all share is that, over a period of years, we keep chipping away at the size and strength of the Navy and no particular decision is fatal. No particular decision has enormous impact on the future, but the net result of coming up with a smaller and less capable Navy over a period of time, unfortunately, does not change the number of challenges that Navy is expected to face.

We cannot afford to make this mistake. Our responsibilities are too great, and there is no backup plan. This is why I believe that while your challenge is of great importance, it is not incredibly complex.

We need to augment our fleet in numbers and in capability and limit the introduction of new ship classes and big changes to the maximum degree possible. That is why I feel that, although, every year you are obviously faced with important decisions to make and important issues to be addressed, one of which is always, what

kind of a Navy do we need? What sort of threat are we building the Navy for?

Those are important, useful questions, and I support exploring them to whatever degree you can. But I will say that what we end up doing has marginal impact on the long range, and if we don't get out of the business of building new classes of ships, for a while at least, we are in a world of trouble.

And if we don't get on with the business of building more ships, we are in a world of trouble. So I am much more interested in trying to improve our progress in shipbuilding.

[The prepared statement of Admiral Houley can be found in the Appendix on page 39.]

Mr. TAYLOR. Admiral, thank you very much. We have now been joined by Dr. Barnett.

Dr. Barnett. We are going to waive the normal 5-minute rule for our witnesses, but if you could keep it under 10, we would greatly appreciate it in fairness to the other witnesses.

STATEMENT OF DR. THOMAS P.M. BARNETT, SENIOR MANAGING DIRECTOR, ENTERRA SOLUTIONS, LLC

Dr. BARNETT. Having spent the last decade arguing that America's grand strategy should center on fostering globalization's advance, I welcomed the Department of Navy's 2007 Maritime Strategic Concept that stated, "As our security and prosperity are inextricably linked with those of others, U.S. maritime forces will be deployed to protect and sustain the peaceful global system comprised of interdependent networks of trade, finance, information, law, people and governance."

In my mind, rather than simply chasing after today's ever-changing lineup of relatively minor and manageable maritime security threats, the Department of Navy logically locates its long-term operational center of gravity amidst globalization's tumultuous advance.

For it is primarily, overwhelmingly, in these frontier-like regions that we locate virtually all of the mass violence, all of the terrorism, and all of the instability in the system, all the failed states.

Moreover, this strategic bias towards globalization's frontier regions, especially the Arabian Gulf and the Indian Ocean, makes eminent sense in a time horizon likely to witness the disappearance of the three major war scenarios that currently justify our Nation's continued funding of our big-war force.

Namely, a Taiwan that integrates economically with mainland China; an Iran, whose successful pursuit of a nuclear capacity will soon rule out any potential major U.S. intervention; and a North Korea, whose inevitable collapse presents no significant possibility of triggering major war among intervening great powers.

As our leviathan's primary war-fighting rationales fade with time, its proponents will seek to sell both this body and the American public on the notion of coming resource wars with other great powers. This logic, in my opinion, is an artifact from the Cold War era, during which the notion of zero-sum competition for Third World resources held significant plausibility, primarily because economic connectivity between the capitalist West and the socialist East was severely limited.

But as the recent financial contagion proved, that trifurcated global economy no longer exists. The level of financial interdependence among and across globalization's major markets in addition to supply chain networks renders moot the specter of zero-sum resource competition among the world's great powers.

If anything, global warming's long-term effects on agricultural production around the planet will dramatically increase both East-West and North-South interdependency as a result of the emerging global middle class's burgeoning demand for more resource-intensive foods.

To the extent that rising demand goes unmet or developing region suffers significant resource shortages in the future, we are exceedingly unlikely to see resumed great power conflict as a result. Rather, we will witness even more destabilizing civil strife in many fragile states.

As such, I see a future in which the small-wars force, more Army and Marines, experiences continued significant growth in its global workload, while the big-war force, more Navy and Air Force, experiences the opposite.

As a result, I predict the Department of Navy's blue-water fleet will shrink significantly over the next couple decades, while its green/brown-water fleet will expand dramatically along with associated personnel requirements, notably with the Marines.

As our current naval leviathan force enjoys a significant, as in several times over, combat advantage over any other force out there today, and I would cite Bob Work's analysis on that, our decisions regarding new capital ship development should center largely on the issue of preserving industrial base.

My advice in this regard is that America should go as slow and as low as possible in the production of such supremely expensive platforms, meaning we accept that our low number of buys per design class will be quite costly. But I like maintaining that technological hedge.

To the extent the fleet numbers are kept up, such procurement should largely benefit the small-war force's need for many cheap and small boats, preferably of the sort that can be utilized by our forces for some period of time and then given away to developing country navies to boost their maritime governance capacity, a key goal going forward.

Along these lines, I firmly support the Navy's Global Maritime Partnerships Initiative, especially when our naval forces expand cooperation with rising great powers like China and India, two countries whose militaries remain far too myopically structured around border-conflict scenarios for China, Taiwan, for India, Kashmir.

America must dramatically widen its definition of strategic allies going forward, as the combination of an overleveraged United States and a demographically moribund Europe and Japan no longer constitutes a quorum of great powers sufficient to address today's global security agenda.

In short, I want allies with million man armies who are having lots of babies, rising defense budgets and are willing to go places and kill people in defense of their interests.

To conclude, given America's ongoing ground operations, our Navy faces severe budgetary pressures on future shipbuilding.

Those pressures will only grow with the current global economic crisis, which fortunately generates similar pressures on navies around the world.

Considering these trends as a whole, I would rather abuse the Navy fleetwise before doing the same to either the Marine Corps or the Coast Guard. Why? Our national security community currently accepts far too much risk and casualties and instability on the low end of the conflict spectrum while continuing to spend far too much money on building up combat capabilities for fantastic war-fighting scenarios.

In effect, we stuff our big-war force while starving our small-wars force, accepting far too many avoidable real-time casualties in the latter while hedging excessively against theoretical future casualties in the former. I consider this risk-management approach to be both strategically and morally unsound.

As Congress proceeds to judge the naval services long-range plans, my suggested standard is simple: Give America's naval forces fewer big ships with fewer personnel on them and many more smaller ships with far more personnel on them.

In my professional opinion, the Department of Navy is moving aggressively and logically toward engaging the world's security environment as it truly is versus myopically obsessing over China's potential as some long-term, near-peer competitor.

I suggest that Congress not stand in the way of this much-needed and long-delayed evolution, even as it considers with great deliberation the requirements of preserving industrial base.

Thank you.

[The prepared statement of Dr. Barnett can be found in the Appendix on page 50.]

Mr. TAYLOR. The chair thanks the gentleman.

The chair now recognizes Dr. Thompson. If you would, try to keep it under 10 minutes, doctor.

STATEMENT OF DR. LOREN B. THOMPSON, CHIEF OPERATING OFFICER, LEXINGTON INSTITUTE

Dr. THOMPSON. I am going to try to keep it under five. I don't have a vote on the subcommittee, but I would like to second the chair's endorsement of Admiral Houley's article in the January Proceedings. I thought it was very well done and one of the largest concentrations of common sense I have seen in a long time.

Thank you for the opportunity to be here today. I would like to briefly review the military and economic challenges our Nation faces and then draw some conclusions about the outlook for naval ship construction.

The security challenges we face today are not worse than what we faced 20 years ago. I mean, what could be worse than having 10,000 nuclear warheads aimed at your country? However, the challenges are more diverse. Many of the challenges that trouble us most today, such as failed states, Islamic terrorism, nuclear proliferation, barely affected our military plans at all during the Cold War.

But that world is now long gone, replaced by a landscape of dangers that are at once ambiguous and ubiquitous thanks to the information revolution. In this new world, the joint force must be all

things to all people, because we simply can't predict how the threat is going to change from year to year.

The sea services now spend much of their time engaged in non-traditional missions, and those missions often must be carried out even farther from home than in the past. To take just one example of this, Strait of Hormuz, where two of our warships collided last week, is literally on the opposite side of the world from San Diego.

So changes in the character and location of the security challenges we face by themselves would be enough to warrant a rethink of what kind of Navy we need. However, that will not be the biggest concern we have in the decade ahead.

The biggest concern we will have is that our economy is in decline, and the federal government is out of money. How broke is the federal government? The federal government is so broke, that during the 2 hours we will be meeting here this morning, it will spend $400 million that it does not have.

It is so broke, that the federal debt has doubled to $11 trillion in just 8 years, and according to the Congressional Budget Office (CBO), it threatens to double again in the next 8 years. The federal government is so broke, that we are sustaining our defense posture, in part, by borrowing money from the country we say we are getting ready to fight.

Now, how crazy is that? There is no time in living memory when U.S. finances have been in such bad shape, and therefore, all the things we thought we knew about the future availability of funding for the joint force are now suspect.

I have attached to the remarks I gave the subcommittee my cover story from the current issue of Armed Forces Journal about the impact of our economic decline on military preparedness. Suffice it to say that the days when 5 percent of the world's population, us, could sustain nearly 50 percent of the world's military spending are coming to an end.

What that means for naval ship construction is that current Navy plans are not affordable. If we build the kind of networked, interoperable national fleet envisioned in the Joint Maritime Strategy, then we can get very good results from the warships we do buy.

But we cannot get Navy ship numbers above 300 any time again unless we purchase smaller, cheaper warships. Unfortunately, that approach will not work with aircraft carriers or submarines where we are locked into costs and construction rates that can only be cut by substantially reducing our global presence and war-fighting capability.

We must sustain production of the *Ford* class of future aircraft carriers at the rate of one every four years. Otherwise, the number of flattops in the fleet will not get back to the number of 12 that is required. And we must build a *Virginia* class of attack submarines at the rate of two per year for the foreseeable future if we are to avoid huge gaps in undersea warfare and in intelligence gathering capabilities, intelligence gathering being their single most important function today.

Thus, the savings that are needed to bring naval ship construction into alignment with likely resources will have to be found mainly in surface combatants and vessels associated with amphib-

ious warfare. The Navy has already begun the necessary adjustments by proposing to cancel the DDG–1000 destroyer, which is too costly and ill-suited to the emerging threat environment.

Terminating production at three vessels, and preferably at two, while continuing construction of versatile Aegis destroyers, is the only sensible response to military and fiscal realities.

With regard to smaller surface combatants, the Navy needs to make a choice between the two versions of Littoral Combat Ship and consider supplementing LCS with the more conventional National Security Cutter being built by the Coast Guard.

Now, I don't mean we need to choose between the two versions of LCS today. We need to give them both a fair chance to show themselves in operational environments. But eventually, we have to choose.

It is much too early to call LCS a failed program. The lead ship was delivered to the fleet in half the usual time, and it had a very successful inspection. But the warships will cost more than expected, and more importantly, there are uncertainties surrounding the concept of operations.

While the National Security Cutter is slower, and it requires deeper water to operate, it has similar onboard equipment, and longer endurance make it potentially applicable to many, many missions.

The amphibious fleet presents a bigger puzzle, because it appears that the stated requirement for 33 warships is too small given the need to establish global fleet stations and the fact that all of our up-armored equipment is heavier and bulkier than what we were planning to put on the ships.

Now, the decision to use the LPD–17 (Amphibious Transport Dock ship) hull as a replacement for aging LSD vessels is a step toward greater affordability. It reduces design costs and extends serial production of a known hull. However, there are real doubts about the affordability of the future maritime prepositioning force, and I guess one signal of that is the fact that when the Office of Management and Budget (OMB) sent their 2010 revised guidance to the Pentagon on January 29th for preparation of the next budget, they actually suggested canceling the Maritime Prepositioning Ships for the future.

I would be pleased to elaborate on my views concerning all these programs during the question and answer period and also any additional programs concerning aircraft that you are interested in bringing up or networks.

[The prepared statement of Dr. Thompson can be found in the Appendix on page 65.]

Mr. TAYLOR. Thank you very much, sir.

The chair now recognizes Mr. Ron O'Rourke.

STATEMENT OF RONALD O'ROURKE, SPECIALIST IN NAVAL AFFAIRS, CONGRESSIONAL RESEARCH SERVICE

Mr. O'ROURKE. Chairman Taylor, Congressman Akin, distinguished members of the subcommittee, thank you for the opportunity to speak today on the future of the Navy. With your permission, I would like to submit my statement for the record and summarize it briefly here.

Mr. TAYLOR. Without objection.

Mr. O'ROURKE. The future of the Navy is a topic with a lot of dimensions. So I tried to focus on some aspects that may be of particular interest to the subcommittee. An initial point is that, given the long lives of Navy ships, many ships currently in service will still be in service 10 to 20 years from now. And so, in this sense, a part of the future Navy is already with us today.

A second point is that the relatively low shipbuilding rate in recent years has increased the challenge of achieving and maintaining a 313-ship fleet. The shipbuilding rate has averaged about 5.4 ships per year for the last 17 years.

You can't build ships at that kind of rate for that many years without getting behind the eight ball for achieving and maintaining a 313-ship Navy. Something like 12 ships per year will now be needed in coming years for a 313-ship fleet.

A third point is that current technical trends in Navy acquisitions suggest that the future Navy will likely feature an increasing use of unmanned vehicles, networking capabilities and open architecture computers and software, as well as ships with reduced crew sizes, integrated electric drive, common hull designs and components and increased modularity.

The future Navy will also likely feature a continued necking down in aircraft types, models and series and possibly new types of weapons such as directed-energy weapons.

Some think tanks have recently published proposals for future Navy ship force structure, and what is notable about these proposals is how they would take the Navy in different directions. What these proposals illustrate is how the Navy currently is at a decision point in terms of future mission priorities, and how choices about those mission priorities can lead to differing versions of the future Navy.

To examine this issue, I organized potential future Navy operations into four general categories using a scheme similar to one that I have presented at the Naval War College and the Center for Naval Analyses.

One of these categories includes things like engagement and partnership-building operations, humanitarian assistance and disaster relief operations and maritime security operations. Another category includes counterterrorism and irregular warfare. A third concerns operations relating to larger scale conventional conflicts on the continental landmass, and the fourth category relates to countering improved Chinese naval forces.

My testimony discusses how putting a planning emphasis on a given category can lead to investments in certain platforms and capabilities. Policymakers can choose to emphasize any or all of these categories. In theory, these choices should reflect broader decisions about U.S. security strategy, and given resource constraints, the decision to place more emphasis on one category could require putting less emphasis on others.

My statement also discusses some additional planning considerations including the importance of forward deployed presence as a planning metric. Maintaining forward deployments can be important or even critical to performing operations in all four categories. And maintaining such deployments can sometimes require having

more ships in inventory than might be required solely for combat operations.

Finally, my statement discusses a number of shipbuilding issues relating to the future Navy. One of these concerns how potential changes in the aircraft carrier force level goal might affect the schedule for procuring future carriers. A second issue concerns reported potential out-year reductions in attack submarine procurement.

A third issue concerns the potential viability of a CG(X) (cruiser) program of eight ships procured at a rate of one ship every three years, which is an option the Navy reportedly has considered. A fourth issue concerns the future procurement of destroyers where OSD's position of ambiguity from last year has recently changed to a position that might be called modified ambiguity.

And a fifth issue concerns whether procurement of LCSs should be supplemented with procurement of other smaller surface combatants. My statement also discusses shipbuilding issues such as amphibious and maritime prepositioning ships and the possibility of building ships with extensive growth margins so that they might be easily backfitted later on with significant amounts of additional weapons and sensors.

The main point I want to leave you with is that the Navy in coming years can go in various directions depending on choices that are made about how much emphasis to place on preparing for various kinds of operations. An absence of clear decisions on planning priorities could result in a Navy that muddles along with no clear focus and potentially inadequate capabilities for performing certain desired missions.

Without a clear sense of priorities, program decisions might be made more by budget drills and Navy plans and programs could be subject to repeated shifts as successive Navy leaders link their own interpretations to an unclear list of operational priorities.

Mr. Chairman, this concludes my opening remarks, and I will be happy to answer any questions the subcommittee may have.

[The prepared statement of Mr. O'Rourke can be found in the Appendix on page 77.]

Mr. TAYLOR. The chair thanks the gentleman.

We now recognize our ranking member, Mr. Akin, for five minutes. I am sorry, Mr. Akin, unlimited time for the ranking member.

Mr. AKIN. I will try to take that in advisement. Thank you, Mr. Chairman.

The first question I have, I guess, is a really basic one. I asked it to another panel of witnesses, and they didn't really answer the question. So I thought I would try it on you, and that is, particularly, this was in light of the DDG situation, but is the purchasing strategy, which I just recently found out was pretty much dictated by Goldwater-Nichols, where the Navy sets the requirements and then different people in acquisition basically work with a contractor to build something.

Is that a good way overall to be acquiring ships, or is that process mechanically somewhat structurally not as good as it should be? And I am asking the question coming as an outsider but many years ago working for IBM, and we used to manage projects.

And one of the very single first rule is, if you have got a project that is a priority, you put one person in charge of it, and you put your finger in their belly button and say, "Look, here is the deal, you are going to have this much money and this is what the product is going to have to look like, and we are going to hold you accountable for making that work."

What I saw here on the DDG was that it looked like somebody had shot a rudder out from under a ship and it was kind of wandering around. So my question to you is, structurally, is that process in need of repair, first question.

Dr. THOMPSON. I would like to respond first by making two points: First of all, my recollection is that when the Goldwater-Nichols legislation was passed, we had a handful of programs that had major cost overruns, schedule problems, or technical hurdles. Near as I can tell, they almost all do now.

So I would have to conclude that if the purpose was to reform and make more efficient the acquisition process, it has failed. It certainly has managed to increase the number of parking spaces at the Pentagon, but whether it has increased the number of weapons systems or the efficiency with which they are fielded, I think is extremely doubtful.

The second point I would like to make is, you know, I normally don't focus on Navy. I normally focus on aerospace and networks. What I have noticed though is that across all the war-fighting communities and across all the services, we have a system where there are simply too many players.

It starts at the requirements level, and it ends up at the user level, but so many people at each stage in the process are participating in the concept of operations, the selection of the contractor, the definition of the operational requirements that it is impossible to field anything that is cheap.

It doesn't matter how simple the original concept is, whether it is boots or bullets. It is going to end up more expensive than if IBM had built it.

Mr. AKIN. Excuse me, I made a little Freudian slip here. I was talking about LCS and not DDG. I am sorry.

Dr. THOMPSON. Well, I can be more specific on that. In the case of the Littoral Combat Ship, what we have here is a very exciting idea, but it was an idea that was generated by the Navy under pressure from the Office of the Secretary of Defense to come up with neat ideas. They are known as transformational ideas.

It may be a real breakthrough in naval warfare, but the way they tried to do it, the business plan, the going to the second-tier yards, the definition of all sorts of capabilities not previously resident on frigates or other small warships, guaranteed there would be problems.

Now, I actually think the program is not going that badly. But let's face it, it is not going to come in at $220 million a copy, and I think the larger problem, which nobody has focused on yet, is that this is still a neat idea. We don't know how it is going to do out in the Indian Ocean with four crews for every three ships, with 40-knot fuel costs, you know, and all those other things that are associated like the modular mission packages.

The jury is still out on whether the concept will work. The boats aren't bad for what we are trying to do, but whether they actually fit in well with our naval force structure and concept of operations, we won't know that for a while.

Admiral HOULEY. First of all, the thesis of your question compares IBM to the defense system, and for the very reason you pointed out. The direct answer to your question is the system that we have is lousy, and it has not worked very well, though well intended.

And the reason that it can't work very well is because there are too many cooks, and therein we are back to our acquisition reform. And I know you don't want to spend the morning on this question, but the reason that it doesn't work is not only because there are too many players, but because we are always trying to accomplish so many things at the same time.

You will recall that Goldwater-Nichols was not terribly well received by the military services. We have since learned our manners as well as learned all of the good things that came from that rationale. But when we were back in the process that we are in right now, the military kind of shut itself out of the debate and had to live with the results without being able to influence them.

And every time you add somebody, even if it is somebody who is terribly well respected who can play with the, in this case, the requirements process, you are bound to be going in the wrong direction. One of the points that Dr. Thompson made that is particularly important to remember is, as I said in my statement, there is lots of blame to go around about LCS, and that is a process that you all have probably spent a lot of time on already.

But one of the things that was central to all of that is that the Navy saw that they had to do something. And so they went ahead and did something rather than determining what needed to be done and coming to you and to all of the other people in the process with an answer.

So it kind of stunk, and it began there, and it just kept on going and unraveling, and it has not helped with more people. So I am back to the same thing. The direct answer to your question is, it is not helpful, and it is not good, although the intentions were honorable and indeed have probably given us many benefits.

Mr. AKIN. Well, I appreciate what you are saying, because I am of the opinion that you could take good people and put them in a bad system and you get bad results. And that can happen very easily. That is why I am asking the very specific question about the structure of how we approach this.

And I don't think we should zing people for being future-thinking and saying, let's get moving and let's drive this process more rapidly. But we have to know how we are doing that. But thank you, I was going to—Mr. O'Rourke.

Mr. O'ROURKE. Just a few additional points. It is worth remembering that the LCS program was pursued deliberately as one that would be done differently from the normal shipbuilding process. And so if there are problems in that program, they are not necessarily representative of problems in the larger process.

In particular, the LCS program, I think, as just been alluded to, was pursued with a strong focus on reducing acquisition cycle time,

and so they were very interested in doing things very quickly, and that got them into a situation of concurrency between design and construction, which is one of the oldest no-no's in defense acquisition. And it led to a situation of haste makes waste.

So there were problems in that program, but whether that says something necessarily about the default process for shipbuilding is less clear, because the LCS started off trying to do something different in the first place. In terms of that general process, there is a couple points I can mention, and one has to do with requirements control, requirements discipline.

And there was a period in the 1990s when the requirements police, as it were in the Navy, which was a body called the Ship Characteristics Board or the Ship Characteristics Improvement Board, or the SCIB, was weakened or disestablished.

And during that period of time, they were not there to police the requirements process for Navy ship designs, and there is at least one ship that was designed during that period, which some people have said suffered requirements growth because of the weakening or the disestablishment of the SCIB during that period.

The Navy since that time has taken steps to reestablish that requirements police force under a different name and to apply it not only to shipbuilding but to aircraft and other acquisition as well. You raised the question of whether there should be stronger centralized control, and I think that is a fair question.

Because other observers have raised this issue as well, and when they do, they point to other examples of where the Navy has successfully pursued very complex and technical acquisition efforts because there was centralized control. And the examples that are usually raised are the setup that we have for naval nuclear propulsion, the Naval Reactors Office, the Special Systems Project Office, or SSP, that brought ballistic missiles into the Navy.

And a third example that is sometimes raised is the rather centralized control for the Aegis development program during the 1970s and 1980s and into more recent years. Those setups are all somewhat different from one another, but they all featured strong control with ultimately direct accountability by one person at the top.

But there is one other issue that I think is important in shipbuilding, which is that shipbuilding is a long-term process. It takes many years for a program to pan out. And so there is a long time between when somebody might make a promise about a shipbuilding program and when the results start coming in.

And that raises the question of whether there should be some steps taken to make it more possible for somebody who makes a promise at the front end of the process to still be around at the back end of the process to be held accountable for it.

And one option to do that would be to set up a director of shipbuilding with a very long tenure somewhat similar to what you have, for example, with the director of naval reactors (DONR). Now, there is pluses and minuses to the option of establishing offices with long tenures, and you would have to carefully think about that.

But that is one option for getting at the issue of possibly making sure that if a promise is made about a shipbuilding program in

year (A) that that same person will still be there to be held accountable for that process years down the road when the return data starts to come in.

Mr. AKIN. Thank you very much.

Dr. BARNETT. If I could——

Mr. AKIN. Do you want to do a fourth response, Mr. Chairman?

Dr. BARNETT. If I could just follow quickly with a historical note. I worked with Art Sybrowsky at the Naval War College during the time period where he dreamed up the LCS, and then I worked as an assistant with him in the Office of Force Transformation during the first two years of operation.

I will tell you just as an historical note, which is important, I think, that what they were trying to do with LCS was to kind of break this mentality within the Navy that its ships were, in effect, sort of a glass jaw that if we lost one, it was catastrophic.

Okay? So he was trying to introduce a fighter pilot mentality toward accepting more risks within the fleet. That is why they went for a small ship that would be close and operate in the littoral, accept much higher levels of risk, and some of the original designs really focused on things like almost a command module that could eject like a fighter pilot ejects out of a plane.

Okay? So the dream was to bring a much higher tolerance of risk, get much closer to the actual land security environment. What happened with that dream was that it was subjected to a system that purposely tries to drain all risk out of ship design. So it junked it up. It put all sorts of bells and whistles. The modularity was lost. All sorts of defensive measures and things that, kind of, codified the design made it stagnant and static were introduced over time.

And my perception of that process, it is right out of Allen Drury's novel, "The Pentagon," which was about the creation of a landing craft air cushion (LCAC) during a crisis situation where the Navy wanted to dream up this new landing craft vehicle to deal with this crisis that was developing.

And because the military kept adding all these bells and whistles, the machinery was never delivered. The war never happened, and the whole system kind of ground to a pointless halt. I saw that problem with the LCS. I thought it was a good attempt to move the Navy towards a different risk tolerance, and it failed because the system simply does not allow any sort of risk.

Mr. AKIN. Thank you very much, gentlemen. It has been very helpful.

Mr. TAYLOR. I very much appreciate the gentleman's comments. I would also remind the gentleman that one thing that we, as both congressmen and parents, can never tolerate is the thought of a disposable ship, because a disposable ship could lead to a disposable crew, and we are not going to have that.

Dr. BARNETT. Well, my argument, you know, it is similar to what the Army's moved towards in terms of counterinsurgency. You accept more tactical risk to garner more strategic gain. And Sybrowsky's concern in that regard was that the Navy was, in effect, pricing or risking itself out of utility or relevance, which is worse.

Mr. TAYLOR. Thank you, Mr. Barnett.

The chair now recognizes the chairman of the Readiness Committee, Mr. Ortiz.

Mr. ORTIZ. Thank you so much for appearing before our committee this morning. I think we have had some wonderful testimony this morning. You know, yesterday, I had a hearing with Navy officials to discuss the shortfalls in Navy operations and maintenance (O&M) on the accounts for ship maintenance.

And the impact of underfunding ship maintenance means a decreased platform, life expectancy and decreased fleet readiness. Since each service is facing budget constraints, in your opinion, how can the Navy balance sustainment and maintenance cost with the acquisition of future platforms?

Do you think acquisition reform is the answer to some of these problems that we have? Anybody that would like to.

Dr. THOMPSON. Well, one of the things you can do, Congressman Ortiz, that we have not done well in the past is to build reliability and maintainability into the war-fighting system. Just to take a simple example, the way that we have designed the *Virginia* class attack submarines, there is no midlife refueling. It has got a life of the ship core.

Because there is no midlife refueling, you have managed to keep it in service longer and save a lot of money that our other nuclear systems have to expend in order to stay operational for their full service life. So that would be a fairly large but kind of obvious example of how you can save money.

The Littoral Combat Ship was actually designed with the notion of maintainability and readiness in mind. That is one of the reasons why there are actually four crews associated with each of the three ships. It allows you to turn the ship around faster. It allows you to get more productivity out of the vessel. So there is a lot of different ideas for doing that.

But as Mr. O'Rourke said up front, it takes so long to implement these programs that, a lot of the time, the great ideas go off the track before we come to fruition. And in that regard, I would just like to go back to one thing I said in my opening remarks.

The Littoral Combat Ship is not a failed program. We haven't had enough time. It has only run half the length of a normal development program for a warship. So calling it failed now is really a prescription for wasting a ton of money and starting over with nothing to show for it.

Mr. ORTIZ. Yes, sir.

Mr. O'ROURKE. Just very quickly, the issue you are raising has been termed by others sometimes as the tension between current readiness and future readiness, current readiness being promoted through the maintenance of ships that you have; future readiness being prepared for by the ships that you are building for the future. And that is an ongoing tension within the Navy's budget right now.

My sense is that the Navy believes that they must pay a certain amount of priority to maintaining the ships that they have, especially since we are in the midst of two wars right now, and that can come at the expense of the shipbuilding budget, which supports future readiness.

And there is one other tension as well: One way that you can help to reduce the competition between these two things is to build future ships, as Loren mentioned, so that they require less maintenance during their life cycles. And that can mean building the ships with higher quality materials or more ruggedness in their structure.

And the irony there is that taking steps to do that in a ship's design can actually make it more expensive to procure. So as we look at the idea of trying to reduce the cost of shipbuilding, we need to remember that there can be a cost down the road for reducing a ship's procurement cost, because it can have the effect of increasing the amount of maintenance that that ship might need to receive over its life cycle. And that would add to this continuing tension between current and future readiness.

Admiral HOULEY. One comment that I would add to this discussion, and I agree with what has been said thus far, is the area that you are looking into or were discussing yesterday, I dare say will never disappear from the agenda over the next 500 years.

But I think it is fair to say that the issue of apparent underfunding of operation and maintenance, which always seems to show up during the year as we run into successive problems that may or may not have been foreseen. Our ability to deal with those problems and the number that we have that should have been anticipated, I think has actually gotten better over the years.

And if we can certainly not ignore that problem because nobody knows better than you the number of dollars that are involved here. It is huge. So it is a lucrative and important target to spend time on, but I think that the abuses and the problems are the ones that have gotten heavy emphasis here already this morning, acquisition reform, requirements reform, better discipline and accountability so that we have as much confidence as we can, given that we are dealing with human beings as well as ships, that we are policing or managing our meager resources as well as we reasonably can.

My hats are off to the Navy. I think they are doing a better job since I left than they were when I was there.

Mr. ORTIZ. Just one short question. You know, we talked about a new ship comes out, either we put too much technology, too much equipment or we don't put enough, and it goes back to that $1 billion ship that run aground and hit a coral reef. Did we have the right equipment?

I mean, I just cannot understand. I was in the Army. I was not in the Navy, so I don't understand much of the Navy. I am learning with my chairman here. But I would think that when you build a ship that is going to cost taxpayers $1 billion, that you would have the right technology so you won't run aground or hit a coral reef.

I mean——

Admiral HOULEY. You know, no one knows better than us that have done this that no matter how good your training is and how good your selection is of people, and you know what wonderful people we have. I mean, they are not just dedicated; they are really, really smart people. But periodically, and once again, this committee gets lots of focus on this, periodically, somebody goes out

there and does something that you just can't believe how bad it was.

I mean, sometimes when you unravel all the facts, you tend to find some extenuating circumstances, but more often, the more careful you look, you wonder where did we go wrong? Not where did the captain go wrong, but where did we go wrong? And I am afraid it is human nature.

What you get out of this is exactly what you put into it, and that is a series of fleet commanders and Chiefs of Naval Operations (CNOs) who always emphasize the enormous and importance of investment and the training side of what we do to limit those kinds of things. Whether it is the loss of an F–22 or wrecking, as you say, a multi-billion dollar warship, those things happen.

And we can't legislate against them. We can just very carefully examine what the lessons are to be learned. I am very proud of my association with the nuclear program, and one of the things that I am proudest of is Admiral Rickover's insistence on the importance of training to the point of tediousness and certainly aggravation in the interest of making sure that we don't make mistakes in the areas we can.

So I don't think there is a good answer to your very, very good question that it is going to make you feel better.

Mr. ORTIZ. Thank you so much.

Dr. BARNETT. I would add—there is an inherent tension between the Navy's desire to maintain its utility and to promote its utility as a node within a network force that projects combat power. So there is the desire to put a lot of technology on these platforms. There is tension between that and the Navy's more prosaic role as a networker with other navies and other coast guards around the world.

And so it has a lot to do with your definition of the maritime security threat. Do you want to emphasize the very high technology, the possibilities of very high technology, high-end combat scenarios, or do you see more of the problem being kind of basic maritime governance?

And when you junk up those forces, those platforms to the point where we have a hard time even talking to some of these other navies around the world, because the disparity between our levels of technology and theirs are vast.

You know, then I think, you know, we go too much in the role of preserving sort of our big scary leviathan force, and we kind of take us out of the role of that all important networking force where you see a world that really needs a lot of mentoring in terms of small navies that have very little governance capacity off their coast, and where there is a lot of environmental damage and piracy and illegal movements of goods and so forth.

So it is a tough tradeoff, but I think we have to see the Navy move more in the direction of administering to the system rather than kind of slavishly make any effort to remain relevant in high-end war-fighting scenarios.

Mr. ORTIZ. Thank you, Mr. Chairman.

Mr. TAYLOR. The chair thanks the gentleman.

Admiral Houley. One of our continual frustrations, since the number of you who have touched on the LCS program, and I am

calling on your expertise here, what I think I see are the people that the superintendent of shipbuilding will look at a set of plans, will go on that vessel and basically, just make sure that the plans are followed.

What I don't see, and I wish I saw, and that is why I am asking for your advice here, is someone in the superintendent of shipbuilding's office who looks at that as it is being built and turns to the shipbuilder and says, "There is a better way to do this; there is a better machine out there," where we can get more ships for our dollars.

I mean, we have right off the bat an inherent conflict. The shipbuilder wants to make the most money per ship. We want to get the most ships we can get for the money we have, and what I don't see the superintendent of shipbuilding is that person who is prodding the builder to get better at what he does.

I am going to ask you for another list of people who could inform this committee how we can best accomplish that goal, because having got rid of the lead systems integrators, we are going to have to bring that back in-house, and we want to empower the people who have that job working for our Nation to get the most ships per dollar.

We want to find those people, and I want you to help me find them.

With that, the chair recognizes the gentleman from Virginia, Mr. Wittman.

Mr. WITTMAN. Thank you, Mr. Chairman. Gentlemen, thank you so much for joining us today. We appreciate you bringing your expertise to us and allowing us to ask you some questions. We really appreciate that.

I want to refer in general back to January 2009, when the Navy announced a decision to home-port a nuclear carrier at Mayport Naval Station in Florida. And Mayport's never home-ported a nuclear-powered carrier, and we are told that the military construction price tag will be $456 million plus a one-time maintenance cost of $85 million and a $24 million cost in personnel change of station. That is $565 million total.

Additionally, the Navy estimates that it will cost $25.5 million in annual recurring costs compared to keeping a carrier in Norfolk. This is due to the recurring cost of base operating support, sustainment, restoration, modernization costs, travel and per diem for transient maintenance labor.

And I am just trying to understand all this in context and want to get your thoughts on this. If you could help me maybe understand how maintenance and readiness might be conducted on an aircraft carrier should one move to Florida as an element of the fourth fleet.

And in your knowledge of this decision making, do you think the right people were consulted on the maintenance impacts of this arrangement during the Navy's decision-making process? And will the Navy be able to do or perform all the required maintenance work in Mayport, or will a Mayport home-ported carrier still need to travel to Norfolk for certain maintenance work?

Admiral HOULEY. I think that question, I would be much more comfortable addressing in the Officer's Club than I am in a hearing

in this building. No one appreciates better than a congressman that the question you just asked is a business question, a military question, and a political question.

And the answer, clearly, changes depending on what your focus is. If my major concern were jobs in Florida, then obviously, my answer would be significantly different than as a former naval officer responsible for being able to add and subtract over whatever accounts I was responsible for at the time, the answer is pretty simple, you stay in Norfolk and don't complicate the problem, especially with the nuclear propulsion plant issues that are quickly raised.

But I don't think that I am qualified to answer, or to address maybe is a better way to put it, the question, because I am not in full possession of all of the considerations. The simple, easy naval answer from a blue suiter, I think, more often than not, would be to please you at the expense of Mr. Florida.

But I don't presume to be able to balance all of these pressures.

Dr. THOMPSON. You know, I think it is not a hard tradeoff to make. I can't imagine any set of circumstances in which it would be cost effective to move a nuclear aircraft carrier back to Mayport, or to Mayport. I can't imagine any set of circumstances, unless our working assumption is that Norfolk won't be there in 10 years. Other than that, it makes no economic sense.

Mr. WITTMAN. Mr. O'Rourke.

Mr. O'ROURKE. As you know, I maintain a Congressional Research Service (CRS) report on this issue, and it presents both sides without making a recommendation since CRS reports don't do that. But to answer your narrower question of where will the maintenance take place, as you know, the military construction (MILCON) for that proposed move includes the construction of a nuclear maintenance facility.

So some forms of maintenance on the ship, up to a certain level, would be conducted in the Mayport home port. But if the ship were to need depot-level maintenance, if it needed to go into a shipyard for higher levels of maintenance, then the ship, presumably, would travel back to Virginia for that.

Mr. WITTMAN. Just to put in perspective to the whole issue about maintenance. You know, the Navy has recently suspended their ship maintenance due to funding shortfalls, and it is unfunded budget requirements of 2009 are at 4.6 billion, and the sea service has a backlog of nearly 800 million in unfunded modernization and restoration projects at its four nuclear-capable shipyards.

And, you know, putting in perspective, again, I am going to ask this not from a political standpoint but purely from an analytical standpoint. Given these funding requirements, it would appear that spending more money to duplicate a maintenance capability there in Mayport, would only exacerbate the woes that exist right now.

And do you feel that this is actually a good decision in light of those current conditions that we are having to deal with? Or do you believe that there might be a better way to pursue this to make sure the capability exists? But also, when we are looking at porting decisions, should those elements be kept in mind with that current backlog?

Dr. THOMPSON. If I could offer a pointed albeit academic response to that, in preparing my opening remarks, I looked at the CBO study of how much money we are going to be spending this year. It is $1.85 trillion above and beyond what we are going to be taking in. That works out to $5 billion a day in deficit, or as I said, about $400 million during the time that we are having this hearing.

In those sorts of circumstances, to waste money, which is what this is, waste money on something that is not germane to the Navy's war-fighting capability simply guarantees that the size of the fleet and its capabilities will diminish at a faster pace in the future.

Mr. WITTMAN. Mr. O'Rourke.

Mr. O'ROURKE. In my report, I do get at this issue, which is sort of the bottom-line issue. It concerns the strategic benefit that might accrue from moving the carrier down to Mayport and how that measures up against other strategic benefits that might be produced by spending that money in other ways.

For policymakers, I think that is the bottom-line question. You can spend the money to move the carrier down to Mayport, and the Navy will tell you that that generates certain strategic advantages as they see it in terms of dispersing the home-porting arrangements for carriers on the East Coast. And then it would become an issue of coming to a judgment on what is the value of that strategic dispersion as the Navy presents it versus the potential value of spending that money in other ways.

And that is the question for policymakers.

Mr. TAYLOR. Chair thanks the gentleman from Virginia.

We now recognize the gentleman from Connecticut, Mr. Courtney, for five minutes.

Mr. COURTNEY. Thank you, Mr. Chairman, and as you said in your opening remarks, and obviously, we have got a budget that is coming out in May, which the content of this hearing is going to be very helpful. In addition to that, we are also looking at another quadrennial defense review that is beginning the process right now.

In the last review, the number of attack submarines that was pegged was 48, and I just was wondering whether the witnesses had any opinions about whether or not that number should change, stay the same? Mr. O'Rourke's report mentioned that there is some discussion about reducing the fleet size down to 40.

So obviously, this issue is going to be swirling around out there, and maybe starting with you, Mr. Thompson, and going across.

Dr. THOMPSON. Congressman, I believe that on that on the glide path we are on, we are actually headed for not more than about 41 circa 2028. Electric Boat built those *Los Angeles* class attack subs so efficiently back in the 1970s and 1980s that they all retire very quickly going into the next two decades, and that has the consequence of reducing our attack sub numbers well below 48.

You know, we skipped six years in the 1990s with no construction. I guess that was the switch over from *Seawolf* to what we now call the *Virginia* class, and then we delayed ramping up the construction of the *Virginia* class. It is not until 2011 that we get to two a year. I am not sure we are ever going to build them at three a year.

So, although the lowest number I have heard the Joint Staff say was prudent was 48, we are actually headed for a considerably lower number. At the very least, we have to produce two a year, but anybody who suggests doing anything less than that is really putting our intelligence gathering capabilities and our undersea warfare capabilities at risk.

Admiral HOULEY. When I retired from active duty, the number was 75, plus or minus a couple. That is still my favorite number. So you can take that one and put it wherever it deserves to be. I said in my opening remarks that to me the most important thing is what has already been accomplished, and that is the multi-year capability.

We all know those submarines are terribly expensive. They too take a lot of time to build. And with that multi-year procurement and a level of two a year, you never get to a number a submariner likes or even a strategic thinker likes. But all of these things have to be considered in the same light that you all look at them.

There is a whole Navy here, not just a submarine Navy. You are all more than well aware of the issues involved with procurement if the numbers drop too low. Not only do you start paying way too much money for things, but in some cases, you have problems getting them at all. And given that all of our nuclear shipbuilding is wrapped up in two classes of ships, the amount of business that we do is pretty limited.

So I think that it is good to have a number, and it is good for these studies to continue and they never stop. They are done by friends; they are done by foes depending on what your definition of either is. And they do illuminate the issues and bring them up to date. But I think we kind of are where we are.

And if we have the ability to sustain two a year, then we can argue about a lot of other things. We have got a new class of ships we are going to have to eventually build. That is going to be another big challenge for you all as well as for the Navy and strategic thinkers. It is just going to get tougher and tougher.

And, to me, I like where we are not because it gets us to the right number of submarines, but it provides a line of defense for the moment, at least, which I am sure will be reviewed.

Dr. BARNETT. I am generally comfortable with the glide path that we are currently on. I don't have a real problem with us going from 48 to the low 40s. Two things I like to cite, you know, historically, the utility of submarines in my mind has decreased fairly dramatically over the last six decades.

There hasn't been a major submarine battle since the Second World War. There has been five torpedoes fired in two incidences in the last six plus decades. Yes, we are seeing certain countries in an anti-access strategy reach for cheap asymmetrical capabilities in terms of diesel submarines. You know, if we are really worried about that, my answer is not to come up with a highly technological answer for that.

My answer is simply to symmetricize the situation. I mean, for us to get in the business of building simple, cheap diesel submarines and meeting that threat head-on if we really seriously consider that a big threat. And whenever I hear surveillance issues, underwater capabilities of submarines, I tend to think that is over-

valued. I don't see that much utility in building submarines for surveillance reasons.

Dr. THOMPSON. Could I comment on that? I think the problem the undersea warfare community has is that much of what it does is not in the public domain. And so we are left guessing about precisely how the submarines are being used. The fact of the matter is that most of the mission days are spent on intelligence gathering.

And that doesn't necessarily mean looking for submarines. It also means doing signals intelligence collection for long periods of time, covertly, off the coast of places like Syria, China, Iran and so on. Now, the Navy's never going to talk about that in public. But to suggest that the reason why we can safely go to the low 40s is because we don't use a lot of torpedoes anymore is kind of missing the point about why we buy submarines in the first place.

Dr. BARNETT. Again, my follow would be that there is a tendency to sell the secrecy argument and the value of what we get from that intelligence gathering. I think the question has to be asked whether we need $2 billion undersea platforms to gather that intelligence. Or whether there are other means that are equally applicable that give us a large array of capabilities over the long term.

Dr. THOMPSON. I guess the next step is to cut the number of imagery satellites and signals intelligence satellites too since those are secret also.

Dr. BARNETT. No, no. It is a question of bouncing between those two. I would much rather see my money go into that kind of capability than——

Mr. TAYLOR. Gentlemen——

Dr. BARNETT [continuing]. Buying submarines.

Mr. TAYLOR. We gave the chairman of Readiness, out of respect, a bit more than five minutes, but you are fairly new here, we can't do that.

The gentleman from California, Mr. Hunter. Five minutes.

Mr. HUNTER. Thank you, Mr. Chairman. This has been a fantastic panel. First of all, I would like to comment on Dr. Barnett's comments on the Navy's risk and relevance. I think when you see boxers going at it, each boxer stays out of distance, out of reach until he wants to strike, and then he moves in.

I think in order to stay relevant, I am Marines, this is easy to say, but you have to be willing to close with the enemy and take them on. That is why I think the LCSs are important, and being able to move them.

What I would like to hear your opinion on is on our over-the-horizon capability with the Marine Corps and our ability to breach a country, basically, breach a country, build a beachhead and invade if we had to with something such as the expeditionary fighting vehicle. Do you see a need for that in the future?

Dr. BARNETT. In general, I don't see a rising requirement for forcible entry amphibious from the sea.

Mr. HUNTER. You didn't call me general; you are saying in general?

Dr. BARNETT. I said in general.

Mr. HUNTER. Oh, good. I thought you—I am a captain. Okay, good.

Dr. BARNETT. Well, my role is to call everybody general or admiral, because it usually flatters. But I don't see a rising requirement there. You know, in general, I think most of the places we are going to access are going to be permissive in terms of entry. And most of our problems are going to be encountered once we get there.

So I am more interested in fortifying the Marines on an individual basis than I am seeking the technological solutions for how they enter in any situation.

Dr. THOMPSON. You know, I remember in August of 2001, a reporter asked me whether we would be in a land war in Asia any time in the next 10 years, and I said, "No, we are not going to be in a land war in Asia any time in the next 10 years." And sure enough, I was right. We were in two land wars in Asia within three years.

It is not possible to know the future. And, you know, you get into problems like DDG–1000 or into questions about LCS if you key your capability too closely to the threat that is preoccupying you at a particular time. You really have to build multi-mission capabilities that are flexible, versatile because the threats change, especially now.

Given that, the notion that the Marine Corps is going to spend the next 10 or 20 or 30 years trying to get ashore in vehicles like the Amphibious Assault Vehicle (AAV) is really a pretty tenuous war-fighting concept. Now, I understand that the view today is that we are going to use rotorcraft for the most part to go over the beach, but you still need a vehicle that can get ashore.

And while the cost of the expeditionary fighting vehicle has gone up considerably, the program is actually doing quite well since it was restructured. I always ask people when they say, "Should we kill it," is "Well, what is your alternative?" I don't see any alternative.

Mr. O'ROURKE. I think it is also worth noting that independent of the idea of doing forcible entry, amphibious ships are increasingly recognized as having value and performing many of the other kinds of operations that I mentioned in my testimony earlier including humanitarian assistance and disaster relief, engagement and partnership building and maritime security operations.

So, even if you were to discount the idea of doing large landings ashore in a nonbenign setting, you might still wind up deciding that you need a significant number of amphibious ships for these other kinds of missions.

Admiral HOULEY. I strongly agree with Mr. O'Rourke's comment there. And while as a submariner my testimony about vehicles is worthless, the one thing that ties most of what we have talked about today together is the fact that no matter what you believe in terms of the ordering of threats in the future, the fact that they will be all over the globe is not up for debate.

And the fact that whether you are looking at aircraft carriers or whether you are looking at amphibious ready groups or whether you are looking at the helicopters that were briefly mentioned here, all of those things are part of what the Navy does.

And our case for ourselves may change in terms of the importance of this, that, or the other thing, but the importance of the

Marine capability to be moved to deal with whatever it is that we are trying to deal with, that case will not be subject to much criticism or question.

So it is perfectly worth having discussions about vehicles, which unfortunately, I can't help with. But I am really enamored with the fact that the cases for expeditionary forces seem to be increasing rapidly rather than decreasing, even though the scenarios may be something to have a debate about.

Dr. BARNETT. I also agree with the notion that amphibious ships are highly useful for that kind of lower end, less forcible entry kind of situations, which I think will proliferate, and I see other powers reaching for that kind of tool kit as well. So I see them responding to the environment, and I see us responding to the environment by maintaining certain numbers in that regard.

I don't advocate worrying too much about the forcible aspect of it, but I do see a lot——

Mr. HUNTER. Thank you, doctor.

Thank you, Mr. Chairman.

Mr. TAYLOR. The chair thanks the gentleman.

We have been called to the floor for what is probably going to be seven votes. Another committee has scheduled this room starting shortly after 12. So we are going to recognize Ms. Pingree for the last set of questions.

I would ask that our panel, and again, I very much appreciate you being here. I hope you appreciate for a change that this was actually a hearing. You all did most of the talking. And I think that was a welcome change from what often happens in this room.

So we are going to recognize Ms. Pingree. We are going to encourage each of the members who did not get a chance to submit questions for the record.

The chair now recognizes Ms. Pingree for five minutes.

Ms. PINGREE. Thank you, Mr. Chair. And I appreciate the fact that you don't have a lot of time to answer our questions, and my colleagues want to get to a vote. And so I will try to be brief here on something that clearly is complicated issue.

As you can see, I am down here in the row with the freshman. And so I am a newly elected member from a district where shipbuilding is of critical importance, and we have had a longstanding relationship with the decisions that are made by the Navy.

So my two questions, which are kind of broad, and you may say that you want to get back to me or talk to me at a future moment. One, I think, is for Mr. O'Rourke. You know, it would be very helpful to me, and perhaps this is an entire separate hearing, but to really understand factually what the differences are between the DDG–1000 and the 51.

You know, that comes up even though that is not what the topic of the hearing is today, many of you have made recommendations around this. This is clearly a change here in the direction that the Navy is taking.

And I think I need a better understanding of whether this is all about the budget and the concerns that are being raised around that or how that will substantially change what we are going about doing.

Maybe kind of blended together here, and again, I understand these are broad, complex topics. But for Rear Admiral Houley, and you discussed this a little bit, but, you know, it is very hard to understand as a newcomer to this process why the major shifts happen in the Navy strategy around their ability to sort of plan for the future of what is best to build for the Navy, how we could have come to this point of making such a dramatic shift after going down one path.

And again, I understand that we are all dealing with budget constraints that we have to be honest in our assessment of what it really costs in the future, but why does the Navy seem to be incapable of planning for future budgeting and unable to understand or at least face what future costs are going to be when they are making these major decisions about what we are going to be building?

I know a couple of you mentioned at some point, the importance of preserving an industrial base, and for me, looking at this, not just someone who is deeply concerned about the workers in our district but also someone who wants to make sure that, in the future, we have good shipbuilders who are ready to go and good yards with the capacity to build them.

It seems increasingly difficult to make these kinds of changes, and you know, why does that happen?

Admiral HOULEY. Let me be mercifully brief, mercifully simplistic and, therefore, give you a really lousy but very straightforward answer. There is an analogy here between the *Seawolf* submarine and the submarines that we are now building, the *Virginia* class.

The overall criticism was that we were building in *Seawolf,* a ship that was overly complex, overly capable and, therefore, by definition, overly expensive for the threat as projected by anybody.

Everybody thinks DDG–1000 would be a marvelous ship and a great credit to the Navy, but we would only be able to build a few of them. We would have to go through a nightmare of lessons to be learned before we ever got to that point, and in the end, the number of ships that we would add to the Navy would be continually smaller than the number we are taking out in old age.

We can't afford it. Now, I am not going to even touch the comment about why is the Navy incapable, because I don't agree with the premise of the question. These things are not simple, and sometimes, naval leadership has to do what the country or the Congress expects them to do. Sometimes we even have to do things we don't agree with. But that is part of what we do for a living.

I am not trying to suggest here that I think the CNO has been told, "You can't ask for the DDG–1000." I don't think that is the case, but I think that it is his measured wisdom that that is not in the best interest of the Navy given the overall shipbuilding situation, which we have tried to address here.

Now, that is not a complete answer to your question, which as you said, it is a 45-day question, and——

Mr. TAYLOR. Ms. Pingree? We are down to two minutes before we vote. So——

Mr. O'ROURKE. Congresswoman, just very quickly——

Mr. TAYLOR. Mr. O'Rourke. I have really got to gavel you, but if you want to carry on this conversation privately, I would appreciate that.

Thank you very much, Ms. Pingree.

[Whereupon, at 11:35 a.m., the subcommittee was adjourned.]

A P P E N D I X

March 26, 2009

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 26, 2009

Opening Statement of Congressman Gene Taylor

Chairman, Subcommittee on Seapower and Expeditionary Forces

on Future Naval Capabilities

March 26, 2009

The Hearing will come to order.

Good morning. Today the subcommittee meets in open session to explore future naval capabilities and force structure. Today's hearing is rather unique for this subcommittee. We typically are addressing the budget request directly, or conducting oversight on troubled programs. Today we have the opportunity to discuss alternate visions of the roles and missions of the U.S. Navy and U.S. Marine Corps with a distinguished panel of witnesses.

Today's witnesses have not been hand-picked to present any particular position on force structure requirements. The subcommittee has been particularly careful to not guide or steer the witnesses' testimony. Our panel was selected by their expertise in strategic analysis along with widespread admiration for their pervious published work. In fact, until I read their prepared testimony prior to this hearing I had no idea what any of them might say.

And that is exactly the type of hearing that the Ranking Member and I wanted to have. Sometimes I feel that we get too focused here in Congress on budget requests and specific acquisition programs and fail to stand back and look at the big picture to verify that the overall strategy of the Navy supports the nation's needs.

Our Navy has evolved over the years to compliment the national strategy, and this was true long before we used terms like "national strategy". Our first Navy was a commerce protection force, not a global power force, President Teddy Roosevelt and the Great White Fleet brought our nation into preeminence on the world stage as a naval power, a power that was centered on battleships, World War II changed the view of Seapower to the carrier battle group and the dominance of air power, and who knows what the next 30 years will bring. I hope our witnesses will share their views on the future force and the challenges that force may face.

The fact of the matter however is that within a few weeks the Department of Defense will send over the budget request with a detailed plan for the construction of naval vessels and aircraft. This subcommittee will need to analyze that request in a short period of time and make recommendations to the full committee and then the House for acceptance or modification. That is why a hearing such as this is so useful; listening to varying opinions always helps the final decision process.

We have a very distinguished panel with us today. Mr. O'Rourke is no stranger to this subcommittee and we routinely rely on his counsel during our yearly budget deliberations. Dr. Thompson from the Lexington Institute is widely regarded as an expert in naval affairs and he has published extensively on maritime topics. RADM Houley is a retired submarine officer who has commanded at the Ship, Squadron, and Group level along with tours in the Pentagon crafting

Naval strategy. I recommend his recent article in the U.S. Naval Institute Proceedings magazine for a detailed analysis of naval roles and missions, Dr. Barnett is a widely published author and speaker, who led a transformation in Pentagon thinking with his first book "The Pentagon's New Map; War and Peace in the 21st Century".

I would like to thank all the witness for appearing with a special thanks to Dr. Barnett for coming from out of town.

I look forward to the discussion today. Without objection it is the Chairs opinion that due to the broad topic today and the probability that the witnesses will have slightly different viewpoints the subcommittee should relax the normal rules for questioning and allow dialogue between Members and allow follow up questions from any Member present, without the loss of time.

I would now like to recognize my friend from Missouri, the Ranking Member of this subcommittee, Congressman Todd Akin.

For Immediate Release: March 26, 2009

Contact: Josh Holly; 202.226.3988
Josh.Holly@mail.house.gov

Akin Opening Statement for Hearing on Emerging Threats to U.S. Naval Forces & Future Force Paradigms for the United States Navy and Marine Corps

Washington, D.C. – U.S. Rep. Todd Akin (R-MO), Ranking Member of the House Armed Services Subcommittee on Seapower and Expeditionary Forces, today released the following prepared remarks for the subcommittee's hearing on the emerging threats to naval forces and future force paradigms for the U.S. Navy and Marine Corps:

"As I have begun to throw myself into this subcommittee's portfolio, I have found it very helpful to consider the big picture first, and only then assess the merits of any individual program. Without a clear understanding of the world in which the Navy will operate in the coming years and the missions the Navy will likely be called upon to perform, how can we possibly put any procurement or research program into context?

"It is useful, of course, to seek the Navy's opinion on these matters. It is clearly their responsibility to conduct future force planning. I had the opportunity to discuss some of these issues at length with the Chief of Naval Operations this week. I am confident that from the CNO down, the Navy is actively attempting to adapt to changing threats, the diversity of threats, and to meet the challenges of their latest maritime strategy, which calls for the maritime services to forward deploy to sustain cooperative relationships with international partners in an attempt to deter conflict and support humanitarian efforts.

"But any large institution has difficulty responding rapidly to changing threats and strategic objectives. This is particularly true for an organization, like the Navy, which relies on capital intensive equipment to execute its mission. This problem can be compounded for large institutions that are unable to recognize—in real time—that their environment has changed. Sadly, such was the case with the Navy in 1941. The service, and the nation, had to come to grips with the power of the airplane as a naval weapon the hard way.

"I believe that a similar paradigm shift may be underway and we should do our best not to be taken by surprise. This is why it is also important for the subcommittee to hear from independent observers, such as yourselves, to seek your assessment of the significant changes to the external environment in which our sea services operate. We also seek your guidance as to the tough choices the services will have to make going forward. I have begun to explore these questions with some of your peers and am pleased to continue the process.

"I hope this hearing will be a way for us to explore the constraints and assumptions that should frame any reasonable discussion about future force structure alternatives, as well as possible force size. I don't expect our witnesses to have exact answers. Rather, I hope you can offer suggestions about how we should evaluate recommendations that come to us via the fiscal year 2010 budget, the Naval Operating Concept, and the Quadrennial Defense Review. For example --

- "Does the Navy remain more or less relevant over the next 25 years, given the United States' strategic objectives, anticipated global threats and balance of power?

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- "What is the role of hallmark systems in the future, such as the carrier, submarine, the surface combatant, the Littoral Combat Ship, manned fighter aircraft, and amphibious assault vehicles?

- "What is the role of emerging technologies, such as directed energy and unmanned vehicles, in the future force structure?

- "How important is the role of information in the future and how should the Navy position itself to collect, analyze, disseminate, and deny its adversaries access to information?

- "What are the primary steps the Navy must take to get control of the cost of shipbuilding or what changes need to be made to acquisition generally?

- "Given the costs of shipbuilding, how does the Navy maintain a global presence and size itself for peacetime operations? Is it through ships or should it be through other platforms?

"With those questions in mind, Mr. Chairman, I will conclude. Again, thank you for holding this hearing today. To our witnesses, I appreciate you being with us and truly look forward to our discussion."

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HOULEY Statement 3/26/09

Good morning, Mr. Chairman.

I am honored to be asked to join this discussion, and I am well aware that most of you in this room have been considering force structure issues for many, many years. I also know it is easy to criticize any end result. I certainly have done so over my years of service. Let me first frame my remarks as follows:

- I respect the fact that those in a position of active Navy leadership are better informed than me. I hope that none of my comments are interpreted as a challenge to the Navy's budget request.
- I appreciate that every year brings new special circumstances. Obviously, this year is no exception and the remarkable economic situation makes your decisions all the more important.
- While I know that a discussion of background material is extraneous here, and I have no desire to insult the wisdom of this group, I must apologize beforehand for repeating some obvious facts in this brief statement.

The first is that the Navy's existing force level can be argued to be inadequate or barely adequate, but the oceans are vast; our position of leadership in the free world is clear; and the number of ships we have cannot logically be argued to be excessive. Second, since ship lifetimes can only be extended so far, we cannot solve our problems by painting over rust. Third, the mix of our ships can only be

changed very gradually, and any war or conflict will have to be faced with a "come as we are" force.

No matter what the arguments may be concerning how to prioritize future threats, we cannot delay augmentation of our current fleet numbers or allow continuing deterioration of those numbers through inaction.

Ship construction and modernization is but one of many issues. This Committee knows there is no magic out there, and I have none to offer. But some aspects of the Navy's challenges, as I see it, are quite clear. I have mentioned one: we have too few ships. Replacements are being built and commissioned at a slower rate than existing ships are being retired. Since nothing is cheap, what can be done? First, let's go back to those obvious facts I mentioned.

CVNs (nuclear powered aircraft carriers) are more than the backbone and heart of the Navy. They forestall the need for access that can be denied us in many parts of the world for many of the scenarios we will continue to face. They are not only the first asset a President considers when faced with a military challenge, they are one of the few unquestioned resources our nation will require in the future. These ships are enormously expensive and take a long time to build, but they are the essence of force projection --- the ultimate expeditionary force --- and any math required for the Navy budget should begin with CVNs. I would spend my full five minutes on this point but it would be an insult to your intelligence. I have to say I am concerned about this topic. Carriers may be unassailable to budget cuts in my mind, but they *are* very expensive and there are a lot of important people who are desperately looking for money to fund

urgent priorities. This subcommittee has a better chance of protecting carriers than almost any entity. Stand firm in protecting this priority!

Moving on, as a lifetime submariner, I can only thank the Congress for its wisdom in permitting multi-year procurement of SSNs, perhaps the one step that will permit this nation to maintain a force level to execute their many missions with which this Committee has first hand familiarity. The retirement rate of these ships is frightening and you have already taken action to allow the Navy to do the right thing. Our submariners will always take good care of these versatile ships.

Unfortunately, addressing naval challenges through new classes of ships carries a heavy price. Not only do they always cost more than predicted, no matter where the fault finger is pointed after the bill is added up, the money cannot be recaptured until we climb a long distance up the lessons learned curve. We must augment, not decrement, fleet size. Therefore I would emphasize these points:

1. I recommend against additional DDG1000s, not because it will not be a fine ship, but it is too expensive, takes too long to build, and will inevitably lead to a lower total number of ships in our fleet --- the one outcome we cannot permit.
2. I recommend as many improved DDG51's as we can afford. We know how to build them. The value for cost is high. The maintenance is affordable. And we know how and when to make improvements to them.
3. Now, how about LCS? I used to have a nifty set of remarks appropriate only among retired admirals about how dumb

> an idea this was. It was not helpful. But guess what? After everyone is done beating everyone else up over the excessive cost, lousy contractor performance; poor coordination; requirements creep; and so on, we finally got two hulls. LCS's will move toward a reasonable unit cost much faster than the next best idea out the chute. Essentially everyone agrees part of the Navy mix must include a lower end ship. Once we get these ships running right, the Navy will converge on the right combination of warfighting modules, and the ships will become workhorses that we can move around the world to address some of the U.S. naval presence requirements that do not require Battle Groups. I'm beginning to wish I had thought up the idea.

In a recent article in Naval Institute *Proceedings*, written in collaboration with Rear Admiral Jim Stark, we made two points I would repeat here. The first dealt with the (Ship) Requirements Process where we talked about doing a better job of controlling the number of good ideas we would like to include in new ships. Adding promising technologies, more robust combat and C4I systems is tempting for obvious reasons, especially given the range of scenarios the ships may face. But at some point it is counterproductive to augmenting the number of ships in the navy. Scrubbing the requirements process is easier said than done, but the key is that once we reach our decision at the outset, we must have absolute control over subsequent changes to those requirements. In our opinion, the authority to approve such changes should be limited to the Secretary of the Navy, but the

important point here is to limit the number of requirements-driven change orders to ship construction costs.

The second point deals with Marine Corps support. This mission is fundamental and none of the variety of military challenges of the past few years has changed that. The number and mix of vessels needed to provide the requisite lift for the Marines has changed in the past two decades. The ships have become larger, more expensive and more capable, while at the same time the number required has declined. Because amphibious ships are employed in combination, they should be judged on the capability of the expeditionary strike group or amphibious ready group as a whole rather than on the size and cost of individual units. This should be a less controversial aspect of the fleet numbers and mix issue than others.

On the subject of acquisition reform, I know we all agree it is important and we would like to address the problems and prescribe the right cures. I hope, however, that before we enact new layers of directives and legislation, that OSD, the Congress and others will talk to folks who have demonstrated real expertise in buying expensive, complicated products from major defense contractors. Expertise is established by records of personal accomplishments, not by the title on office doors. We cannot address acquisition reform by adding more rules and regulations, ostensibly to preclude repetition of past problems. Current regulations are excessive in number and in complication and are one of the sources of our problems, not a solution. We must avoid walking around the real problems and further complicating an already overly complex process. There are a lot of serious

minded men and women who have proved themselves in acquisition and business. Making the system work should be their challenge to address.

You ladies and gentlemen are all students of history. So many of our nation's predecessors in friendly and not so friendly countries have encountered financial pressures akin to ours today. Slowly, they "saved" money by agreeing to fewer and fewer ships with less and less capability. Without apparently realizing they were doing so, these nations eventually gave up their ability to project power in a meaningful manner. Even when the lights go on and circumstances make it obvious that this has happened, they discover that to regain strength of this kind requires a reversal of policies that in the best of circumstances would take many years and be prohibitively expensive. We cannot afford to make this mistake. Our responsibilities are too great and there is no backup plan. This is why I believe that while your challenge is of great importance, it is not incredibly complex. We need augment our fleet in numbers and in capability and limit the introduction of new ship classes and big changes to the maximum degree possible.

Thank you.

WILLIAM P. HOULEY 03/09

Mr. Houley is a retired two-star Navy Admiral who is an Associate with The SPECTRUM Group, one of the premier consulting groups in the National Capitol Area, located in Alexandria, VA. He is also Project Manager for the Vinson Hall Campus Redevelopment. Vinson Hall is a not-for-profit retirement community in McLean VA.

Mr. Houley graduated from Phillips Academy (Andover) and the United States Naval Academy. He began his naval career in a destroyer, then shifted to diesel electric submarines, then to nuclear powered submarines. He is an engineer and completed Admiral Rickover's nuclear power program, qualified as Engineer of a nuclear powered submarine, qualified for command at sea, graduated from the Armed Forces Staff College, was designated a Joint Service Officer and, separately, an Acquisition Professional, and attended the Harvard University Senior Management Course.

As a Commander, Mr. Houley commanded the nuclear attack submarine USS WILLIAM H. BATES (SSN680) at the height of the Cold War from 1975 to 1978. As a Captain, he commanded the U.S. Navy Submarine School at Groton, CT; and as a Rear Admiral, he commanded Submarine Group TWO, including 39 submarine crews and coordination of naval matters in a six-state area.

Mr. Houley's shore assignments were mostly in Washington, DC and involved responsibilities in education and training; personnel policy and management; acquisition; training and education; arms control; financial management; research and development, including coordination and management of international programs; and test and evaluation.

Mr. Houley retired from the Navy in November 1994. His principal awards included the Distinguished Service Medal, eight awards of the Legion of Merit, the Meritorious Service Medal, Navy Commendation Medal, Navy Unit Commendation and two awards of the Meritorious Unit Commendation. The unit commendations were all awarded when Admiral Houley was in command.

Mr. Houley subsequently joined Lockheed Martin Corporation (then Martin Marietta) and was assigned to the Ocean, Radar & Sensor Systems Division in Syracuse, NY, then to Lockheed Martin Federal Systems in Manassas, VA. At both sites Mr. Houley directed International Naval Programs.

In March 1998, Mr. Houley was asked by Secretary of Defense William S. Cohen to return to Government Service as the first Director, Defense Reform, an initiative launched by the Secretary to improve the efficiency and effectiveness of the support provided to our warfighters and the business practices of the DoD. In early 2005, he joined The SPECTRUM Group. On 31 July 2005, he was appointed interim CEO/ President of Capital Hospice, a position he held until June 2006.

In July 2006, Mr. Houley returned to The Spectrum Group where he is an associate specializing in due diligence and defense matters. He is also a member of two Boards of Directors.

Mr. Houley has been married to Judy Walsh Houley for 44 years. The Houleys have five children and ten grandchildren, all of whom live near their home in McLean, VA.

3/26/09 WITNESS
SEAPOWER SUBCOMMITTEE

DISCLOSURE FORM FOR WITNESSES
CONCERNING FEDERAL CONTRACT AND GRANT INFORMATION

INSTRUCTION TO WITNESSES: Rule 11, clause 2(g)(4), of the Rules of the U.S. House of Representatives for the 111th Congress requires nongovernmental witnesses appearing before House committees to include in their written statements a curriculum vitae and a disclosure of the amount and source of any federal contracts or grants (including subcontracts and subgrants) received during the current and two previous fiscal years either by the witness or by an entity represented by the witness. This form is intended to assist witnesses appearing before the House Armed Services Committee in complying with the House rule.

Witness name: William P Houley

Capacity in which appearing: (check one)

X Individual

___Representative

If appearing in a representative capacity, name of the company, association or other entity being represented: NA

FISCAL YEAR 2009

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
None			

FISCAL YEAR 2008

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
None			

FISCAL YEAR 2007

Federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
None			

Federal Contract Information: If you or the entity you represent before the Committee on Armed Services has contracts (including subcontracts) with the federal government, please provide the following information:

Number of contracts (including subcontracts) with the federal government:

Current fiscal year (2009): None;
Fiscal year 2008: None;
Fiscal year 2007: None.

Federal agencies with which federal contracts are held:

Current fiscal year (2009): None;
Fiscal year 2008: None;
Fiscal year 2007: None.

List of subjects of federal contract(s) (for example, ship construction, aircraft parts manufacturing, software design, force structure consultant, architecture & engineering services, etc.):

Current fiscal year (2009): None;
Fiscal year 2008: None;
Fiscal year 2007: None.

Aggregate dollar value of federal contracts held:

Current fiscal year (2009): None;
Fiscal year 2008: None;

Fiscal year 2007: None.

Federal Grant Information: If you or the entity you represent before the Committee on Armed Services has grants (including subgrants) with the federal government, please provide the following information:

Number of grants (including subgrants) with the federal government:

Current fiscal year (2009): None;
Fiscal year 2008: None;
Fiscal year 2007: _____.

Federal agencies with which federal grants are held:

Current fiscal year (2009): None;
Fiscal year 2008: None;
Fiscal year 2007: _____.

List of subjects of federal grants(s) (for example, materials research, sociological study, software design, etc.):

Current fiscal year (2009): None;
Fiscal year 2008: _____;
Fiscal year 2007: _____.

Aggregate dollar value of federal grants held:

Current fiscal year (2009): None;
Fiscal year 2008: _____;
Fiscal year 2007: _____.

Statement submitted

By

Dr. Thomas P.M. Barnett,
Senior Managing Director,
Enterra Solutions LLC

To

Seapower and Expeditionary Forces Subcommittee,
House Armed Services Committee,
United States Congress

26 March 2009

I appear before the subcommittee today to provide my professional analysis of the current global security environment and future conflict trends, concentrating on how accurately—in my opinion—America's naval services address both in their strategic vision and force-structure planning. As has been the case throughout my two decades of working for, and with, the Department of Navy, current procurement plans portend a "train wreck" between desired fleet size and likely future budget levels dedicated to shipbuilding. I am neither surprised nor dismayed by this current mismatch, for it reflects the inherent tension between the Department's continuing desire to maintain some suitable portion of its legacy force and its more recent impulse toward adapting itself to the far more prosaic tasks of integrating globalization's "frontier areas"—as I like to call them—as part of our nation's decades-long effort to play bodyguard to the global economy's advance, as well as defeat its enemies in the "long war against violent extremism" following 9/11. Right

now, this tension is mirrored throughout the Defense Department as a whole: between what Secretary Gates has defined as the "next-war-itis" crowd (primarily Air Force and Navy) and those left with the ever-growing burdens of the long war—namely, the Army and Marines.

It is my sense that the current naval leadership views the global environment with great accuracy, understanding its service role to be one of balancing between four strategic tasks: a) sensibly hedging against the slim possibility of great-power war; b) preparing the force for high-end combat operations against a regional rogue power armed with nascent nuclear weapons capacity; c) supporting/conducting ground operations in the struggle against violent extremism; and d) improving maritime governance and security in those regions where today it remains virtually non-existent (e.g., most of Africa's coastline). Using the vernacular of my published works*, I consider the first two tasks (great-power war, war against regional rogues) to fall under the rubric of America's Leviathan** or big-war force, while the latter

* See *The Pentagon's New Map: War and Peace in the Twenty-First Century* (2004), *Blueprint for Action: A Future Worth Creating* (2005), and *Great Powers: America and the World After Bush* (2009), all published by G.P. Putnam's Sons.

** The Leviathan refers to the U.S. military's warfighting capacity and the high-performance combat troops, weapon systems, aircraft, armor, and ships associated with all-out war against traditionally defined opponents (i.e., other great-power militaries). This is the force America created to defend the West against the Soviet threat, now transformed from its industrial-era roots to its information-age capacity for high-speed, high-lethality, and high-precision major combat operations. The Leviathan force is without peer in the world today, and—as such—frequently finds itself fighting shorter and easier wars. This "overmatch" means, however, that current and future enemies in the long war on violent extremism will largely seek to avoid triggering the Leviathan's employment, preferring to wage asymmetrical war against the United States, focusing on its economic interests and citizenry. The Leviathan rules the "first half" of war, but it is often ill suited, by design and temperament, to the "second half" of peace, to include postconflict stabilization-and-reconstruction operations and counterinsurgency campaigns. It is thus counterposed to the System Administrators force.

two tasks (struggle against extremism, extending governance) define the growing portfolio of our nation's System Administrator* or small-wars force.

Historically, the Department of Navy defined the totality of our nation's would-be System Administrator force, meaning, prior to the World Wars of the 20th century, it was the job of the Navy and Marine Corps to both defend and extend America's commercial networks with the outside world, while the U.S. Army (i.e., Department of War) served mainly as a continental constabulary force that worked to integrate western frontier lands. Those World Wars, in combination with the Cold War, transformed the U.S. Army and its offshoot, the Air Force, into *the* primary Leviathan services vis-à-vis the Soviet threat, while the naval services, despite the grand ambitions of their 1980s Maritime Strategy, were left overwhelmingly in the role of managing the adjacent theaters known as the Third World. At Cold War's end, those naval forces gladly embraced their enduring "SysAdmin" role, portraying themselves as de facto global police capable of handling—on their own—virtually all developing-region crisis scenarios short of regional war. But with the post-9/11 interventions (Iraq, Afghanistan), the Navy quickly saw its global constabulary role

* System Administrators (SysAdmin) refers to the "second half" blended force that wages the peace after the Leviathan force has successfully waged war. Therefore, it is a force optimized for such categories of operations as "stability and support operations" (SASO), postconflict stabilization and reconstruction operations, "humanitarian assistance/disaster relief" (HA/DR), and any and all operations associated with low-intensity conflict (LIC), counterinsurgency operations (COIN), and small-scale crisis response. Beyond such military-intensive activities, the SysAdmin force likewise provides civil security with its police component, as well as civilian personnel with expertise in rebuilding networks, infrastructure, and social and political institutions. While the core security and logistical capabilities are derived from uniformed military components, the SysAdmin force is fundamentally envisioned as a standing capacity for interagency (i.e., among various U.S. federal agencies) and international collaboration in nation-building, meaning that both the SysAdmin force and function end up being more civilian than uniform in composition, more government-wide than just Defense Department, more rest-of-the-world than just the United States, and more private-sector-invested than public-sector-funded.

eclipsed by the U.S. Army, as that force, supported by the Marines, once again stepped into its pre-20th-century role as our nation's primary nation-building /occupational/counterinsurgency force—this time on the shifting frontiers of globalization's advance.

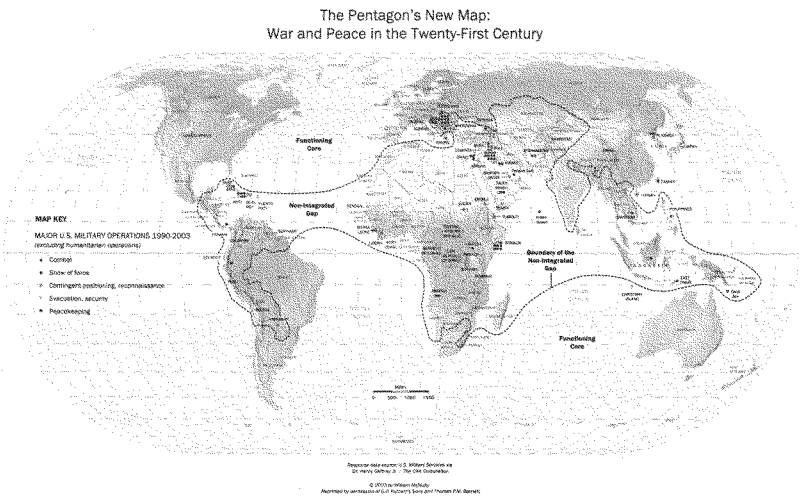
Now, the Navy finds itself split between preserving its blue-ocean Leviathan fleet while simultaneously expanding its green/brown-water SysAdmin fleet, the former speaking primarily to 20th-century great-power war scenarios that have lingered despite globalization's deep, pacifying embrace (see my geographic definition of globalization's Functioning Core* in Figure 1 below), while demand for the latter only increases *because* of globalization's historically swift penetration of a raft of previously off-grid, still largely traditional regions (my definition of globalization's Non-Integrated Gap**) where today we locate virtually all of the wars, civil wars, genocide and ethnic "cleansing," mass rape as a tool of terror, children lured or

* The Functioning Core refers to those parts of the world that are actively integrating their national economies into a global economy and that adhere to globalization's emerging security rule set. The Functioning Core at present consists of North America, Europe both "old" and "new," Russia, Japan and South Korea, China (although the interior far less so), India (in a pockmarked sense), Australia and New Zealand, South Africa, and the ABCs of South America (Argentina, Brazil, and Chile). That is roughly 4 billion out of a global population of more than 6 billion. The Functioning Core can be subdivided into the Old Core, anchored by America, Europe, and Japan; and the New Core, whose leading pillars are China, India, Brazil, and Russia. There is no substantial threat of intra-Core war among these great powers. However, there remain competing rule sets regarding what constitutes proper Core interventions inside the Gap, as recently indicated by Russia's contested intervention in Georgia's ongoing civil strife.

** The Non-Integrated Gap refers to those regions of the world that are largely disconnected from the global economy and the rule sets that define its stability. Today, the Non-Integrated Gap is made up of the Caribbean Rim, Andean South America, virtually all of Africa, the Caucasus, Central Asia, the Middle East, and most of the Southeast Asian littoral. These regions constitute globalization's "ozone hole," where connectivity remains thin or absent in far too many cases. Of course, each region contains some countries that are very Core-like in their attributes (just as there are Gap-like pockets throughout the Core defined primarily by poverty), but these are like mansions in an otherwise seedy neighborhood, and as such are trapped by these larger Gap-defining circumstances.

forced into combat activity, acts of terrorism, exporters of illegal narcotics, UN peacekeeping efforts, and 95 percent of U.S. military overseas interventions since 1990.

Figure 1: The Pentagon's New Map (2004)



As someone who helped write the Department of Navy's white paper, ...*From the Sea*, in the early 1990s and has spent the last decade arguing that America's grand strategy should center on fostering globalization's advance, I greatly welcome the Department's 2007 Maritime Strategic Concept that stated:

> United States seapower will be globally postured to secure our homeland and citizens from direct attack and to advance our interests around the world. As our security and prosperity are inextricably linked with those of others, U.S. maritime forces will be deployed to protect and sustain the peaceful global system comprised of interdependent networks of trade, finance, information, law, people and governance.

Rather than merely focusing on whatever line-up of rogue powers constitutes today's most pressing security threats, the Department's strategic concept locates its operational center of gravity amidst the most pervasive and persistently revolutionary dynamics associated with globalization's advance around the planet, for it is primarily in those frontier-like regions currently experiencing heightened levels of integration with the global economy (increasingly as the result of Asian economic activity, not Western) that we locate virtually all of the mass violence and instability in the system.

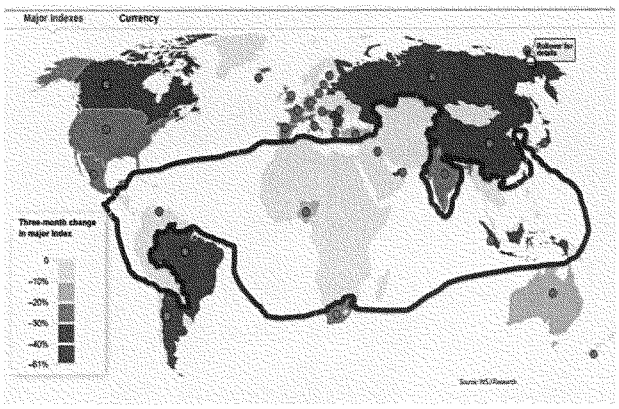
Moreover, this strategic bias toward globalization's Gap regions (e.g., a continuous posturing of "credible combat power" in the Western Pacific and the Arabian Gulf/Indian Ocean) and SysAdmin-style operations there makes eminent sense in a time horizon likely to witness the disappearance of the three major-war scenarios that currently justify our nation's continued funding of our Leviathan force—namely, China-Taiwan, Iran, and North Korea. First, the Taiwan scenario increasingly bleeds plausibility as that island state seeks a peace treaty with the mainland and proceeds in its course of economic integration with China. Second, as Iran moves ever closer to achieving an A-to-Z nuclear weapon capability, America

finds itself effectively deterred from major war with that regime (even as Israel will likely make a show—largely futile—of delaying this achievement through conventional strikes sometime in the next 12 months). Meanwhile, the six-party talks on North Korea have effectively demystified any potential great-power war scenarios stemming from that regime's eventual collapse, as America now focuses largely on the question of "loose nukes" and China fears only that Pyongyang's political demise might reflect badly on continued "communist" rule in Beijing—hardly the makings of World War III.

As the Leviathan's primary warfighting rationales fade with time, its proponents will seek to sell both this body and the American public on the notion of coming "resource wars" with other great powers. This logic is an artifact from the Cold War era, during which the notion of zero-sum competition for Third World resources held significant plausibility primarily because economic connectivity between the capitalist West and the socialist East was severely limited. But as the recent financial contagion proved, that reality no longer exists (see Figure 2 below). The level of financial interdependence across globalization's Functioning Core, in addition to the supply-chain connectivity generated by globally integrated production lines, renders moot the specter of zero-sum resource competition among the world's great powers. If anything, global warming's long-term effects on agricultural production around the planet will dramatically increase both East-West and North-South interdependency as a result of the emerging global middle class's burgeoning demand for higher caloric intake/resource-intensive foodstuffs. To the

extent that rising demand goes unmet or Gap regions suffer significant resource shortages in the future, we are exceedingly unlikely to see resumed great-power conflict as a result. Rather, we are likely to witness even more destabilizing civil strife in many fragile states (a situation to which even rising great powers such as Brazil, Russia, India and China could return under the right macro-economic conditions), thus additionally increasing the SysAdmin force's global workload and triggering further Pentagon resource shifts from the underutilized Leviathan force. Naturally, the same could be said about the legacy of today's global economic crisis.

Figure 2: Initial market declines during 2008 global financial crisis. Core-Gap superimposed



(Source: Wall Street Journal, 13 October 2008)

In sum, I see a future in which the SysAdmin side of the ledger (more Green than Blue) experiences continued significant growth in its global workload, while the Leviathan (more Blue than Green) experiences the opposite. As such, the U.S. Government's ongoing budget woes, in combination with the rising costs associated

with equipping the Leviathan force (e.g., incredibly expensive capital ships), means that the Leviathan's platform numbers will shrink significantly over the next couple decades while the SysAdmin's numbers (a cheaper mix of smaller and more disposable/unmanned platforms) will rise dramatically—along with personnel requirements (already seen with the move to add 92,000 ground troops). As a result, America's "soft power" military resources will grow in size and capabilities, over time generating pressure to create some new bureaucratic entity more operationally in line with such activities—namely, somewhere between our current departments of "peace" (State) and "war" (Defense).

As for the Department of Navy's current force-structure plan, I think it's safe to say that our naval Leviathan force enjoys a significant—as in, *several times over*—advantage over any other force out there today. As such, our decisions regarding new capital ship development and procurement should center largely on the issue of preserving industrial base. My strategic advice is that America should go as low and as slow as possible in the production of such supremely expensive platforms, meaning we accept that our low number of per-class buys will be quite costly. To the extent that ship or aircraft numbers are kept up or even expanded in aggregate, I believe such procurement should largely benefit the SysAdmin force's need for many cheap and small platforms, preferably of the sort that can be utilized by our forces for some suitable period of time and then given away to smaller navies around the world to boost their own capacity for local maritime governance. In other words, we should increasingly make our overall naval force structure

symmetrical to the now-asymmetrical challenges and threats found in globalization's frontier regions (what I call the Gap), our long-term focus being on increasingly the capacity of states there to govern those spaces on their own.

As such, I am a firm believer in Admiral Mike Mullen's notion of the "1,000-ship navy" and the Global Maritime Partnerships initiative, especially when, as a part of such efforts, our naval forces expand cooperation with the navies of rising great powers like China and India, two countries whose militaries remain far too myopically structured around border conflict scenarios (Taiwan for China, Kashmir for India). America must dramatically widen its definition of strategic allies going forward, as the combination of the overleveraged United States and the demographically-moribund Europe and Japan no longer constitutes a global quorum of great powers sufficient to address today's global security agenda.

To conclude, the U.S. Navy faces severe budgetary pressures on future construction of traditional capital ships and submarines. Those pressures will only grow as a result of the current global economic crisis (which—lest we forget—generates similar pressures on navies around the world) and America's continued military operations abroad as part of our ongoing struggle against violent extremism. Considering these trends as a whole, I would rather abuse the Navy—force structure-wise—before doing the same to either the Marine Corps or the Coast Guard. Why? It is my professional opinion that the United States defense community currently accepts far too much risk *and* casualties *and* instability on the

low end of the conflict spectrum while continuing to spend far too much money on building up our combat capabilities for high-end scenarios. In effect, we over-feed our Leviathan force while starving our SysAdmin force, accepting far too many avoidable casualties in the latter while hedging excessively against theoretical future casualties in the former. Personally, I find this risk-management strategy to be both strategically unsound and morally reprehensible.

As this body proceeds in its collective judgment regarding the naval services' long-range force-structure planning, my suggested standard is a simple one: give our forces fewer big ships with fewer personnel on them and many more smaller ships with far more personnel on them. As the Department of Navy *finally* gets around to fulfilling the strategic promise of systematically engaging the littoral ... *from the sea*, doing so in complete agreement—in my professional opinion—with the security trends triggered by globalization's tumultuous advance, I would humbly advise Congress not to stand in its way.

Thomas P.M. Barnett

- **Senior Managing Director, Enterra Solutions**
- **Contributing Editor, *Esquire*, thomaspmbarnett@mac.com**
- **Blogger, Thomas P.M. Barnett :: Weblog**
- **Public Speaker, Click here for more information**
- **University of Tennessee Baker Center Distinguished Scholar and Author**
- **Columnist, Knoxville News Sentinel**

EDUCATION:
B.A. in International Relations and Russian Literature, University of Wisconsin, 1984
A.M. in Soviet Union Program, Harvard University, 1986
Ph.D. in Political Science, Harvard University, 1990

BOOKS:
***Romanian and East German Policies in the Third World: Comparing the Strategies of Ceaucescu and Honecker* (1992)**
***The Pentagon's New Map: War and Peace in the Twenty-First Century* (2004)**
***Blueprint for Action: A Future Worth Creating* (2005)**
Great Powers: America and the World After Bush (2009)

Thomas P.M. Barnett is a strategic planner who has worked in national security affairs since the end of the Cold War and has operated his own consulting practice (Barnett Consulting) since 1998. Tom founded a consulting partnership with two other outstanding individuals called The New Rule Sets Project LLC. The consultancy was acquired by Enterra Solutions, LLC. in August of 2005, with Dr. Barnett as Senior Managing Director.

A *New York Times*-bestselling author and a nationally-known public speaker who's been profiled on the front-page of the *Wall Street Journal*, Dr. Barnett is in high demand within government circles as a forecaster of global conflict and an expert of military transformation, as well as within corporate circles as a management consultant and conference presenter on issues relating to international security and economic globalization. An award-winning teacher, Prof. Barnett has written for *Esquire*, *Wired*, *Good*, *National Review*, and the *Washington Post*, and has been interviewed in *Rolling Stone*, *Epoca* (Brazil), and *Nihon Keizai Shimbun* (Japan's *Nikkei News)*. Having granted numerous interviews over the years, Tom Barnett has been described by U.S. News & World Report's Michael Barone as "one of the most important strategic thinkers of our time."

Dr. Barnett is best known as the author of *The Pentagon's New Map: War and Peace in the Twenty-First Century* (New York: G.P. Putnam's Sons, 2004), *Blueprint for Action: A Future Worth Creating* (2005), and *Great Powers: America and the World After Bush (2009)*. Described by *Washington Post* columnist David Ignatius as "a combination of Tom Friedman on globalization and Karl von Clausewitz on war," the wide-ranging volumes has generated an enormous amount of reaction from around the world, leading to foreign rights already being sold in Japan, Turkey and China, as well as profiles in London's *Daily Telegraph*, Denmark's Borsen, and Switzerland's WeltWoche. Mr. Barnett's book was likewise the subject of a *Book Notes* show on C-SPAN (with Brian Lamb), an *On Point* show on National Public Radio, and many other national TV and radio segments.

In addition to his speaking and consulting, Tom Barnett is a prolific blogger on current global events at his website www.thomaspmbarnett.com, where he counts among his regular readers representatives from all the major U.S. military commands, virtually all U.S. federal departments, numerous foreign governments, and major research and corporate entities the world over.

Tom has been a Contributing Editor for Esquire magazine since the beginning of 2005. His latest article for the magazine was the March 2009 feature, "Obama's New Map."

From 1998 through 2004, Prof. Barnett was a Senior Strategic Researcher and Professor in the Warfare Analysis & Research Department, Center for Naval Warfare Studies, U.S. Naval War College, Newport RI, where he taught and served--in a senior advisory role--with military and civilian leaders in the Office of the Secretary of Defense, the Joint Staff, Central Command, Special Operations Command, and Joint Forces Command. From November 2001 to June of 2003, Dr. Barnett was on temporary assignment as the Assistant for Strategic Futures, Office of Force Transformation (OFT), Office of the Secretary of Defense, where he worked with (then) OFT Director Vice Admiral Arthur K. Cebrowski (USN, ret.) on a cluster of strategic concepts that link change in the international security environment to the imperative of transforming U.S. military capabilities to meet future threats.

Dr. Barnett has published a number of articles explaining these strategic concepts, which he presents comprehensively in "what may be history's most famous Pentagon briefing," declared syndicated columnist Jack Kelly. As of Marchr 2009, Prof. Barnett has delivered this brief approximately well over a thousand times to a cumulative wordwide audience of more than 100,000 government officials, military officers, industry and think tank representatives, and opinion leaders.

At the Naval War College, Dr. Barnett served as Director of the *NewRuleSets.Project*, an ambitious effort to draw new "maps" of power and influence in the world economy so as to expand the U.S. Military's--and specifically, the U.S. Navy's--vision of where and how it can wield maximum influence across the international security environment of the Era of Globalization. The first phase of the project (January 2000-October 2001) was conducted in partnership with the Wall Street broker-dealer firm Cantor Fitzgerald, which hosted three full-day "decision event" workshops atop World Trade Center 1 (Windows on the World). These workshops brought together elite leaders from the worlds of finance, national security, think tanks and industry to discuss the crucial "flows" of globalization, with a special emphasis on Developing Asia. Phase I yielded three briefings and two published reports: one on Asian Energy Futures and another on Foreign Direct Investment. The second phase of the project (November 2001-June 2003) consisted of Dr. Barnett's follow-on work with the Office of Force Transformation. Prior to this study, Dr. Barnett directed the Year 2000 International Security Dimension Project.

Prior to joining the College in August 1998, Dr. Barnett served as a Project Director in both the Center for Naval Analyses and the Institute for Public Research, the two major divisions of The CNA Corporation (CNAC), a private research firm located in Alexandria, VA. His two major accomplishments during his CNAC career were:

- Serving as a member of the Naval Force Capabilities Planning Effort that developed the new strategic concepts eventually published in the Navy's White Paper . . . *From The Sea*, the first draft of which he co-authored along with a handful of senior naval officers
- Pioneering and managing CNAC's contractual relationship with the U.S. Agency for International Development (USAID).

While at CNAC, he published several dozen reports, essays, and annotated briefings on a wide variety of subjects. In the mid-1990s, Prof. Barnett has penned a book-length manuscript entitled, *The Emily Updates: A Year in the Life of a Three-Year-Old Battling Cancer* (1998), which he plans to publish eventually as a book.

Professor Barnett has a BA (Honors) from the University of Wisconsin with a double-major in Russian Language and Literature and International Relations (emphasis—U.S. Foreign Policy). At Wisconsin, he was elected to Phi Beta Kappa his junior year. Following Wisconsin, Dr. Barnett earned an AM in Regional Studies: Russia, Eastern Europe and Central Asia and a PhD in Political Science (major—International Relations; minor—Comparative Politics) from Harvard University. His dissertation was entitled, *Warsaw Pact-Third World Relations, 1968-1987: Explaining the Special Roles of Romania and East Germany*, was later published by Praeger as *Romanian and East German Policies in the Third World*. While at Harvard, he served as Research Assistant to the Director of the Russian Research Center, Professor Adam

B.Ulam, and worked as a Teaching Fellow in the History and Government Departments.

Thomas Barnett is also a Green Bay Packer season ticket-holder (Gold Package), and as one of the stockholders of the franchise, he feels it is essential to check up on his investment on a regular basis. His seats are located in the historic "South End Zone" of Lambeau Field. Prof. Barnett's maternal grandfather, Gerald Clifford (1889-1952), was a 1991 inductee of the Green Bay Packer Hall of Fame.

Thomas and Vonne Barnett live in Indiana with their four children.

THE NAVY WILL HAVE LESS MONEY IN THE FUTURE, NOT MORE

Remarks on Naval Shipbuilding Plans before the Seapower & Expeditionary Forces Subcommittee of the House Armed Services Committee

Loren B. Thompson, Ph.D.
Lexington Institute
March 26, 2009

Thank you for the opportunity to be here today.

I would like to briefly review the military and economic challenges our nation faces, and then draw some conclusions about the outlook for naval ship construction.

The **security challenges** we face today are not worse than they were 20 years ago (what could be worse than having 10,000 nuclear warheads aimed at your country?) but they are more diverse.

Many of the challenges that trouble us today -- such as failed states, Islamic terrorism and nuclear proliferation -- barely affected our military plans at all during the cold war.

But that world is now long gone, replaced by a landscape of dangers that are both ambiguous and ubiquitous, thanks to the information revolution.

In this new world the joint force must be all things to all people, because we simply can't say how threats will shift from year to year.

The sea services now spend much of their time engaged in non-traditional missions, and those missions often must be carried out even farther from home than in the old days.

So changes in the character and location of the security challenges we face, by themselves, would be enough to warrant a rethink of what kind of navy we need.

However, that will not be the biggest concern we have in the decade ahead.

The biggest concern will be that our **economy is in decline** and the federal government is out of money.

How broke is the federal government?

-- So broke that during the two hours we are meeting this morning it will spend $400 million it does not have.

-- So broke that the federal debt has doubled to $11 trillion in just eight years, and threatens to double again in the next eight.

-- So broke that we are sustaining our defense posture in part by borrowing money from the same country our military planners are preparing to fight.

There is no time in living memory when U.S. finances have been in such bad shape, and therefore all the things we thought we knew about the future availability of funding for the joint force are suspect.

I have attached to the remarks I gave the subcommittee my cover story from the current issue of *Armed Forces Journal* about the impact of economic decline on military preparedness.

The article concludes that the days when 5% of the world's population (us) could sustain nearly 50% of the world's military spending are coming to an end.

What that means for **naval ship construction** is that current Navy plans are not affordable.

If we build the kind of networked, interoperable national fleet envisioned in the joint maritime strategy, then we can get very good results from the warships we do buy.

But we cannot get Navy ship numbers above 300 unless we purchase smaller, cheaper warships.

Unfortunately, that approach will not work with aircraft carriers or submarines, where we are locked into costs and construction rates that can only be cut by substantially reducing our global presence and warfighting capability.

We must sustain production of the *Ford* class of future **aircraft carriers** at the rate of one every four years, otherwise the number of flattops in the Fleet will remain below the twelve required.

And we must build the *Virginia* class of attack **submarines** at the rate of two per year for the foreseeable future if we are to avoid huge gaps in undersea warfare and intelligence-gathering capabilities.

Thus, the savings needed to bring naval ship construction into alignment with likely resources will have to be found mainly in surface combatants and vessels associated with amphibious warfare.

The Navy has already begun the necessary adjustments by proposing to cancel the **DDG-1000 destroyer,** which is too costly and ill-suited to the emerging threat environment.

Terminating production at three vessels -- and preferably two -- while continuing construction of versatile **Aegis destroyers** is the only sensible response to military and fiscal realities.

With regard to smaller surface combatants, the Navy needs to make a choice between the two versions of the **Littoral Combat Ship**, and consider supplementing LCS with the more conventional **National Security Cutter** being built for the Coast Guard.

It is much too early to call LCS a "failed program" -- the lead ship was delivered to the Fleet in half the usual time, and had a successful inspection -- but the warships will cost more than expected and there are uncertainties surrounding the concept of operations.

While the National Security Cutter is slower and requires deeper water to operate, it has similar on-board equipment and longer endurance, making it potentially applicable to numerous missions.

The **amphibious fleet** presents a bigger puzzle, because it appears the stated requirement for 33 warships is too small given the greater bulk of up-armored combat vehicles and the need to establish Global Fleet Stations.

The decision to use the LPD-17 hull as a replacement for aging LSD vessels is a step towards greater affordability, since it greatly reduces design costs and extends serial production of an existing ship-type.

However, there are real doubts about the affordability of the future maritime prepositioning force, a fact underscored by OMB's suggestion in its fiscal 2010 budget guidance to the Navy that spending on new prepositioning ships be canceled.

I would be pleased to elaborate on my views concerning all these programs during the question-and-answer period.

AMERICA'S ECONOMIC DECLINE: WHAT IT MEANS FOR NATIONAL DEFENSE

Cover Story, *Armed Forces Journal*, March 2009

Loren B. Thompson, Ph.D.
Lexington Institute

The United States has possessed the most powerful economy in the world for so long that no one alive today can remember a time when America was not Number One. The armed forces have been a big beneficiary of the nation's economic success. Although Pentagon planners frequently complain about having to operate in a "fiscally constrained" environment, the United States accounts for nearly half of global military outlays. It is a remarkable reflection of America's economic strength that less than five percent of the world's population can sustain such a high level of defense spending, using less than five percent of gross domestic product.

But what if America ceased to be the world's biggest creditor, its largest producer of goods, its most successful trader? Sad to say, those questions are no longer hypothetical. Over the last 30 years, the nation that practically invented free enterprise has become the world's biggest debtor, has witnessed the rapid decline of a manufacturing sector once dubbed the "arsenal of democracy," and has accumulated an annual trade deficit equivalent to well over $2,000 per citizen per year.

In other words, America's economy is in decline. The problem isn't just a severe cyclical downturn caused by excesses in the housing market. The economy is undergoing a more profound, secular erosion that has resulted in it giving up a little more of its share of global output every year in this decade, in much the same way that General Motors and Ford have gradually yielded share in the domestic automobile market. When the current decade began, America generated nearly a third of world output. By the time it ends, America will claim barely a quarter. Optimists such as Fareed Zakaria describe this trend as "the rise of the rest," but it might just as easily be called the decline of the West, especially America.

The negative economic news has not yet had much impact on the thinking of military analysts. They are accustomed to thinking of defense as one of the few sectors in the national economy driven by non-economic forces, namely threats and politics. But if the country's economy continues to weaken, it is inevitable that the resulting scarcity of funds will force reductions in military outlays. Furthermore, the decline of specific industrial sectors such as steelmaking, electronics, chemicals and pharmaceuticals will limit the options military planners have for sustaining the most demanding military campaigns. So policymakers need to take a hard look at what current economic trends mean for the nation's future military preparedness.

The place to start is by asking three basic questions. First, how serious is the decline in America's economic power? Second, what does the decline portend for the affordability of the planned defense program? And third, how can defense outlays be structured so that they help the economy rather than hurt it? Liberals and conservatives alike will question the wisdom of making defense spending decisions according to economic criteria, but as the following analysis

indicates, separation of the two spheres is no longer affordable because Washington is out of money.

How Serious Is The Decline?

Shortly before President Obama took office, the U.S. intelligence community's top analyst completed a major assessment of global trends through 2025. The analyst, Thomas Fingar, predicted that the international system would be "transformed" over the next 15 years in much the same way that it was remade after World War Two. But unlike during the cold war, when America rose to unrivaled supremacy, Fingar's study predicted it would be China that had the most influence on global politics and economics in the years ahead. The United States would probably remain the single most powerful nation in the near term, Fingar concluded, but in relative terms China would be rising fast and America would de declining.

Fingar traced the source of these trends mainly to America's loss of economic power. He said that, "In terms of size, speed and directional flow, the transfer of global wealth and economic power now under way -- roughly from West to East -- is without precedent in modern history." Shortly after Fingar's findings became public, former deputy treasury secretary Robert Altman rendered a similar verdict in *Foreign Affairs* keyed to the credit-market collapse. Altman warned that the unfolding financial crisis "is a major geopolitical setback for the United States and Europe," and predicted it would "accelerate trends that are shifting the world's center of gravity away from the United States." He too saw China as a rising power poised to capitalize on America's decline.

Such fears might be overstated in much the same way that warnings of Japan's rise were overdone a generation ago. Concern about national decline has been a commonplace topic among intellectuals since Edward Gibbon published the first volume of *The Decline and Fall of the Roman Empire* in 1776. Clearly, some of the more pessimistic predictions from past generations were wrong. Even today, there is much misinformation in the public media about precisely what's wrong with America. For example, as a recent RAND Corporation study pointed out, it is hard to argue that American science is in decline when the nation generates 40 percent of all research spending among industrialized countries, produces a similar share of patented innovations, and hosts three-quarters of the world's top 40 universities. In a typical year, IBM generates more technology patents than all of China combined.

However, America's scientific prowess is no longer translating into economic strength the way it once did. A review of economic trends over the past decade reveals rapid deterioration in the solvency and competitiveness of the U.S. economy.

Economic growth. The growth of the economy has lagged behind the rest of the world for a dozen years, averaging barely two percent annually during the Bush Administration. Between 2000 and 2008, the U.S. share of global output fell from 31 percent to 27 percent. While the United States endured twin recessions at the beginning and end of President Bush's tenure -- and anemic growth in between -- China's growth rate averaged about ten percent annually throughout the decade.

Family income. The modest expansion that followed the dot.com meltdown at the beginning of Bush's first term produced no income gain for average families, the first time that has ever happened. Median household income remained stuck at about $61,000 annually, even as the price of everything from housing to healthcare to energy went up. The CIA estimates that all of the gains in income in the United States since 1975 have gone to the upper 20 percent of households.

Job creation. The last eight years have witnessed the lowest rate of private-sector job creation on record since World War Two. Most of the gains in employment have occurred in government or in areas closely related to government spending, such as education and healthcare. Meanwhile, the manufacturing sector has lost an average of 50,000 jobs every month for eight straight years.

Trade balance. The nation's annual trade deficit has doubled from an already sizable $380 billion at the beginning of the decade to well over $700 billion today. While much of the increase is traceable to rising oil prices that have fallen in recent months, the nation is also running a deficit of over a billion dollars per day in manufactured goods. The imbalance has weakened the value of the dollar while leading to vast accumulations of U.S. currency in foreign hands.

Budget deficit. The debt of the federal government has nearly doubled from $5.7 trillion at the beginning of the decade to nearly $11 trillion today. The yearly balance of federal outlays and tax receipts, which was substantially in surplus when President Bush entered office, deteriorated to a $480 billion deficit in fiscal 2008, and is expected to exceed a trillion dollars in fiscal 2009. President Obama has warned of trillion-dollar deficits for years to come as a result of the current economic crisis.

Bad as these broad-based indicators sound, they do not capture the full extent of erosion in some parts of the economy relevant to military power. That is especially true of the manufacturing sector, which includes most of the so-called defense industrial base. While aerospace companies are doing reasonably well, the overall health of U.S. manufacturing has been weakening for decades. The near collapse of the domestically-owned auto industry is just the latest indication of decline. Commercial shipbuilding and consumer electronics industries have largely disappeared since the 1980s, while U.S. steel-makers now account for only seven percent of global output (compared to 38 percent for Chinese steel-makers). Furthermore, the migration of manufacturing overseas is not confined to traditional metal-bending activities: the pharmaceutical industry is now incapable of manufacturing antibiotics like penicillin without supplies from China.

Will the Defense Plan Be Affordable?

In fiscal 2008, defense spending broadly defined claimed about five percent of gross domestic product and 23 percent of the federal budget. In addition to the baseline defense budget of $479 billion, $188 billion was spent on military operations in Iraq and Afghanistan, and $22 billion was spent on related activities outside the defense department, most notably the energy department's nuclear weapons program. The resulting total -- $689 billion -- is widely viewed as

the peak level of military outlays in the current decade since spending in the baseline budget is programmed to stabilize in subsequent years and expenditures on overseas operations are expected to fall.

Although it is too early to calculate the claim that defense spending will make on the economy in 2009 given the ongoing contraction of commercial markets, military spending of all kinds is likely to total about $670 billion for the year -- representing roughly twice the buying power of the Pentagon budget when the decade began. Proponents of robust military spending frequently argue that a defense commitment of that magnitude should be easily sustainable within a $14 trillion economy, especially given the likely decline in outlays for overseas operations. According to the Congressional Budget Office (CBO), if current plans for the baseline budget remain on track, regular military spending would drop to 3.1 percent of gross domestic product in 2013 and 2.5 percent in 2026. The latter figure is well below the lowest level of economic commitment made to military activities during the Clinton years, now remembered as a period of depressed defense spending.

So it is not hard to see why defense analysts haven't spent much time thinking about the affordability of the current defense plan. However, all of the projections of future military spending assume that the U.S. economy will continue growing at close to the historical average of about three percent annually. If that growth were to cease or reverse for a prolonged period of time, the resulting tensions within the federal budget would preclude steady funding of military activities unless there were a surge in threats. The most recent CBO estimate of the federal budget projects that in fiscal 2009, the government will spend the equivalent of 25 percent of gross domestic product while taking in 17 percent, resulting in the need to borrow over a trillion dollars. A deficit of that scale is not sustainable over the long run, and even in the short run depends on the willingness of overseas lenders -- who have bought four-fifths of Treasury debt in recent years -- to continue lending despite weakness in their own economies.

Beyond the parlous state of federal finances, there other reasons to doubt the affordability of the present defense plan. For example, CBO estimates that once unbudgeted costs are included in defense totals, military outlays will average $652 billion annually in constant 2009 dollars over the next 18 years. That is barely any decrease at all from the peak level of funding seen in the current decade when overseas contingencies and ancillary items are included. Yet the peak level of funding in this decade is well above the top end of the spending range seen over the previous 50 years, so it probably isn't sustainable given the many other obligations the federal government has taken on in that time.

If federal debt payments -- now over a billion dollars daily -- and entitlement programs weren't growing rapidly, the current level of military outlays might be sustainable in normal economic circumstances. But once the reality of a declining economy is combined with unfunded entitlement obligations of $43 trillion, the funding of defense needs looks doubtful. Entitlement programs are treated as formula-driven "mandatory" obligations within the federal budget, which means they are structurally and politically harder to restrain than the "discretionary" outlays in the defense budget. And even within the discretionary categories of federal outlays (about 45 percent of the total budget), defense must compete with such politically popular activities as the environment, education, criminal justice and general science.

As if all this were not enough, the parts of the defense program that are politically easiest to cut -- the investment accounts -- are the parts that contribute most tangibly to long-term military power. If military pay and benefits are slashed, the consequences are felt quickly in the field and on Capitol Hill. The same is true if readiness accounts are cut. With military healthcare costs having risen 144 percent during the present decade, there are compelling reasons to try to restrain their further growth (one Pentagon panel called cost increases in military healthcare an "existential threat" to the future defense posture). But investment in the future is almost always easier to cut than current consumption, because the near-term consequences in the field are imperceptible, and the domestic impact is felt in only a handful of congressional districts.

The bottom line, then, is that the current defense program will probably not be sustainable if the decline of the economy continues, and when the cutting begins to bring military outlays into closer alignment with available resources, the first items to go will be those that contribute most to the nation's long-term military power. In other words, the erosion of national economic power will be paced by the erosion of national military power.

Can Defense Spending Help The Economy?

Military spending traditionally has been viewed as a drain on the economy, which was one reason the government seldom spent more than one percent of gross domestic product on defense in peacetime prior to 1950. That pattern changed during the cold war, when sustained high levels of military expenditure made the "military-industrial complex" a seemingly permanent fixture on the economic landscape. Weapons research during that period is now widely credited with boosting the development of key industries such as computers and semiconductors. When the cold war ended, though, the Clinton Administration slashed military research. The Bush Administration restored funding without giving serious consideration to the connection between defense spending and economic growth.

Today, the connection needs to be examined more closely because the economy is in decline and the government is running out of money. Policymakers no longer have the luxury of spending a fifth of the federal budget on national defense without considering how those expenditures might help or hurt the economy. Relatively little research has been done on the subject, and much of it is tendentious. But even a cursory review of the data suggests that military activities have both positive and negative economic consequences. For example, the exceedingly complex weapons acquisition system probably harms the competitiveness of military suppliers by impeding efficiency; on the other hand, weapons development also sustains hundreds of thousands of scientists and engineers who potentially contribute to the nation's economic growth. Similarly, military recruiting activities may bid up the price of scarce labor by offering pay and benefits superior to what private-sector employers can afford, but the military also provides millions of personnel with training that proves useful when they return to the mainstream economy.

So military spending has mixed economic results, some of them positive and some of them negative. It is not a good way of quickly stimulating the economy because its effects are indirect, and money appropriated for weapons typically takes years to be spent. But compared with other ways of putting money into the hands of consumers, it definitely has some desirable

effects. For instance, much of the money taxpayers receive as a result of tax cuts may end up being spent on consumer durables from overseas such as automobiles, producing little net stimulus to the economy, whereas the vast preponderance of military outlays are spent in America on domestic goods and services. It may not make much sense to buy weapons simply to stimulate economic activity, but if there is a valid military requirement for equipment, then the case for its purchase is bolstered by its additional economic benefits.

Looking beyond the immediate economic crisis spawned by speculative activity in the housing market, the way in which military budgets are allocated may have an important impact on the more profound, secular decline that the economy is facing, which is largely traceable to the erosion of the manufacturing base. If system specifications are modified to minimize military-unique features and barriers to merging military workloads with commercial workloads are dismantled, then the economic benefits of defense investment outlays can be increased even though weapons outlays are falling. There would also be real economic advantages to thinking through where defense research and procurement funding is concentrated, both in terms of localities and technologies. These issues need to be considered much more rigorously today than in the past, because America's future as a global economic and military power can no longer be taken for granted.

LOREN B. THOMPSON

Current Positions:

Chief Operating Officer, Lexington Institute (non-profit, defense-oriented think tank)
Chief Executive Officer, Source Associates (for-profit, defense-oriented consultancy)

Security Clearances: None

Academic Degrees:

Doctor of Philosophy, Government Department, Georgetown University
Master of Arts, Government Department, Georgetown University
Bachelor of Science, Political Science Department, Northeastern University

Professional Experience:

Adjunct Professor of Military Strategy & Technology, Security Studies Program, Georgetown University (1980-2004).
Assistant Director, Security Studies Program, Georgetown University (1980-1984).
Chief Executive Officer, Technology Trends Corporation, Kaman Corporation (1985-1986)
Deputy Director, Security Studies Program, Georgetown University (1987-1994)
Senior Fellow, Alexis de Tocqueville Institution (1995-1997)
Chief Operating Officer, Lexington Institute (1998-2009)
Chief Executive Officer, Source Associates (2000-2009)

Publications:

Low-Intensity Conflict: The Pattern of Warfare in the Modern World (Macmillan, 1987)
Defense Beat: The Dilemmas of Defense Coverage (Macmillan, 1991)
About 30 essays on military topics in *The Wall Street Journal, Washington Post, Los Angeles Times,* etc.
About 60 reports on naval networking, air power, military space, etc. (at www.lexingtoninstitute.org)
About 300 issue briefs on military, economic & technology topics (at www.lexingtoninstitute.org)

Personal:

Born: October 26, 1951
Married: July 11, 1992 (Carla Ross)
Children: January 9, 1997 (Matthew and Ariel)
Residence: McLean, VA and Plymouth, MA
Political: Independent

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Witness name: LOREN B. THOMPSON

Capacity in which appearing: (check one)

X Individual

___Representative

If appearing in a representative capacity, name of the company, association or other entity being represented:_____

FISCAL YEAR 2009

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
SOURCE (1)	DIA	$19,712	OBAMA TRANSITION
LEXINGTON (1)	AIR FORCE	$18,036	QUADRENNIAL REVIEW

FISCAL YEAR 2008

federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
LEXINGTON (1)	AIR FORCE	$93,749	QUADRENNIAL REVIEW

FISCAL YEAR 2007

Federal grant(s) / contracts	federal agency	dollar value	subject(s) of contract or grant
LENNGTON (1)	AIR FORCE	$10,000	QUARENNIAL REVIEW

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HOUSE ARMED SERVICES COMMITTEE

STATEMENT OF

RONALD O'ROURKE

SPECIALIST IN NAVAL AFFAIRS

CONGRESSIONAL RESEARCH SERVICE

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON SEAPOWER AND EXPEDITIONARY FORCES

HEARING ON

FUTURE REQUIREMENTS AND CAPABILITIES OF U.S. MARITIME FORCES

MARCH 26, 2009

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HOUSE ARMED SERVICES COMMITTEE

Chairman Taylor, Ranking Member Akin, distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss the future Navy. The upcoming Quadrennial Defense Review (QDR), press reports about potential reductions in defense acquisition programs, and recent proposals from think tanks for the future size and structure of the Navy all make this a timely hearing.

An in-depth discussion of all issues relating to the future Navy would make for a very lengthy document. Rather than attempting such a comprehensive discussion, this statement focuses on certain aspects of the topic that may be of particular interest to the subcommittee. The statement is organized into the following sections:

- initial observations that can be made about the future Navy, given today's Navy, recent shipbuilding rates, and current technical trends in Navy acquisition (pages 1-4);
- a summary of recent think tank proposals for future Navy ship force structure (pages 4-6);
- a discussion of how the future mix of Navy platforms and capabilities can depend in part on choices by policymakers regarding the missions to be performed by the future Navy (pages 7-11);
- some additional planning considerations regarding the future Navy (pages 12-15); and
- some specific shipbuilding issues relating to the future Navy (pages 16-24).

Initial Observations

Part of the Future Navy Already Exists

An initial point to bear in mind is that a significant part of the Navy that will exist 10 to 20 years from now is already here in the form of ships and aircraft currently in service or under construction. Given the long service lives of Navy ships, a substantial fraction of ships currently in service, plus all those currently under construction, will likely be in service a decade or two from now.[1] Although aircraft service lives are generally shorter than ship service lives, many aircraft currently in service, plus most of those currently under construction, will likely be in service 10 or more years from now.

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[1]As a notional rule of thumb, assuming an average ship service life of 35 years, roughly two-thirds of ships currently in service might still be in service about 12 years from now, and roughly one-third of ships currently in service might still be in service about 24 years from now. As a practical matter, these fractions can be affected by an uneven age distribution of ships currently in service, and can turn out to be lower if ships are removed from service prior to the ends of their service lives as a cost-saving measure or as part of an effort to restructure the Navy.

Shipbuilding Rate Needed For 313-Ship Fleet

A second initial observation is that because relatively low annual numbers of Navy ships have been procured for the last 17 years, increased annual numbers of the ships would need to be procured in coming years to achieve and maintain the Navy's desired 313-ship fleet.

As shown in **Table 1**, the Navy has procured 92 battle force ships since FY1993, or an average of about 5.4 ships per year for the last 17 years.[2] This is about 60% of the steady-state replacement rate for a 313-ship fleet, which is about 8.9 ships per year (assuming an average ship service life of 35 years). An average rate of 5.4 ships per year, if sustained over a 35-year period, would eventually result in a fleet of about 190 ships.

Table 1. Battle Force Ships Procured, FY1982-FY2009

82	83	84	85	86	87	88	89	90	91	92	93	94	95	96
17	14	16	19	20	17	15	19	15	11	11	7	4	4	5

97	98	99	00	01	02	03	04	05	06	07	08	09	93-09 avg.
4	5	5	6	6	6	5	7	8	4[a]	5[a]	3[a]	8	5.4

Source: CRS compilation based on examination of defense authorization and appropriation committee and conference reports for each fiscal year. The table excludes non-battle force ships that do not count toward the 313-ship goal, such as certain sealift and prepositioning ships operated by the Military Sealift Command (MSC) and oceanographic ships operated by agencies such as the National Oceanic and Atmospheric Administration (NOAA).

a. The totals shown for FY2006, FY2007, and FY2008, reflect the cancellation of two of three LCSs funded in FY2006, the two LCSs funded in FY2007, and the single LCS funded in FY2008.

Procuring a total of 313 ships over a 35-year period starting in FY1993 would now require procuring 221 ships over the next 18 years (FY2010-FY2027), or an average of about 12.2 ships per year. The financial challenge of procuring an average of 12.2 ships per year for the next 18 years would be only partially mitigated by the recent addition of the relatively inexpensive Littoral Combat Ship (LCS) to the shipbuilding mix, because 9.4 of the 12.2 ships per year would need to be ships other than LCSs.[3]

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[2]Battle force ships are the ones that count against the 313-ship goal. The FY1993 defense budget was the first defense budget passed by Congress and signed into law following the dissolution of the Soviet Union in December 1991, and thus arguably the first passed and signed into law in a fully or unambiguously post-Cold War security environment.

[3]Four LCSs have been procured and not subsequently cancelled through FY2009, leaving another 51 to be procured in coming years to reach the planned total of 55. Subtracting these 51 LCSs leaves 170 ships other than LCSs that would need to be procured over the next 18 years, or an average of about 9.4 per year. Calculations based on steady-state replacement rates do not provide precise figures for the numbers of ships of specific kinds that would need to be procured in coming years to achieve and maintain the Navy's planned 313-ship fleet due to the uneven age distribution of existing ships and differences between ship classes in service lives. For example, since aircraft carriers have 50-year service lives, not all 11 of the Navy's carriers would need to be replaced in a given 35-year period. Calculations based on steady-state replacement rates

(continued...)

The Navy hopes to procure ships at higher annual rates in coming years. Such rates are reflected in the FY2009 version of the Navy's 30-year shipbuilding plan. The Navy, however, does not appear to have a clearly identifiable strategy for generating the amount of shipbuilding funding that would be needed to fully execute the FY2009 30-year shipbuilding plan, at least not without substantially increasing the Navy's budget top line or substantially reducing funding for other Navy programs. The amount of shipbuilding funding that would be needed to fully execute the FY2009 30-year shipbuilding plan — an average of about $23 billion to $25 billion per year in constant FY2009 dollars — is roughly twice the average of about $11 billion per year in constant FY2009 dollars that the Navy has requested (and Congress, with some adjustments, has provided) in recent years.[4]

A February press report suggests that the Navy may seek to reduce the cost of the FY2010 version of the 30-year shipbuilding plan by reducing planned procurements of certain higher-cost ships. According to the report, proposals being considered by the Navy include the following:

- shifting planned procurement of CVNs from one approximately every 4.5 years to one every five years;
- reducing planned procurement of attack submarines (SSNs) over 30 years from 53 boats to 40 boats, a reduction of about 25%;
- reducing planned procurement of CG(X) cruisers from 19 (procured at a rate of one or two per year) to eight (procured at a rate of one every three years), a reduction of about 58%;
- reducing planned procurement of destroyers over 30 years from 50 ships to 34, a reduction of 32%; and
- eliminating the three modified large-deck amphibious assault ships (LHAs/LHDs) from the planned Maritime Prepositioning Force of the Future (MPF(F)) squadron.

This press report also suggests that the Navy is considering more than doubling planned procurement of relatively inexpensive Joint High Speed Vessels (JHSVs), from 14 over 30 years to 29, and increasing annual procurement rates of the LCS while maintaining a planned total of 55 LCSs.[5]

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[3](...continued)
can, however, provide a general indication of the average overall shipbuilding rate that would needed in coming years to achieve and maintain a Navy of a given size.

[4]See Congressional Budget Office, *Resource Implications of the Navy's Fiscal Year 2009 Shipbuilding Plan*, Washington, 2008. (June 9, 2008) p. 14 (Table 3), which is also reprinted as Table 7 in CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[5]Christopher P. Cavas, "U.S. May Cut 52 Ships From Plan," *Defense News*, February 16, 2009, p. 1.

If the FY2010 30-year shipbuilding plan includes changes such as these, the result could be a future Navy that increases for a time to more than 313 ships as significant numbers of JHSVs and LCSs enter service in the nearer term, but which subsequently falls to something less than 300 ships as deliveries of JHSVs and LCSs end and existing higher-cost ships continue to retire and are replaced on something less than a one-for-one basis.

Technical Trends in Navy Acquisition

A third initial observation, based on technical trends in Navy acquisition, is that the future Navy will likely be characterized by most or all of the following:

- an increasing use of unmanned vehicles, networking capabilities, and open-architecture computers and software;
- an increasing number of ships with
  - reduced crew sizes;
  - integrated electric drive technology;
  - common ship hull designs, combat systems, and components, so as to recover lost economies of scale in shipbuilding and reduce ship life-cycle operating and support (O&S) costs; and
  - significant modularity (sometimes called physical open architecture, as opposed to software open architecture), so as to reduce costs associated with upgrading or changing their mission systems over their life cycles;
- a continued reduction in the number of aircraft types, models, and series, so as to improve aircraft production economies of scale and reduce aircraft life-cycle operation and support (O&S) costs; and
- new types of weapons, such as directed-energy weapons or high-speed missiles.

Recent Think Tank Proposals

At least three Washington-area think tanks — the Center for a New American Security (CNAS),[6] the Center for Strategic and Budgetary Assessments (CSBA),[7] and the Heritage Foundation[8] — have recently published proposals for future Navy ship force structure. These proposals, along with the Navy's planned 313-ship fleet, are summarized in **Table 2**.

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[6]Frank Hoffman, *From Preponderance to Partnership: American Maritime Power in the 21st Century.* Washington, Center for a New American Security, November 2008. 27 pp.

[7]Robert O. Work, *The US Navy[:] Charting a Course for Tomorrow's Fleet.* Washington, Center for Strategic and Budgetary Assessments, 2008. 90 pp.

[8]Baker Spring and Mackenzie M. Eaglen, *Quadrennial Defense Review: Building Blocks for National Defense.* Washington, Heritage Foundation, January 28, 2009. (Backgrounder, revised and updated February 9, 2009) 17 pp.

Table 2. Navy's 313-Ship Plan and Recent Think Tank Proposals

Ship type	Navy 313-ship plan	Think Tank Proposals		
		CNAS	CSBA[a]	Heritage
Submarines				
SSBN	14 (12)[b]	14	12	n/a
SSGN	4	0	2	n/a
SSN	48	40	41	at least 60
Aircraft carriers				
CVN	11	8	11	13
CVE	0	0	4	n/a
Surface combatants				
CG	19	18	14	100
DDG	69	56	73	
Frigates	0	0	9[c]	n/a
LCS	55	48	55	20
SSC	0	40	0[d]	n/a
Amphibious and MPF(F) ships				
Amphibious ships	31	36	33	n/a
MPF(F) ships	12	0	3[e]	n/a
LSD station ships	0	0	7[f]	n/a
CLF and support ships				
CLF	30	40	31	n/a
Support	20		31	n/a
TOTAL	313	300	326[g]	n/a

Sources: Table prepared by CRS using U.S. Navy data for the 313-ship fleet and information in Frank Hoffman, *From Preponderance to Partnership: American Maritime Power in the 21st Century*. Washington, Center for a New American Security, November 2008. p. 19 (Table 2); Robert O. Work, *The US Navy[:] Charting a Course for Tomorrow's Fleet*. Washington, Center for Strategic and Budgetary Assessments, 2008. p. 81 (Figure 5); and Baker Spring and Mackenzie M. Eaglen, *Quadrennial Defense Review: Building Blocks for National Defense*. Washington, Heritage Foundation, January 28, 2009. (Backgrounder, revised and updated February 9, 2009) p. 15.

Notes: **n/a** = not addressed in the report; **SSBN** = nuclear-powered ballistic missile submarine; **SSGN** = nuclear-powered cruise missile/special operations forces submarine; **SSN** = nuclear-powered attack submarine; **CVN** = large nuclear-powered aircraft carrier; **CVE** = medium sized aircraft carrier; **CG** = cruiser; **DDG** = destroyer; **LCS** = Littoral Combat Ship; **SSC** (an acronym created by CRS for this table) = small surface combatant of 1,000+ tons displacement — a ship similar to late-1990s Streetfighter concept; **MPF(F)** = Maritime Prepositioning Force (Future); **LSD** = LSD-41/49 class ship operating as a station ship for a formation like a Global Fleet Station (GFS); **CLF** = combat logistics force (i.e., at-sea resupply) ship.

a. Figures shown are for the year 2028.
b. Navy plans show the current 14-ship SSBN requirement changing to a requirement for 12 next-generation SSBNs due to the next-generation boats being built with life-of-the-ship nuclear fuel cores.
c. Maritime Security Frigates.
d. Plan includes 28 patrol craft (PCs) of a few hundreds tons displacement each, as well as 29 boat detachments and seven riverine squadrons.

e. Plan shows three Mobile Landing Platform (MLP) ships that the Navy currently plans for the MPF(F) squadron, plus 16 existing current-generation maritime prepositioning force (MPF) ships and 17 existing prepositioning ships for Army and other service/agency equipment. Plan also shows 67 other DOD sealift ships.
f. T-LSDs, meaning LSDs operated by the Military Sealift Command (MSC) with a partly civilian crew.
g. The CSBA report shows a total of 488 units by including 162 additional force units that do not count toward the 313-ship goal under the battle force ships counting method that has been used since the early 1980s for public policy discussions of the size of the Navy. These 162 additional force units include 16 existing current-generation maritime prepositioning force (MPF) ships and 17 existing prepositioning ships for Army and other service/agency equipment, 67 other DOD sealift ships, 28 PCs, 29 boat detachments, and certain other small-scale units. The CSBA report proposes a new counting method for naval/maritime forces that includes units such as these in the total count.

As can be seen in **Table 2**, the three think tank proposals differ in several respects from the Navy's 313-ship plan, and from one another. Points of comparison include the following:

- Compared to the 313-ship plan, the CNAS proposal would reduce the planned numbers of attack submarines (SSNs), nuclear-powered aircraft carriers (CVNs), cruisers (CGs), destroyers (DDGs), and LCSs, increase the planned number of amphibious ships, and build 40 small surface combatants displacing about 1,000 tons — ships similar to the late-1990s Streetfighter proposal.

- Compared to the 313-ship plan, the CSBA proposal would, among other things, add four medium-sized aircraft carriers (CVEs), nine "maritime security frigates," and seven "station ships" based on existing LD-41/49 class amphibious ships.

- Compared to the 313-ship plan, the Heritage Foundation proposal would increase planned numbers of SSNs, CVNs, and CGs/DDGs, while reducing planned numbers of LCSs.

- Compared to one another, the CNAS proposal would reduce planned numbers of large, high-capability combatant ships and increase planned total numbers of smaller combatants, while the Heritage Foundation proposal would do the opposite.

- The CSBA proposal is in between the CNAS and Heritage Foundation proposals in certain areas, and contains a number of specific proposals that do not appear in the CNAS and Heritage Foundation proposals. The CSBA proposal employs a proposed new vocabulary for referring to different parts of the Navy, and a proposed new set of rules for which ships and other units to include in counting the numbers of ships and other units that contribute to U.S. naval/maritime capability.

Potential Future Mission Priorities

The divergence in the recommendations of the three think tanks appears to reflect differing views regarding missions the Navy should focus on performing in coming years. In this sense, the think tank proposals illustrate how the Navy can be viewed as being at a fork in the road regarding future mission priorities, and how differing choices on mission priorities can produce different versions of the future Navy.

It has sometimes been said in recent years that the Navy since the end of the Cold War has been casting about in search of missions to perform, and that finding such missions has been difficult. It might be more accurate to say that that there are several candidate missions for the Navy to perform (some of which have emerged or become potentially more important at various points since the end of the Cold War), and that the challenge is deciding which of these candidate missions to pursue, and with how much relative emphasis. As candidate missions have emerged or become potentially more important since the end of the Cold War, Navy thinking on mission priorities has evolved, leading to shifts in Navy plans and programs in recent years.

Potential missions for the future Navy can be listed and organized in various ways. There are many such organizational schemes; each has its advantages, and none is perfect. For the purposes of this statement, it can be argued that that the composition of the future Navy may be influenced by decisions that policymakers reach on how much emphasis to place on Navy capabilities for conducting each of the following four general categories of operations:

- **First category:** Non-combat operations and operations with a potential for lower-levels of combat. This category includes engagement and partnership-building operations, humanitarian assistance and disaster relief (HA/DR) operations, non-combatant evacuation operations (NEOs), anti-piracy operations, and other maritime-security operations.

- **Second category:** Counter-terrorist (CT) and irregular warfare (IW) operations.

- **Third category:** Operations for deterring and participating in larger-scale conventional conflicts on the continental land mass.

- **Fourth category:** Operations for countering improved Chinese naval and other maritime-relevant military forces.[9]

In planning the future Navy, policymakers may choose to emphasize any or all of the above categories. The choices policymakers make should, in theory at least, reflect larger choices about U.S. national security strategy, about the role of the military in fulfilling that strategy, and about the role of the Navy in fulfilling the military portion of that strategy. In a situation of constrained resources, placing a greater emphasis on any one category could require a reduced emphasis on one or more of the others. Each of these four categories of operations is discussed below.

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[9]The labels "First category," "Second category," and so on are simply for use in referring to these categories in the remainder of this statement, and do not imply any order of priority.

Non-Combat and Potentially Lower-Level Combat Operations

The first category of operations listed above has been increasingly emphasized in Navy statements and operations over the last few years. Placing a strong planning emphasis on these operations could lead to a future Navy with significant numbers of smaller surface combatants (frigates, LCSs, corvettes, and patrol craft[10]), amphibious ships, JHSVs, sealift ships with logistics-over-the-shore capabilities, and hospital ships. There could also be significant numbers of Navy foreign area officers (FAOs), civil affairs units, and construction battalions (CBs, aka Seabees).

Amphibious ships, including their embarked Marines, helicopters, and landing craft, could be used for conducting every type of operation in this category. Smaller surface combatants would be particularly useful for engagement and partnership-building operations, anti-piracy operations, and other maritime-security operations. They could be optimized for anti-piracy and other maritime-security operations by being equipped with helicopters, UAVs, small boats, smaller-caliber guns, additional systems for defense against lightly armed opponents, and reasonably good C4ISR capabilities.

Cruisers and destroyers could be used for engagement and partnership-building operations, anti-piracy operations, and other maritime-security operations, and to provide area-defense capabilities for smaller surface combatants, amphibious ships, JHSVs, sealift ships, and hospital ships. Aircraft carriers could be used for operations in this category, and their embarked helicopters could be particularly useful in HA/DR operations, NEOs, and maritime-security operations.

In considering how much emphasis to place on this first category of operations, one factor that policymakers may consider is the potential for some of these operations to be conducted by the U.S. Coast Guard or by foreign navies and coast guards. U.S. Coast Guard cutters can be used for engagement and partnership-building operations, anti-piracy operations, and other maritime-security operations. Numerous foreign navies and coast guards have at least some capability for conducting anti-piracy and other maritime security operations, particularly in their home waters. (Many foreign navies and coast guards consist largely of smaller surface combatants.) In instances where foreign navies or coast guards are able and willing to conduct some of these missions, U.S. policymakers might still prefer to have them conducted by U.S. Navy (or U.S. Coast Guard) ships, so that the United States receives the political credit for conducting them.

Since U.S. Coast Guard cutters could perform some of these missions, decisions about future Coast Guard missions and ship force structure might affect decisions about future U.S. Navy missions and ship force structure, and vice versa. Maintaining some ambiguity about the dividing line between Navy and Coast Guard responsibilities for performing these missions can provide policymakers with useful flexibility in determining how to respond to contingencies. This ambiguity might also lead to some redundancy between in Navy and Coast Guard capabilities for performing these missions. Optimizing investments in U.S. maritime power from a national (as opposed to service-specific) perspective — a goal consistent with the Navy-Coast

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[10]Corvettes are light frigates. The LCS can be viewed as a high-speed, shallow-draft frigate or corvette.

Guard National Fleet policy statement of 2006[11] — might involve reducing unwanted redundancy between the services for performing these missions. This in turn might require making the dividing line between the two services for performing these missions less ambiguous.

Counter-Terrorist (CT) and Irregular Warfare (IW) Operations

Counter-terrorist operations have been an area of emphasis for the U.S. Navy forces since the terrorist attack on the Cole (DDG-67) of October 12, 2000, and the terrorist attacks of September 11, 2001. Irregular warfare has been an area of emphasis for U.S. military forces in recent years due to U.S. military operations in Iraq and Afghanistan. Press reports suggest that the upcoming QDR may shift U.S. defense planning toward an increased emphasis on irregular warfare.

Placing a strong planning emphasis on CT and IW operations could lead to a future Navy with significant numbers of Navy special operations forces (i.e., SEALs[12]); Advanced SEAL Delivery Systems (ASDSs); ship-based manned aircraft and unmanned air vehicles (UAVs)/unmanned combat air vehicles (UCAVs)[13] that are capable of surveillance, close air support (CAS), and precision-strike operations; mine countermeasures (MCM) platforms (i.e., LCSs equipped with mine warfare mission packages, and MCM helicopters); patrol craft; and riverine squadrons. As with the first category of operations, there could be significant numbers of Navy FAOs, civil affairs units, and CBs.

Surface ships and submarines could be used for surveillance of terrorists. Submarines in particular could be used for covert surveillance and covert insertion and recovery of SEALs using ASDSs. Tomahawk-armed cruisers, destroyers, and submarines could conduct cruise missile strikes against terrorists and their facilities. Amphibious ships could be used to land Marines for conducting CT and IW operations in littoral areas. Aircraft carriers could embark larger numbers of manned aircraft and UAVs/UCAVs that are capable of surveillance, CAS, and precision-strike operations.

Larger-Scale Conventional Conflicts on Continental Land Mass

Being prepared to conduct larger-scale conventional conflicts on the continental land mass was a primary force-planing metric for the military services for much of the 1990s, and continued to be a planning metric for a few years into this decade. During much of this period, a central planning requirement for the U.S. military was to be capable of winning two nearly-simultaneous or overlapping major regional conflicts. Potential locations for these conflicts included the Korean Peninsula and Southwest Asia.

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[11]Department of the Navy and United States Coast Guard, *National Fleet, A Joint Navy/Coast Guard Policy Statement*. March 3, 2006. 3 pp.

[12]SEAL stands for SEa, Air, and Land.

[13]UCAVs are armed UAVs.

Today's Navy is to some degree a product of this 1990s/early 2000s planning emphasis. Among other things, this emphasis led to new Navy programs for providing capabilities for operating in contested littoral waters and for attacking targets ashore. The LCS program and the DD-21/DD(X)/DDG-1000 program are examples of such programs.

Placing a strong planning emphasis on deterring and participating in larger-scale conventional conflicts on the continental land mass could lead to a future Navy with significant numbers of aircraft carriers, cruisers and destroyers, LCSs, MCM helicopters, amphibious ships, and maritime prepositioning ships. Carrier air wings would include, among other things, significant strike and CAS capabilities. Cruisers and destroyers would have substantial capabilities for conducting antisubmarine warfare (ASW), anti-air warfare (AAW), ballistic missile defense (BMD), strike, and fire-support operations, particularly in littoral waters. Attack submarines would be used for pre-conflict intelligence and surveillance operations, inserting SEALs, conducting Tomahawk strike operations, and countering enemy surface ships and submarines.

In considering how much emphasis to place on this category of operations, policymakers may consider the likelihood in coming years of larger-scale conventional conflicts on the continental land mass — in the Korean Peninsula, Southwest Asia, or other areas — and the likelihood that the United States might participate in such conflicts.

Countering Chinese Naval and Other Maritime-Relevant Forces

China has been modernizing its naval and other maritime-relevant military forces[14] since the 1990s. Observers believe a near-term focus of China's military modernization effort is to field a force that can succeed in a short-duration conflict with Taiwan and act as an anti-access force to deter U.S. intervention or delay the arrival and reduce the effectiveness of intervening U.S. naval and air forces. Potential broader or longer-term goals of China's naval modernization include asserting China's regional military leadership and asserting and protecting China's maritime territorial, economic, and energy interests. A CRS report explores in some detail the potential implications for required U.S. Navy capabilities of improved Chinese naval and other maritime-relevant military forces.[15]

Placing a strong planning emphasis on operations for countering improved Chinese naval and other maritime-relevant military forces could lead to a future Navy with significant numbers of aircraft carriers, attack submarines, cruisers and destroyers, and additional surface and air ASW and MCM platforms, such as LCSs and maritime patrol aircraft. Carrier air wings would include, among other things, a strong a capability for fleet air defense. They might also include aircraft with particularly long ranges, so that carriers could achieve certain operational goals prior to passing inside (or while remaining outside) the range of certain Chinese maritime anti-access

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[14]The phrase "other maritime-relevant military forces" is used here to refer to Chinese military forces outside China's navy that can be used to counter U.S. naval forces operating in the Western Pacific. Land-based air force aircraft armed with anti-ship cruise missiles (ASCMs) and potential land-based anti-ship ballistic missiles (ASBMs) are examples of such forces.

[15]CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities — Background and Issues for Congress*, by Ronald O'Rourke.

systems, such as potential Chinese anti-ship ballistic missiles (ASBMs). Cruisers and destroyers would have substantial capabilities for conducting ASW, AAW, BMD, and strike operations, particularly in blue water (mid-ocean) areas. The BMD systems on these ships might be highly capable, so as to counter potential Chinese ASBMs.

U.S. Navy operations to counter improved Chinese naval and other maritime-relevant military forces would likely have a more purely maritime character than U.S. Navy operations in conventional conflicts on the continental land mass. Compared to placing a strong planning emphasis on conflicts on the continental land mass, placing a strong planning emphasis on countering improved Chinese naval and other maritime-relevant military forces might lead to a future Navy with more attack submarines, fewer amphibious ships, a greater percentage of its high-capability combatants assigned to the Pacific Fleet, and perhaps a greater percentage of Pacific Fleet ships homeported in forward locations such as Japan, Guam, and Hawaii. Having strong features for ensuring computer network security and for withstanding electromagnetic pulse (EMP) and other nuclear-weapon effects might be more of a planning concern than under the third category of operations.

Opponents of placing a strong planning emphasis on operations to counter improved Chinese naval and other maritime-relevant military forces might argue that preparing for a potential conflict over Taiwan years from now might be unnecessary, since the situation with Taiwan might well be resolved by then. They could also argue that it is highly unlikely that China and the United States will come to blows in coming years over some other issue, due to the deep economic and financial ties between China and the United States and the tremendous damage such conflict could inflict. Far from coming to blows, they could argue, Chinese and U.S. naval forces in coming years may cooperate in areas such as HA/DR operations, anti-piracy operations, and other maritime-security operations.

Supporters of placing a strong planning emphasis on operations to counter improved Chinese naval and other maritime-relevant military forces might argue that not preparing for a potential conflict over Taiwan years from now could make such a conflict more likely by emboldening China to use military force to attempt to achieve its goals regarding Taiwan. They could argue that not preparing to counter improved Chinese naval forces might embolden China to use its naval forces more aggressively in asserting its maritime territorial claims and its interpretation of international laws relating freedom of navigation in exclusive economic zones (an interpretation at odds with the U.S. interpretation). Supporters could argue that even if China and the United States never come to blows with one another, maintaining a day-to-day presence in the Pacific of U.S. naval forces capable of successfully countering Chinese naval forces will be an important U.S. tool for shaping the region — that is, for ensuring that other countries in the region do not view China as the region's emerging military leader (or the United States as a fading military power in the region), and respond by either aligning their policies more closely with China or taking steps to improve their own military capabilities that the United State might prefer they not take, such as developing nuclear weapons.

Some Additional Planning Considerations

Below are brief discussions of some additional planning considerations regarding the future Navy. The list of considerations discussed here is not comprehensive, and the items are not presented in any particular order.

Presence As a Force-Planning Metric

The United States for several decades has maintained continuous or near-continuous forward deployments of U.S. naval forces in certain overseas areas considered important to U.S. security, including the Mediterranean Sea, the Indian Ocean and Persian Gulf, and the Western Pacific. In the past, forward-deployed naval forces have been used for various purposes, including deterring potential aggressors, reassuring allied and neutral states, conducting engagement and coalition-building operations, gaining familiarity with potential wartime operating areas, conducting surveillance and intelligence operations, and responding rapidly to crises and other contingencies. In coming years, maintaining continuous, near-continuous, or frequent forward deployments of U.S. naval forces to overseas operating areas could be helpful, important, or even critical to conducting operations in all four of the categories discussed earlier.

As explained in a CRS report issued at the start of the post-Cold War era, maintaining a capability for supporting continuous, near-continuous, or frequent forward deployments of naval forces can be a significant Navy force-planning metric, particularly because the number of ships needed to maintain a desired level of forward-deployed presence in some cases can be greater than the number needed to conduct combat operations.[16] Maintaining higher levels of forward-deployed naval forces is facilitated by having larger numbers of ships, by forward-homeporting ships in or near key overseas operating areas, and by operating ships with multiple crews.

Comparative Numbers of Ships and Aggregate Ship Tonnages

Comparisons of the number of ships in the Navy to the numbers of ships in other navies, and similar comparisons of the aggregate tonnage of the U.S. Navy to the aggregate tonnages of other navies, are at best only partial metrics for understanding requirements for U.S. naval forces, and at worst can be highly misleading metrics. A navy's number of ships and aggregate tonnage are only partial indications of its capabilities. Other important factors contributing to a navy's capabilities include the types of ships in question; types and numbers of aircraft; the sophistication of sensors, weapons, C4ISR systems, and networking capabilities; supporting maintenance and logistics capabilities; doctrine and tactics; and the quality, education, and training of personnel. Given these other significant contributors to naval capability, navies with similar numbers of ships or similar aggregate tonnages can have significantly different capabilities, and navy-to-navy ratios of numbers of ships or aggregate tonnages might provide a

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[16]CRS Report 92-803 F, *Naval Forward Deployments and the Size of the Navy*, by Ronald O'Rourke. (November 13, 1992) 56 pp. Out of print and available directly from the author.

highly inaccurate sense of their relative capabilities. Such comparisons also do not take into account maritime-relevant capabilities that countries might have outside their navies, such as land-based anti-ship cruise missiles (ASCMs), land-based theater-range ballistic missiles, and land-based air force aircraft armed with ASCMs.

More important, focusing on relative ship numbers and aggregate fleet tonnages can reflect or reinforce the notion that the navies exists primarily or exclusively to fight other navies. As explained in a CRS report issued at the start of the post-Cold War era, this notion is an over-simplification, particularly for the U.S. Navy.[17] U.S. Navy forces conduct various missions that may or may not require countering the land-based and/or sea-based forces of other countries. Countering foreign naval forces is only part of this situation, and in many cases not the most important part. Countries have differing needs for naval forces, and the mission requirements for one country's navy can differ significantly from the mission requirements for another country's navy. Consequently, the adequacies of navies are best judged against their respective missions, not in terms of how they might compare to other navies. Even if other countries had no naval capabilities, the United States might still require significant naval capabilities to defend U.S. interests. When cited in isolation from other considerations, comparisons of relative ship numbers and aggregate fleet tonnages do not really prove anything one way or another about the adequacy of current or potential future U.S. naval forces.

Regionally Tailored Naval Capabilities

Some kinds of naval operations are more likely to be conducted in certain parts of the world than others. Anti-piracy operations are one example; operations to counter improved Chinese naval forces are another. An assessment that certain kinds of operations are more likely to be conducted in some regions than others, combined with constraints on resources, could lead to a future Navy featuring a greater use than at present of regionally tailored naval capabilities.

Hybrid War

A growing number of observers believe that wars in the future are likely to be hybrid wars, meaning wars in which state or non-state adversaries merge or blend all forms of war and tactics, including conventional warfare, insurgency, terrorism, and criminal activity.[18] The Navy-Marine Corps-Coast Guard strategy document released in October 2007 states: "Conflicts are increasingly characterized by a hybrid blend of traditional and irregular tactics, decentralized planning and execution, and non-state actors using both simple and sophisticated technologies in

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[17]CRS Report 93-332 F, *Naval Force-Structure Planning: Breaking Old Habits of Thought*, by Ronald O'Rourke. (March 19, 1993) 6 pp. Out of print and available directly from the author. See also the section entitled "Overall Number of Ships" in Appendix C of CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[18]See, for example, Frank G. Hoffman, *Conflict in the 21st Century[:] The Rise of Hybrid Wars*. Arlington (VA), Potomac Institute for Policy Studies, December 2007. 72 pp.

innovative ways."[19] In testimony to this subcommittee last July, Navy officials noted the Hezbollah organization's use of a Chinese-made ASCM against an Israeli frigate in 2006. Hybrid war blurs the distinctions between the four categories of operations discussed earlier, and could require the acquisition of capabilities associated earlier with one category to support a planning emphasis on conducting operations in another.

Unmanned Vehicles

Although there is general agreement that the Navy will make increasing use of unmanned vehicles (UVs) in coming years, the numbers and designs of these vehicles, their parent platforms, and their concepts of operations are not yet clear. As a consequence, the effect of UVs on future Navy force architecture is uncertain. UVs could effectively extend the eyes and ears of Navy ships and submarines, but whether that would lead to an increase in the planned numbers of certain ships or submarines (because those ships or submarines could now perform a greater variety of missions) or to a decrease in planned numbers (because a smaller number of those ships or submarines might now be needed to perform a given set of missions) is unclear. Ship designs will change to accommodate UVs, but the ultimate extent of those changes is unclear.

More Highly Distributed Force Architectures

Some observers believe that advances by potential adversaries in capabilities for detecting, tracking, and attacking large ships, combined with U.S. advances in UVs, distributed sensors, and networking technology, argue in favor of working toward a future Navy with a more highly distributed force architecture that would feature fewer large ships and larger numbers of smaller ships. The LCS program might be viewed as a step in this direction. Implementing the idea more comprehensively could lead to a significant change in the mix of ships to be procured: Planned procurement quantities of smaller ships would likely be increased, new designs for smaller ships might be created, and planned procurement quantities for larger ships could be reduced.

India

India's naval capabilities have improved in recent years, and could improve further in coming years. India may use its navy to politically counter potentially growing numbers of Chinese naval forces operating in the Indian Ocean.[20] Other things held equal, Indian operations of this kind might lessen U.S. Navy requirements for countering Chinese naval forces in the Indian Ocean, particularly in a context of U.S.-Indian cooperation on security issues. On the other hand, Indian operations of this kind might contribute to an Indian-Chinese naval competition in the Indian

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[19] *A Cooperative Strategy for 21st Century Seapower*, October 2007, p. 3

[20] Some observers believe China in coming years may deploy increasing numbers of naval forces to the Indian Ocean for purposes such as naval diplomacy and defending China's sea lines of communication to Persian Gulf oil sources.

Ocean. If such a competition were to occur, and if U.S. officials wished to preserve an independent U.S. capability to counter Chinese naval forces operating in the Indian Ocean, then U.S. Navy requirements for countering Chinese naval forces in the region could increase.

Russia

The end of the Cold War and the subsequent collapse of Russian naval capabilities significantly downgraded the Russian navy as a force-sizing factor in U.S. Navy planning. Russia's naval technology, however, has remained a benchmark for defining the required capabilities of U.S. Navy platforms, sensors, and weapons, particularly since some of that technology has been exported to other countries, including China. Russia has exported, among other things, submarines, surface combatants, naval aircraft, ASCMs, torpedoes, and mines. Such exports improve the fielded capabilities and raise the technological baselines of the recipient navies, which in turn can influence requirements for U.S. naval forces.

Russian officials have announced an intent to rebuild the Russian navy. The pace at which such a buildup might proceed could depend in part on the future price of oil, since oil exports are a major source of Russian government funds. A buildup of Russian naval capability could at some point increase the importance of the Russian as a force-sizing factor in U.S. Navy planning. In addition, the legal status of the Northern Sea Route through the Arctic (see below) is an issue that could lead to a U.S.-Russian dispute with a strong maritime component.

Arctic

The diminishment of Arctic ice could lead in coming years to increased U.S. Navy (and Coast Guard) surface ship operations the Arctic for performing such missions as defending the U.S. position on the legal status of the Northern Sea Route (NSR) and the Northwest Passage (NWP).[21] Increased Navy surface ship and aircraft operations in the Arctic could, other things held equal, increase numerical requirements for those platforms. It could also affect ship and aircraft design requirements and requirements for Arctic bases, logistics capabilities, and communications and navigation systems.

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[21]The NSR and NWP are Arctic sea routes connecting the Atlantic and Pacific Oceans that could permit commercial ships serving certain ports to reduce their steaming distances by several thousand miles. The NSR runs along the northern coast of Russia, while the NWP runs along the northern coast of Alaska, the northern coast of Canada, and through the Canadian archipelago. Russia and Canada, respectively, claim sovereignty over parts of the NSR and NWP, while the United States and the European Union countries insist that they are international straits.

Some Specific Shipbuilding Issues

Below are discussions of some specific shipbuilding issues relating to the future Navy.

Aircraft Carriers (and Carrier Air Wings)

There currently is discussion in defense-planning circles of the option of reducing the number of CVNs to something less than 11. Possibilities include 10, nine, and eight (the last being the number proposed in CNAS report discussed earlier). As previously mentioned, the Navy reportedly is considering the option of stretching out CVN procurement to one ship every five years. Such a rate would be consistent over the long run with operating a force of 10 carriers, though the force might not drop to 10 until many years from now.

Supporters of reducing the number of CVNs to something less than 11 would cite their views regarding future missions to be performed by the Navy, as well as other arguments, including one or more of the following:

- the growing number of targets per day that can be attacked by a carrier air wing, which could permit certain combat missions to be carried out in the future by a smaller number of carriers than is possible today;
- advancements by other countries in capabilities for detecting, tracking, and attacking aircraft carriers, which increase combat threats to carriers, and the cost of defending against those threats;
- a projected shortfall in carrier-based strike-fighters;[22] and
- the potential for supplementing a force of fewer than 11 CVNs with smaller aircraft carriers.

In connection with the last point above, it can be noted that the provision requiring the Navy to maintain a force of 11 operational aircraft carriers (10 USC 5062(b)) does not set a minimum size requirement for what qualifies as an aircraft carrier for purposes of the provision, leaving open the possibility that ships smaller than today's 100,000-ton carriers could contribute to meeting the requirement. As discussed in a 2006 CRS report, there are several additional options for smaller carriers, including a medium-sized (roughly 45,000-ton) carrier based on the design of a large-deck amphibious assault ship (LHA/LHD).[23]

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[22]For more on this projected shortfall, see CRS Report RS22875, *Navy-Marine Corps Strike-Fighter Shortfall: Background and Options for Congress*, by Christopher Bolkcom.

[23]CRS Report 32914, *Navy Ship Acquisition: Options for Lower-Cost Ship Designs - Issues for Congress*, by Ronald O'Rourke.

Opponents of reducing the number of CVNs to something less than 11 would cite their views regarding future missions to be performed by the Navy, as well as other arguments, including one or more of the following:

- the effect that such a reduction would have on the Navy's ability to maintain forward-deployments of carriers for purposes such as deterrence, reassurance, and rapidly responding to crises and conflicts;
- actual or potential U.S. difficulties in gaining or maintaining access to overseas air bases;
- proposals for closing the projected strike-fighter shortfall through procurement of additional strike-fighters; and
- the more-limited capabilities of the smaller air wings that would be embarked on smaller carriers.

Opponents might also argue that a shortage of carrier-based strike-fighters (or other carrier-based aircraft) is not necessarily a compelling reason to reduce the number of CVNs, because such a situation could be a way to hedge against relatively rapid changes in the defense-planning environment: If change in the defense-planning environment required the Navy to increase its carrier-based aviation capabilities over a period of a few years, it could be argued, there would be enough time to produce additional carrier-based aircraft, but not be enough time to build an additional CVN.

In addition to having significant implications for future Navy capabilities, reducing the number of CVNs to something less than 11 could have implications for the CVN industrial base. Stretching out CVN procurement to one ship every five years, for example, could reduce efficiencies in building CVNs, making the ships more expensive to procure.

If the CVN force is reduced to eight ships, one option would be to suspend CVN procurement after CVN-78 or CVN-79 for a period of more than 20 years, until a replacement is needed for one of the eight ships. Such a long break in the CVN production profile could lead to a significant atrophy (or the disappearance) of skills and capabilities for building CVNs. The costs and technical risks of reestablishing these skills and capabilities and restarting CVN production after a such long hiatus could be very significant.

An alternative profile for an eight-CVN force would be to stretch out CVN production to one ship every six years. This could reduce efficiencies in building CVNs even more than moving to a profile of one carrier every five years. Additional alternatives for an eight-CVN force include procuring one CVN every five years and reducing CVN service life from the current 50 years to 40 years, procuring one CVN every 4.5 years and reducing CVN service life to 36 years, and procuring one CVN every 4 years and reducing CVN service life to 32 years.[24]

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[24]For more on aircraft carrier procurement, see CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke. The more that CVN service life is reduced, the more possible it might become, with continued improvements in U.S. Navy fuel core

(continued...)

A reduction in the number of CVNs to something less than 11 would also have implications for CVN homeporting arrangements: There would be fewer CVNs to homeport, and the reduced number of CVNs might make it more necessary to forward-homeport an additional CVN in the Mediterranean, the Indian Ocean, or the Western Pacific as a means of maintaining a certain number of CVNs forward deployed in overseas operating areas.[25]

One issue regarding planning for carrier air wings is whether to increase planned procurement of strike-fighters in coming years so as to mitigate the projected strike-fighter shortfall, and how this issue might be affected by a decision to reduce the number of carriers and, with it, the number of carrier air wings. A related issue concerns the mix of F/A-18 Super Hornets and Navy/Marine Corps F-35B and C Joint Strike Fighters (JSFs) to be procured in coming years. Advocates of Super Hornets might that they are capable aircraft, and that they are less expensive to procure the F-35 Bs and Cs and can therefore be procured in greater numbers for a given amount of procurement funding. Advocates of F-35Bs and Cs could argue that they make greater use of advanced technology than does the Super Hornet and consequently are more capable, which could improve advantageous for conducting certain operations, such as countering high-capability enemy aircraft.[26]

An additional issue regarding planning for carrier air wings concerns the Navy Unmanned Combat Air System (N-UCAS). In connection with the idea of operating effectively outside the range of potential Chinese ASBMs and other Chinese maritime anti-access systems, CSBA has proposed an expansion of the demonstrator portion of this program.[27]

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[24](...continued)
technology, to build CVNs with nuclear fuel cores sufficient to power the ships over their entire service lives. Navy SSNs, which have 33-year service lives, have been built with life-of-the-ship cores for several years now, and the Navy hopes to build the next-generation ballistic missile submarine (SSBN), which might have a service life of 40 or more years, with a life-of-the-ship core. A CVN reactor produces much power than does a submarine reactor, making it less clear whether fuel core technology could improve to the point where life-of-the-ship CVN fuel cores would be possible. But if a reduction in CVN service life made it possible to build CVNs with life-of-the-ship cores, the ships would not require mid-life nuclear refuelings, which could reduce their life-cycle operating and support (O&S) costs. (The ships might still require other mid-life overhaul work.) Other things held equal, the avoidance of a mid-life nuclear refueling, combined with the increased production efficiencies of procuring CVNs every 4, 4.5, or 5 years, rather than at longer intervals, could improve the cost-competitiveness of options for procuring CVNs more frequently and operating them over shorter service lives relative to options for procuring CVNs less frequently and operating them over longer service lives.

[25]For a discussion of one issue relating to CVN homeporting, see CRS Report R40248, *Navy Nuclear Aircraft Carrier (CVN) Homeporting at Mayport: Background and Issues for Congress*, by Ronald O'Rourke.

[26]Additional options that have been mentioned from time to time include terminating procurement of Navy F-35Cs and instead continuing to procure Super Hornets for the Navy until the advent of a so-called 6th-generation carrier-based strike fighter at some point in the future, and terminating procurement of VSTOL F-35Bs for the Marine Corps and procuring the F-35Cs for the Marine Corps instead.

[27]See, for example, Thomas P. Ehrhard and Robert O. Work, *The Unmanned Combat Ar System Carrier Demonstration Program: A New Dawn For Naval Aviation?* Washington, Center for Strategic and Budgetary Assessments, May 10, 2007. 39 pp.

Submarines

As mentioned earlier, the Navy reportedly is considering reducing planned procurement of Virginia-class and follow-on SSNs over 30 years from 53 boats to 40 boats. This proposal, if implemented, could result in an SSN force that eventually declines to the low- to mid-40s and stays there indefinitely. This profile raises a question as to whether consideration is being given to reducing the attack submarine force-level goal from the current figure of 48 to a figure in the low- to mid-40s.[28] Additional questions concerning submarines in the future Navy include but are not limited to the following:

- If additional Ohio-class ballistic missile submarines (SSBNs) are released from their strategic nuclear deterrent role due to changes in nuclear force posture, should they be converted into cruise missile/special operations forces submarines (SSGNs)?
- Should more emphasis be placed on developing UAVs for SSNs and SSGNs, so as to give these submarines a capacity for overhead and deep-inland observation that they currently lack?
- What additional design changes should be incorporated into Virginia-class submarines procured in coming years?
- Are there any recent technical or other developments that would materially change arguments that have been made over the years by supporters and opponents of building non-nuclear-powered attack submarines as supplements to the Navy's SSNs and SSGNs?
- What should be the design features of the next-generation SSBN?

Cruisers

Procurement of the lead CG(X) cruiser, which was scheduled for FY2011 under the FY2009 shipbuilding plan, is widely expected to slip several years, most likely to FY2017. In addition, as mentioned earlier, the Navy reportedly is considering reducing planned procurement of CG(X)s from 19 (procured at a rate of one or two per year) to eight (procured at a rate of one every three years).[29]

A procurement profile of one ship every three years suggests that the Navy might propose the CG(X) as a highly capable, nuclear-powered ship with a displacement in the range of 20,000 tons. The Navy reportedly has studied such a design option for the CG(X), and the relatively

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[28]For more on attack submarine procurement, see CRS Report RL32418, *Navy Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke.

[29]For more on the CG(X) program, see CRS Report RL34179, *Navy CG(X) Cruiser Program: Background, Oversight Issues, and Options for Congress*, by Ronald O'Rourke.

high procurement cost of such a ship would be a reason for the Navy to propose stretching out the procurement of the class to one ship every three years.

At a procurement rate of one ship every three years, the eight ships would be procured over a total of 22 years — a period during which Navy priorities could easily shift in response to changes in the international security environment. A procurement rate of one ship every three years might also lead to only modest learning-curve benefits in the program, which could make follow-on ships in the program more expensive than they would be if they were procured more closely together. The profile would also result in the final ship in the class entering service around 2044, potentially decades after the appearance of the threats that the ship might be intended to encounter. For these reasons, one potential question to consider is whether an eight-ship CG(X) program of one ship every three years would be pursued to completion.

The Navy reportedly is considering continuing procurement of the Future Surface Combatant (see next section) into the 2020s. This creates a possibility that if the CG(X) program were terminated in its earlier years for some reason, the FSC could evolve over time into a substitute for the CG(X).

Destroyers

OSD in July 2008 permitted the Navy to share with Congress the Navy's proposal for halting procurement of DDG-1000s and restarting procurement of DDG-51s, but reserved judgment on the Navy's proposal, stating that more analysis was needed. In the meantime, OSD instructed the Navy to support the request in the proposed FY2009 budget for procurement funding for a third DDG-1000.

Congress in FY2009 provided about 60% of the requested funds for a third DDG-1000, leaving the remaining 40% or so to be provided in FY2010. Congress rejected the Navy's request for $51 million in FY2009 advance procurement funds for a fourth DDG-1000, and instead provided $200 million in FY2009 advance procurement funding to preserve the option to restart the DDG-51 program.

On January 26, 2009, John Young, the DOD acquisition executive, issued a memorandum recommending procurement of three DDG-51s in FY2011 and FY2012, followed by procurement in FY2012 and subsequent years of a ship called the Future Surface Combatant (FSC) that would be based on either the DDG-1000 or DDG-51 design.

The DDG-1000 is a multimission destroyer with a strong emphasis on naval surface fire support (NSFS) and features for operating in littoral waters. A decision to continue procuring the DDG-1000 design could be viewed as consistent with a strong planning emphasis on operations for deterring and participating in larger-scale conventional conflicts on the continental land mass. The ships could also be used for conducting other types of operations.

The DDG-51 is a multimission destroyer with an area-defense capable AAW system originally designed for blue-water operations, a BMD capability, and a hull-mounted sonar system optimized for blue-water operations. A decision to restart procurement of the DDG-51 design could be viewed as consistent with a strong planning emphasis on operations to counter

improved Chinese naval and other maritime-relevant military forces. The ships could also be used for conducting other types of operations.

John Young's January 26 memorandum on destroyer acquisition suggests that the FSC may be equipped with a new radar, but does not state explicitly how else the FSC might differ from the current DDG-1000 design or the current DDG-51 design. The CRS report on destroyer procurement[30] and CRS testimony to this subcommittee last July[31] discuss potential variants of the DDG-1000 and DDG-51 designs that would incorporate changes of various kinds. Some of these changes might be pursued as part of a strategy for evolving the FSC over time into a substitute for the CG(X), should the CG(X) program be terminated in its earlier years for some reason.

A key objective in designing the DDG-1000 was to create a ship that would improve the fleet's NSFS capability by fielding the 155mm Advanced Gun System (AGS). If DDG-1000 procurement is halted, a potential question for Congress is whether the fleet's NSFS should be improved through other means, and if so, whether one of those means would be installing AGSs on other types of ships. As discussed in the CRS report on destroyer procurement, the Navy is currently studying various options for improving the fleet's NSFS capability, including options that do not involve the AGS, such as equipping LCSs with the Non-Line of Sight (NLOS) missile. As discussed the CRS report and CRS testimony to this subcommittee last July, ships other than DDG-1000s on which AGSs might be installed include DDG-51s, particularly those modified to have a lengthened hull (one AGS per ship), a modified version of the LPD-17 hull design (two AGSs per ship), and a modified version of the LHA-6 design (up to four AGSs per ship).

Navy's Role in BMD

The Navy's roles in national missile defense and missile defense in Europe are unclear. Decisions regarding the Navy's roles in these two areas of missile defense will affect requirements for BMD-capable cruiser and destroyers. Various combinations of ships equipped with BMD radars and/or interceptors) are possible for an expanded sea-based national missile defense capability.[32]

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[30]CRS Report RL32109, *Navy DDG-1000 and DDG-51 Destroyer Programs: Background, Oversight Issues, and Options for Congress*, by Ronald O'Rourke.

[31]Statement of Ronald O'Rourke, Specialist in Naval Affairs, before the House Armed Services Committee Subcommittee on Seapower and Expeditionary Forces hearing on Surface Combatant Warfighting Requirements and Acquisition Strategy, July 31, 2008.

[32]For more on sea-based missile defense, see CRS Report RL33745, *Sea-Based Ballistic Missile Defense — Background and Issues for Congress*, by Ronald O'Rourke.

Lasers

An additional question regarding future cruisers and destroyers is whether they could be equipped with lasers for use against small boats and for AAW or BMD operations. Advances in laser technology, such as those that have been recently reported for solid-state lasers,[33] raise the possibility that lasers for performing such missions might become feasible within the time frame of ships such as the CG(X) and an evolved FSC. If such weapons do become feasible, they offer the potential for significantly improving the economics of defending against ASCMs and ASBMs. At present, the marginal costs for an adversary to deploy additional ASCMs and ASBMs might be less than the marginal costs for the Navy to buy additional interceptor missiles and associated launch tubes, particularly since adding launch tubes can require enlarging existing ships, increasing the size of new-construction ships, or building additional ships. If lasers prove feasible and effective in countering ASCMs and/or ASBMs, they could shift this marginal-cost situation in the Navy's favor.

Smaller Surface Combatants

The Navy has not settled on an acquisition strategy for LCSs to be procured in FY2011 and subsequent years. Points of uncertainty about the acquisition strategy for these ships include whether and when the Navy will neck down to a single LCS design, which shipyards would build the ships, whether the Navy will shift to a common combat system (should both designs remain in production), and the configuration of such a system.

Another question is whether other kinds of smaller surface combatants should be procured to supplement LCSs, particularly for engagement and partnership-building operations, anti-piracy operations, and other maritime-security operations. Navy versions of the Coast Guard's National Security Cutter (NSC), Offshore Patrol Cutter (OPC), or Fast Response Cutter (FRC) are among the options for such ships. The question of whether to procure other kinds of smaller surface combatants as a supplement to LCSs could become particularly pertinent if planning for the future Navy includes a strong emphasis on capabilities for engagement and partnership operations, anti-piracy operations, and other maritime-security operations.

Surface Combatants With Extensive Growth Margins

One option for reducing shipbuilding costs in the near-term while preserving an option to substantially expand Navy capabilities relatively quickly at a later point (perhaps in response to a change in the international security environment) would be to build surface combatants with extensive growth margins, so that they could be backfitted with significant amounts of additional weapons and sensors. Such ships, as originally built, might appear under-armed for their size. They would reflect the shipbuilding notion that "steel is cheap" — that a ship's steel hull represents a relatively small fraction of the ship's cost, and that increasing hull size does not by

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[33]See, for example, Peter Pae, "Northrop Advance Brings Era Of The Laser Gun Closer," *Los Angeles Times*, March 19, 2009: B2.

itself increase a ship's procurement cost very much. Such ships would also reflect a view that weapons and sensors can be built and installed on an existing ship more quickly than new ship hulls can be built. The Navy pursued a strategy somewhat along these lines with the Spruance (DD-963) class destroyer program.[34]

Amphibious and Maritime Prepositioning Ships

Questions concerning programs for building amphibious and maritime prepositioning ships include the planned size of the amphibious force; whether the current LPD-17 class amphibious ship design should be used as the basis for the ships to be procured as replacements for the Navy's current LSD-41/49 class amphibious ships; whether future large-deck amphibious assault ships should be built with well decks and/or nuclear power; and the composition of the Navy's planned MPF(F) squadron.

As discussed in detail in a CRS report on the LPD-17 program, the planned size of the amphibious fleet has been a subject of continuing discussion between the Navy and the Marine Corps. Although the Navy's proposed 313-ship fleet includes 31 amphibious ships, Marine Corps officials have maintained that their minimum requirement is 33. The CRS report presents options for amphibious ship fleets with more than 33 ships for meeting certain potential amphibious lift goals.[35]

It was recently reported that there is a growing consensus among Navy and Marine Corps officials that the amphibious ship force-level goal should be increased to 38 ships, though it remains unclear whether such a goal, if adopted, would be fully funded. According to this report, Navy and Marine Corps officials agree that the current LPD-17 class amphibious ship design should be used as the basis for ships to be procured as replacements for the Navy's current LSD-41/49 class amphibious ships. The report stated that the design of future large-deck amphibous assault ships and the composition of the MPF(F) squadron are questions that remain unresolved.[36]

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[34]The Spruance-class destroyer design originally included an area-defense AAW system. To reduce the design's estimated procurement cost, the ship's AAW capability was changed to a less expensive point-defense AAW system. Years later, the space originally reserved for the ship's area-defense missile launcher and magazine was used to accommodate the backfit of a 61-cell vertical launch system (VLS) cell, which gave these ships a significant Tomahawk strike capability. The backfit was made to 24 of the 31 ships in the class.

[35]CRS Report RL34476, *Navy LPD-17 Amphibious Ship Procurement: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

[36]Zachary M. Peterson, "Navy, Marine Corps Agree 38-Vessel Amphibious Fleet Necessary," *Inside the Navy*, March 16, 2009.

Nuclear-Powered Surface Ships Other Than Aircraft Carriers

The issue of using nuclear power in the future for surface ships other than aircraft carriers is discussed in detail in a CRS report.[37] The FSC proposed in John Young's January 26 memo on destroyer procurement would likely be a conventionally powered ship, since it would be based on either the DDG-1000 or DDG-51 designs, both of which are conventionally powered. Consequently, aside from the CG(X), the next opportunity for procuring a nuclear-powered surface ship other than an aircraft carrier might be a large-deck amphibious assault ship scheduled for procurement a few years from now.

Mr. Chairman, distinguished members of the subcommittee, this concludes my testimony. Thank you again for the opportunity to appear before you to discuss these issues. I will be pleased to respond to any questions you might have.

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[37]CRS Report RL33946, *Navy Nuclear-Powered Surface Ships: Background, Issues, and Options for Congress*, by Ronald O'Rourke.

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