[H.A.S.C. No. 113–71]

# U.S. ASIA–PACIFIC STRATEGIC CONSIDERATIONS RELATED TO PEOPLE'S LIBERATION ARMY NAVAL FORCES MODERNIZATION

HEARING

BEFORE THE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

HEARING HELD
DECEMBER 11, 2013

U.S. GOVERNMENT PRINTING OFFICE
86–078 WASHINGTON : 2014

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HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES,
*Washington, DC, Wednesday, December 11, 2013.*

The subcommittee met, pursuant to call, at 4:34 p.m., in room 2118, Rayburn House Office Building, Hon. J. Randy Forbes (chairman of the subcommittee) presiding.

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

Mr. FORBES. I would like to welcome everyone to our Seapower and Projection Forces Subcommittee hearing today on the People's Liberation Army [PLA] naval modernization efforts. This is a continuation of the Asia-Pacific oversight series that the full committee kicked off last month.

I want to apologize to our witnesses for the delay, based on those votes, but thank you for your patience.

In just a few weeks, recent developments in the East China Sea have demonstrated that improving our understanding of regional events and key players is critical to assuring our allies and partners of U.S. commitment to the region and protecting U.S. interests. Tensions in the East and South China Seas have been ongoing now for several years as China attempts to exert its influence in claiming land, sea, and airspace that is clearly beyond their internationally recognized borders. While naval modernization is a natural development for any seafaring nation such as China, it is clear the modernization is emboldening the Chinese Government to exert their interests by bullying their neighbors and pushing back the United States in the Asia-Pacific region. Therefore, it is also critical that we exercise congressional oversight of those requisite U.S. Navy capabilities that will be needed to counter any anti-access and area-denial capabilities the PLA Navy is rapidly developing as they modernize and expand their fleet.

We also must understand how to engage with the PLA Navy in a manner that is constructive for all parties involved and demonstrates respect and adherence to established international norms of maritime conduct. I hope our witnesses can provide insight to these key issues.

I would like to thank our distinguished panel of witnesses for appearing before the subcommittee today. And we have testifying before us Dr. Andrew Erickson, associate professor at the China Maritime Studies Institute of the U.S. Naval War College; Mr. Ronald

O'Rourke, specialist in naval affairs at the Congressional Research Service; Dr. Seth Cropsey, senior fellow at the Hudson Institute; and Mr. Jim Thomas, vice president and director of studies at the Center for Strategic and Budgetary Assessments. We look forward to your testimony.

And with that, I would like to turn to my good friend Mike McIntyre, but I understand he is not here. So, Mr. Courtney, I will recognize you for any remarks you would like to make sitting in for Mr. McIntyre.

[The prepared statement of Mr. Forbes can be found in the Appendix on page 27.]

Mr. COURTNEY. Thank you, my friend and chairman of the subcommittee, Mr. Forbes, for holding this hearing. In many ways, this is one of the most topical subject matters that we could have for the Congress.

Mike had prepared some opening remarks. So, again, what I would just ask is unanimous consent to submit those for the record and look forward to hearing from the witnesses.

[The prepared statement of Mr. McIntyre can be found in the Appendix on page 29.]

Mr. FORBES. Without objection, we will make those part of the record.

I would also like to recognize my good friend and co-lead for our Asia-Pacific series, the gentlelady from Hawaii, Ms. Colleen Hanabusa, for any remarks she may have.

Ms. HANABUSA. Thank you, Mr. Chairman. I will be very brief.

I just want to say that one of the things that a good friend of mine who has passed and a great mentor, Senator Inouye, told me, I think it is very appropriate for these hearings. He had said to me, he says, you know, after World War II, the United States dominated the seven seas. He said, if we do that now, he says, I would be really surprised. He says, but, he says, never forget the one thing: We will always dominate the deep blue sea.

So with that, I look forward to hearing from all of you. Thank you very much.

Mr. FORBES. Thank you, Colleen.

And now we will start. And I don't know which order we want. Mr. Thomas, were you going to start, or Dr. Erickson?

Okay. Dr. Erickson, they will let you start, and we thank you once again for your patience in being here with us, and we look forward to your remarks.

## STATEMENT OF DR. ANDREW ERICKSON, ASSOCIATE PROFESSOR, CHINA MARITIME STUDIES INSTITUTE, U.S. NAVAL WAR COLLEGE

Dr. ERICKSON. Chairman Forbes, Congressman Courtney, distinguished members of the subcommittee, thank you for this opportunity. I am testifying as an individual, not as a representative of the U.S. Navy. While I have submitted a detailed statement for the record, allow me to highlight the issues I believe are most pertinent to the subcommittee's vital work.

In contrast to ongoing limitations, shared interests, and even opportunities for cooperation far away, China's navy and other services are achieving formidable anti-access/area-denial, A2/AD, capa-

bilities closer to shore. Beijing seeks to wield this growing might to carve out in the Yellow, East, and South China Seas an airspace above them, a zone of exceptionalism within which existing global security, legal, and resource management norms are subordinated to its parochial national interests. This threatens to weaken the global system on which all nations' security and prosperity depends, and to destabilize a vital but vulnerable region that remains haunted by history.

To ensure that Beijing cannot use force or the threat of force to change the status quo in the Asia-Pacific, the U.S. must maintain military capabilities to deter any threatening or aggressive actions by China, even as the two nations cooperate in areas of shared interest. Given the inherent defensiveness of the U.S. approach, it should be possible to meet core objectives at an affordable price through the most critical timeframe, likely over the coming decade, with a bottom-line strategy of deterrence by denial.

Washington must be careful not to compete with Beijing in excessively expensive and ultimately ineffective arms competitions. It should not counter China's A2/AD weapons by attempting to acquire a more sophisticated counter in each and every instance. It must also avoid the temptation to embrace approaches such as mainland strikes that would be unduly escalatory or counterproductive and lack the credibility to deter Beijing through their threatened use over issues in the East and South China Seas, given a disparity of national interests. A distant blockade, also escalatory, is likewise unfeasible because of the logistical difficulty of implementation in a dynamic commercial world.

Instead, as China works to deny U.S. forces an ability to operate close to the mainland, the U.S. aim at a minimum should be to deny China the ability to resolve territorial and maritime disputes by the use of force. To resolve disputes conclusively, China would have to seize and hold territory as well as resupply its forces. This is inherently difficult on small islands, where geography imposes vulnerability.

To demonstrate that China cannot achieve this, and thereby deter it from ever trying to do so, the U.S. and its allies should maximize disruption capabilities, their own form of A2/AD. The U.S. should, therefore, develop, deploy, and demonstrate in a measured, targeted fashion the capability to deny China the ability to seize and hold offshore territories. Here some pages can be taken from China's own A2/AD playbook.

Military capabilities are based on a complex system of hardware and software. Amid this, certain platforms and weapons offer disproportionate benefits, including submarines, missiles, and sea mines. The tight fiscal environment and threat timeline places a premium on deploying and maintaining existing platforms and weapons systems with proven technologies in limited numbers as rapidly and effectively as possible.

The most promising approach is to hold and build on formidable U.S. undersea advantages to which China lacks effective countermeasures and would have to invest vastly disproportionate resources in a slow, likely futile effort to close the gap. It is, therefore, essential to ensure the present two-a-year construction rate of *Virginia*-class nuclear-powered attack submarines, SSNs, ideal for

denying the ability to China to hold and resupply any forcefully seized islands. The *Virginia* payload module allows for useful increases in missile capacity. Given China's ongoing limitations in antisubmarine warfare and the inherent difficulty of progressing in this field, China could spend many times the cost of these SSNs and still not be able to counter them effectively.

Additionally, more can be done to better equip U.S. platforms, such as submarines. The U.S. should do far more with missiles, particularly with anti-ship cruise missiles. Recent tests of the long-range anti-ship missile, LRASM, represent a step in the right direction, but more ought to be done in this regard. Offensive naval mine warfare is another underexploited area that offers maximum bang for the buck.

U.S. submarines can oppose any Chinese naval forces engaged in an invasion, resupply, and protection. Long-range air or missile delivery can blow any lodgement off disputed islands or rocks. To be sure, both U.S. SSNs and LRASMs and Chinese A2/AD forces could achieve denial effects. Long-range surface-to-air and air missiles from both sides might hold air operations over the features in question at risk, prevent continuous operations, or even fully create a no man's land. U.S. forces other than SSNs might not be able to operate without assuming great risk and hence be denied unfettered access. But Chinese forces would also not have access and would thereby be denied their objective of seizing and holding disputed territory.

Demonstrating this to China would be an effective deterrent. Beijing could not afford to risk the likelihood of not achieving its objective in this regard. By adopting this deterrence-by-denial strategy, the U.S. can continue to preserve the peace in the Asia-Pacific, which has prospered during nearly seven decades of American protection. No other nation has the capability and lack of territorial claims necessary to play this still vital role.

Thank you very much for your attention and for your continuing support for U.S. seapower. I look forward to your questions.

[The prepared statement of Dr. Erickson can be found in the Appendix on page 31.]

Mr. FORBES. Thank you, Dr. Erickson.

And, Mr. O'Rourke, we welcome you back to this committee, and we appreciate your taking the time, look forward to your remarks.

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

Mr. O'ROURKE. Chairman Forbes and Representatives Courtney, Hanabusa, and Conaway, thank you for the opportunity to appear before you today to discuss China's naval modernization effort.

Chairman Forbes, with your permission, I would like to submit my statement for the record and summarize it here in a few brief remarks.

Mr. FORBES. Each of our witnesses' statements will be submitted, without objection, to the record.

Mr. O'ROURKE. Top-level U.S. strategic considerations related to China's naval modernization effort include, among other things, the following: preventing the emergence of a regional hegemon in one part of Eurasia or another; preserving the U.S.-led international

order that has operated since World War II; fulfilling U.S. treaty obligations; shaping the Asia-Pacific region; and having a military strategy for China.

China's naval modernization effort appears aimed at producing a regionally powerful navy with a limited but growing ability to conduct operations in more distant waters. A near-term focus of China's naval modernization effort has been to develop military options for addressing the situation with Taiwan.

Observers also believe that China's naval modernization effort is increasingly oriented toward additional goals, including the following: asserting or defending China's maritime territorial claims; enforcing China's view that it has the legal right to regulate foreign military activities in its exclusive economic zone; protecting China's sea lines of communications; protecting and evacuating Chinese nationals in foreign countries; displacing U.S. influence in the Pacific; and asserting China's status as a major world power. Consistent with these goals, observers believe China wants its military to be capable of acting as an A2/AD force.

China's actions in recent years have suggested to some observers that China is pursuing an overarching goal of gaining greater control of China's near-seas region and of breaking out into the Pacific. If China were to achieve a position of being able to exert control over access to and activities within the near-seas region, it would have major implications for top-level U.S. strategic considerations. It would constitute a major step toward China becoming a regional hegemon, pose a significant challenge to the preservation of the post-World War II international order, and substantially complicate the ability of the United States to fulfill treaty obligations to countries in the region and to shape the region's future. It would amount to a fundamental reordering of the Asia-Pacific security situation.

Some observers have posited that China's growing capabilities will at some point compel U.S. Navy surface ships to remain outside China's A2/AD perimeter. That is far from clear, however, as the Navy has numerous options it can pursue for breaking the kill chains of China's maritime A2/AD weapons. Electromagnetic rail gun and high-powered lasers can be the U.S. Navy's own game changers for countering Chinese capabilities.

To field such systems, the Navy would need to not only continue their development, but also procure ships with integrated electric drive systems or some other means of providing enough electrical power to support them. The Navy's 30-year shipbuilding plan currently does not include any surface combatants that will clearly have enough electrical power to support lasers with more than a certain amount of strength.

The geographic expanse of the Asia-Pacific and the potential advantages of being able to outrange Chinese systems when needed may focus attention on the option of acquiring long-range to carrier-based aircraft, such as the UCLASS [Unmanned Carrier-Launched Airborne Surveillance and Strike] manned aircraft, and long-range weapons such as the long-range anti-ship missile and a long-range air-to-air missile.

Navy attack submarines can operate effectively well inside China's surface and air A2/AD perimeter. This can focus attention not

only on the procurement of *Virginia*-class attack submarines, but also on other options for expanding the capabilities of the attack submarine force, such as the *Virginia* payload module.

Operations by Chinese Coast Guard ships for asserting and defending China's maritime territorial claims close to the Philippines often go uncountered by equivalent Philippine forces because the Philippines has relatively few such ships. This may focus attention on the option of accelerating actions for expanding and modernizing the Philippines maritime defense and law enforcement capabilities.

None of this precludes cooperating with China in maritime operations in areas where the two countries may have shared interests, such as antipiracy operations, search-and-rescue operations, and humanitarian assistance and disaster response operations. Such operations can provide an opportunity for demonstrating to China the benefits that China receives from the current international order and China's interest in preserving that order.

Mr. Chairman, this concludes my statement. Thank you again for the opportunity to testify, and I look forward to the subcommittee's questions.

[The prepared statement of Mr. O'Rourke can be found in the Appendix on page 47.]

Mr. FORBES. Thank you, Mr. O'Rourke.

Dr. Cropsey.

## STATEMENT OF DR. SETH CROPSEY, SENIOR FELLOW, HUDSON INSTITUTE

Dr. CROPSEY. Mr. Chairman, Congressman Courtney, distinguished members of the committee, it is an honor to speak before this committee. Thank you for your invitation.

As dangerous as the threats posed by jihadism are, so far they don't approach the risks of open confrontation between the United States and the Soviet Union in the cold war. But the likelihood is that we will again face a larger challenge than the one the jihadists now present. No one is a better candidate to offer such a challenge than China, which is not to say that China is an enemy, or to predict that China will become an enemy. But it is clear the Chinese leaders are ambitious, and that their diplomatic policy and their military armament are moving them toward great power status, or at least regional hegemony, in a series of small steps designed to achieve these ends with minimal resistance from their Pacific competitors, America's allies.

The U.S. is not taking this possibility as seriously as it should. This is different from the America of the 1920s and 1930s. The generation that had experienced a World War learned the hard way why strategy was needed to be prepared for whatever the future might bring. Then, U.S. anticipated a potential future threat from Japan and acted to prepare for such a threat. In what was known as, as you know, War Plan Orange, U.S. military leadership devised and tested its strategy for a potential conflict with Japan, which evolved with new technology and tactics during the interwar period. It incorporated the critical roles of aircraft carriers and submarines, amphibious warfare, an island-hopping campaign, all of them new, in any potential Pacific conflict.

The linchpin of this plan was the doctrine of "advanced base" strategy, the idea developed and exhaustively tested during the interwar period that a Pacific conflict with Japan could be won by securing the outlying archipelagos and islands of the theater. This would take place by amphibious assault that would secure American bases from which to launch offensive operations further and further into enemy territory. At the same time, it would deny the enemy territory from which to do the same. The result, the U.S. military had a strategy when the conflict broke out, one whose familiarity to officers improved its execution, and which was, in fact, highly successful.

We have no such strategy toward China today. Diplomatically, the closest we have come is the long-standing effort that existed since the administration of George H.W. Bush to persuade China to become a stakeholder in the international system. One of the most fundamental principles of that system is respect for untrammeled navigation through international waters and airspace.

The events of the past few weeks, as China declared an Air Defense Identification Zone over a large section of the East China Sea, show that they have no such respect. So, while efforts to persuade China to become a stakeholder in the international order should not be abandoned, we ought to understand that those efforts have proved of limited value in generating any positive effect on Chinese international behavior. To the extent that any American strategy hangs on our and the international community's attempt to transform China into a state that accepts the general principles of the international order, it has been a failure.

The Obama administration's much publicized pivot to Asia is not a strategy for dealing with China. It is an idea which, if sensibly implemented, would preserve and increase our influence in the region. But so far all the hard power of the pivot is a minor element of the administration's preference for using soft power. The hard power consists of a Marine contingent in northern Australia that remains much smaller than the envisioned 2,500 Marine rotational force, eventually 4 littoral combat ships to be based in Singapore, and, as you know, a U.S. military budget that is being whittled away at a rate that alarms our allies in Asia and the rest of the world.

A successful pivot to Asia would require more cooperation, especially with our Asia treaty allies, the most important of which is Japan. In the current and potentially risky matter of the People's Republic's recently declared Air Defense Identification Zone, Japan had said, as you know, that its commercial airliners would not identify themselves when passing through the airspace in question. At the same time, the State Department of the United States has urged American commercial flights to comply with the zone. I would not call this cooperation.

China, by its own admission and actions, wants to deny us access to large parts of the Western Pacific. The Defense Department's response, a large part of it so far, has been a set of ideas, as you know, called the Air-Sea Battle [ASB]. The ASB itself is a plan for greater cooperation between the military services in gaining access where a potential enemy would deny it. Much like the pivot, or re-

balance, it is not based on a strategy, and it is not a strategy toward China. In fact, as you know, it makes no mention of China.

China's leaders are more tolerant of risk than the Soviet leaders were. The ASB talks about blinding a potential enemy's surveillance, reconnaissance, and intelligence capabilities. In China's case, this would mean striking targets on the mainland. The wisdom of this should be questioned. But the U.S. is not doing anything to turn even that idea into a strategic plan.

There are other possible strategic approaches to the same problem of access denial; however, the first question that needs to be considered is what is the objective of any strategy toward China, and my colleagues here have already mentioned that. I agree with them. The answer is the same as our objective in World War I, World War II, and the cold war. In each of those, our objective was to prevent the rise of a hegemonic power on the European Continent. With China, our objective ought to be to prevent the rise of an Asian hegemon, a power that would destroy the current U.S. alliance system in Asia, dominate the world's most populous region economically and militarily, and perhaps extend itself into Eurasia and beyond.

As in the U.S.'s experience in Europe, our first diplomatic objective in executing a strategy that seeks to prevent the rise of an Asian hegemon should be to establish an alliance of like-minded nations. This is very difficult because of ancient enmities in the region. But as the threat from China grows, current realities might eclipse fear. An important part of U.S. strategy toward China should be to prepare the groundwork now for such an alliance, one which establishes contingencies for repatriating allied business interests on the mainland back to allied countries, so as to exert economic pressure on the PRC [People's Republic of China] in the event of a conflict.

As for the immediate problem of access denial, which does indeed require strategy to counter, there are approaches which don't require an attack on China's mainland. One would be to destroy the Chinese Navy at sea. Another would be to impose a blockade on Chinese merchant and naval shipping. Like the ASB, neither of these are being looked at as possible military strategies toward China, nor, as Dr. Erickson pointed out, the idea of denying them use of the islands, the disputed islands.

What is clear is that any strategy to counter China's increasing access-denial capabilities should prioritize deterrence—which means readiness, sustainability, and overmatching firepower and defense—and be built upon an integration of the ground forces necessary to control the outlying islands, archipelagos, littorals, and straits of the Pacific with the naval and air power necessary to control the air and seas. Such a strategy should also include an increased focus on missile defense to protect civil and military infrastructure, sea and airports, and mobile warfare capabilities. And it should, I think, above all, be designed to give the U.S. the power to assemble a durable forward defense in the event of a long war.

But however one regards these strategic ideas, the fact remains that we don't have any strategy toward the most populous nation in the world, one whose economic strength is considerable and in tandem with the military power its leaders are gradually accumu-

lating to match their ambitions. My colleagues who are testifying here this afternoon are offering a thoughtful account of the hardware and tactics that support those ambitions. This needs to figure in our strategy as clearly as it does in China's.

Thank you for the opportunity to address this committee, Mr. Chairman, and I look forward to your questions.

[The prepared statement of Dr. Cropsey can be found in the Appendix on page 67.]

Mr. FORBES. Thank you, Doctor.

Mr. Thomas.

**STATEMENT OF JIM THOMAS, VICE PRESIDENT AND DIRECTOR OF STUDIES, CENTER FOR STRATEGIC AND BUDGETARY ASSESSMENTS**

Mr. THOMAS. Chairman Forbes, Ranking Member McIntyre, and distinguished members of the subcommittee, let me add my thanks for convening these important hearings and inviting me to testify today. I will discuss key priorities for the PLA's naval modernization program and then turn to their implications for U.S. and allied operational and force planning.

To begin, I think it is worth recalling just how far the PLA has come over the past decade. Chinese defense spending has increased from an estimated $45–$60 billion in 2003 to $135–$215 billion today, roughly 25 to 40 percent of what DOD [Department of Defense] spends annually on our defense. Unlike the United States, however, with its competing global security responsibilities, China is able to focus its resources almost entirely on supporting its regional counterintervention strategy, which emphasizes the buildup of anti-access and area-denial, or A2/AD, capabilities and its ability to conduct short, decisive campaigns before an outside party like the United States could intervene effectively.

A decade ago China was also heavily reliant on Russian assistance and its armaments, but has increasingly shifted towards indigenous design and production. It is rapidly building up a modern submarine force while retiring its older submarines. Its advanced guided-missile destroyers represent a major improvement in fleet air defense and, along with advanced submarines, will allow China to protect its aircraft carriers while pushing its naval perimeter farther out into the Pacific.

China is also fielding an armada of fast, smaller combatants armed with anti-ship missiles. Their numbers could create a significant tracking and targeting problem and make it far more difficult for foreign surface forces to safely approach within 200 nautical miles of China's coast.

The PLA Navy also now operates more than 100 modern land-based strike fighters, equipped with sophisticated avionics, sensors, and advanced air-to-air as well as anti-ship missiles that could be used to overwhelm the defensive countermeasures of U.S. and allied naval forces operating within their reach.

Finally, although it is not technically part of its naval modernization program, China has placed priority on the development of an anti-ship ballistic missile. The DF–21D [Dong-Feng 21D] reached initial operating capability in 2010 and has a range exceeding 930

miles. Its maneuverable warhead is optimized to attack large surface combatants, such as aircraft carriers, underway.

The cumulative effect of all of these modernization efforts is that the military balance in the Western Pacific is shifting perceptibly, while U.S. costs to project power into the region are rising. There is no single silver-bullet approach to preserve the regional military balance. No one action alone can do it. Instead, the United States and its allies will have to undertake a combination of efforts to demonstrate their defensive strength in the face of China's challenge, including steps to, number one, counter hostile communications, command and control, computers, and intelligence, surveillance and reconnaissance networks by being able to conduct operations to degrade them, disrupt them, or spoof them. These efforts would help to reduce the PLA's ability to effectively employ their missiles against friendly forces. Ideally, this could be done with nonkinetic activities that don't require strikes on the mainland of China. But at the same time, I think it is probably imprudent to rule out such strikes as they contribute to our deterrent.

Number two, we should be able to sustain operations inside hostile A2/AD envelopes by hardening our airbases against attack, improving our air and missile defenses, including with next-generation air defenses, as Mr. O'Rourke discussed, such as solid-state lasers and electromagnetic rail guns. It will also require the development of novel operating concepts as the U.S. Air Force and Marine Corps are now pursuing to facilitate distributed air operations from cluster airbases and ad hoc forward arming and refueling points for short-takeoff and vertical-landing aircraft.

Number three, our forces will also need to be able to operate from beyond the range of hostile A2/AD networks. By increasing the range and payload and stealth of our carrier as well as our land-based aircraft, the strike payloads of our submarine force, and also developing newer long-range missile systems for both land attack and anti-ship missions, such as the long-range anti-ship missile.

Number four, I believe our forces will need to build up allied and partner anti-access and area-denial capabilities to defend their own sovereignty by conducting air and sea denial operations, especially around the first island chain and in Southeast Asia. The U.S. Army and the U.S. Marine Corps in particular may have prominent roles to play in helping build up partners' air and sea denial capacities.

And last, number five, I think the United States does need to be able to be prepared to conduct peripheral operations by capitalizing on the U.S.—the United States air and naval mastery beyond the reach of potential adversaries' A2/AD systems to conduct indirect, peripheral operations, like distant blockades.

In closing, PLA naval modernization and the contested maritime environment it is creating offers a lens for evaluating U.S. strategic choices in a time of austerity with the objective of ensuring the U.S. military prioritizes the most viable elements of its forces to remain in the power projection business. That is why these hearings are so important.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Thomas can be found in the Appendix on page 74.]

Mr. FORBES. We thank all of our witnesses.

I am going to defer my questions until the end. So I am going to recognize Mr. Conaway for 5 minutes.

Mr. CONAWAY. Thank you, Mr. Chairman.

Gentlemen, thank you for being here.

Mr. Erickson and Mr. O'Rourke both talked about just the mere presence of a very strong submarine capability would somehow influence the Chinese to not put soldiers on all these outlying islands that they are trying to claim. But yet at the same time, we have just recently seen that they very effectively said—declared an air superiority zone that has now threatened commercial air traffic. And I guess commercial air traffic has actually left the area, and we are still running our planes through there.

Two questions. One, what did you think the Chinese were trying to accomplish by the air superiority issue and—not superiority, but—the air dominance or assertion of airspace, what were they trying to accomplish with that? And how do you distinguish that bold move and our lack of response there to what a potential landing on one of these small rocks out there that is currently uninhabited and us actually using a submarine to do whatever it is you two guys think we would do to stop the Chinese in that regard?

Dr. ERICKSON. Yes, Congressman, you have raised two very important issues here. And I think we have seen a very regrettable approach from China in terms of how they rolled out their Air Defense Identification Zone [ADIZ] in the East China Sea. I think this is related to a larger effort that I described to try to establish a zone of exceptionalism within the Yellow Sea, the East China Sea, and the South China Sea, an area in which they can try to subordinate international norms that undergird the effectiveness of the global system to their own national interests in a way that is not in concert with international law.

I think there already has been a positive element of U.S. response. The B–52s being dispatched from Guam, I think, sends a very clear message that an ADIZ does not give one the right to regulate others' freedoms in that airspace.

I think it is a different issue when we are talking about what submarines can deter and what submarines can do vis-a-vis these disputed territories whose status should not be resolved through the use of force or the threat of force. The capability of submarines speaks to operational situations that go beyond the peacetime scenario that we are seeing with the Air Defense Identification Zone. So demonstrating, if necessary, in a worst-case scenario the ability to use these submarines to prevent and to stop and to roll back that kind of seizure of territory, I think, can nevertheless be quite effective.

Mr. CONAWAY. How will they prevent stopping?

Dr. ERICKSON. The use of the submarines and their affiliated weapons systems can literally, if necessary——

Mr. CONAWAY. The system has got to be fired. You can't just simply pop up on the top of the ocean there from a submerged position and stop something; you have actually got to go kinetic, don't you?

Dr. ERICKSON. Yes. If necessary, as a last resort in a worst-case scenario, that is exactly what the submarines are good for. And

even better news is the fact that demonstrating that credible capability should be enough to prevent China from engaging in the behavior that would necessitate such a response. I think that is how the U.S. can preserve deterrence and keep the peace in the region, even with this tremendous uptick in Chinese A2/AD capability.

Mr. O'ROURKE. I think the commentary about the ADIZ has included speculation as to various goals that China may have had in mind in announcing the zone. A lot of the commentary mentioned the fact that it was intended, as these people saw it, in part to strengthen China's position in the dispute over the sovereignty of the Senkaku/Diaoyu Islands.

A second goal that appears in a lot of the commentary is to generally strengthen or reinforce China's influence over activities in that part of the near-seas region generally, and as a part of that, perhaps, to challenge the international norms relating to freedom of operation on the high seas and international airspace. Some of the commentaries included other goals as well, such as driving a wedge between us and Japan or putting the United States in the position of being a mediator.

Mr. CONAWAY. In your statement, do you actually see that working? In other words, is China accomplishing their goals?

Mr. O'ROURKE. The opinions right now are mixed from what I have seen in people's reaction and commentary. Some people think that China's ADIZ has backfired for China by angering many of its neighbors and perhaps encouraging greater cooperation among the other countries in that region with the United States. Other people see that China has had some success, because, frankly, they don't care about that as long as they achieve their goal in terms of establishing a new reality on the ground or in the air.

The question you relate to earlier about the role of submarines has to do with the fact that this is very much a three-dimensional game: It is taking place in the air; it is taking place on the ground, in the case of these territories in the near-seas area; and also on the water and under the water. It is taking place in connection with wartime scenarios and scenarios that are short of full war, such as what we are seeing with the generalized pressure and initiatives that China is placing on its neighbors regarding how it would like to see its disputes with these territories resolved. The submarines play in part of that, and they don't play in other parts. So it depends on what your scenario is.

Mr. CONAWAY. My time has expired. But I don't see China being unduly impressed with our air capabilities and, hence, this air identification zone that they have declared. So I am not as confident that they are all that worried about our submarines out there.

So, anyway, thank you all for your-all's opinion. Yield back.

Mr. FORBES. Thank you, Mr. Conaway.

Ms. Hanabusa is recognized for 5 minutes.

Ms. HANABUSA. Thank you, Mr. Chair.

I think one of the things that I am getting from all of your testimonies, and thank you all for being here, is that there seems to be a lack of strategy. And you are all coming up with different ideas, but there is no overarching strategy about what to do.

Having said that, Mr. O'Rourke, in reading your testimony, the thing I was struck about is that you made a clear statement about the fact that if we go below the 306 number in terms of our fleet, that we are going to have a major problem. Then you go on a couple of pages later and you talk about the fleet architecture, which then seems to me, okay, we are talking about this number, 306, but we are also talking about with A2/AD that what we need to start to think about is the fleet architecture, what would be the best architecture that we would have in the region. So can you tell me, 306, fleet architecture, what exactly—I mean, if we had to choose between one or the other, what would prevail between them?

Mr. O'ROURKE. That is a great question. The 306 is, as you know, not just a number per se, it is not just a one-dimensional figure, it is a figure that has a lot of dimensions embedded into it, including the currently planned fleet architecture. There is a debate under way as to whether that architecture is the most appropriate one for ensuring our interests, especially in that part of the world, especially in the face of A2/AD systems in the future, especially in a situation of constrained defense resources.

That debate is under way. It has been gaining steam. How it is eventually resolved is not yet certain at this point, although for the time being, of course, the program of record stands.

If we were to switch to a different fleet architecture, we wouldn't be talking about the 306 number anymore. It would be some other number that reflected the mix of ships that we would then be planning at that point. If the fleet falls short of 306, and we stick with the current architecture, and this happens because of constraints on defense, then one of the points I made in my testimony is that the Navy at that point would have options for trying to enhance the forward presence of the fleet that it did have, whether that was a fleet of 280-something or 250-something or less. Those options include a greater degree of forward homeporting, greater use of lengthened deployments, greater use of multiple crewing and crew rotation. All those options have certain costs associated with them, and they would have to be considered very carefully. So there are trade-offs involved here.

But I think what your question does is it pinpoints the fact that there is a nexus between the number that we might quote and what kind of fleet that we are talking about, and that there is a discussion under way about what that should be, especially in the context of constraints on defense forces and rising A2/AD capabilities.

Ms. HANABUSA. Mr. O'Rourke, in the beginning part of your testimony, you talk about the fact that you have been following and studying China since the 1980s. And I was surprised to know that since 2005 your report has been amended, like, 90 times plus. But the focus since 1980 for yourself has been China. So given that we are here to talk about China and its naval modernization, and that is really—if we are being honest about what we are doing and what we are studying, that is what we are talking about; we are talking about China's modernization and how it affects us.

But one of the testimonies here is saying that what we are allowing to happen to us is that China is defining what we are then doing. So do you see that as we look at the fleet architecture, and

as we look at the number 306 or whatever that number would be, that we are really looking as responding to what we may foresee as a threat to China and how to best combat that or be prepared for that? Is that what the underlying, I guess, the threshold that we are going to be dealing with?

Mr. O'ROURKE. The debate over fleet architecture has been occasioned in part, in large part, by what China is doing and the challenge that observers see that posing to the future of the Navy and U.S. military generally. Not only China, though; it has to do in part with what other countries, particularly Iran, is doing in terms of its A2/AD forces in the Persian Gulf region.

But, yes, that is the dynamic that we are in right now. Other nations are rising in terms of their military capabilities. They are doing so in a certain way, and that is causing us to ask whether we are currently on the proper path for responding to that.

Ms. HANABUSA. And you did mention Iran also in your testimony. It was "China parens (Iran)" and "A2/AD." So I guess the question is do you see a point where the United States is the power—we are not talking about a hegemonic power. We are trying to prevent a hegemonic power, a hegemon, from developing in Asia. But notwithstanding, it seems like we are reacting to others versus others reacting to us. Would that be a correct statement?

Mr. O'ROURKE. I think that is certainly a good issue to raise. In devising our strategy, whatever it may be, we should ask ourselves whether we are simply reacting to what the other side is doing or instead also posing a challenge that the other side has to react to.

If the United States is in a situation of only reacting to what the other side is doing, then what in the long run is the best we can do in that situation? If we do not put into the mix our own initiatives that pose problems for the other side, and we restrict ourselves only to reacting to what the other side is, how well can we do in the long run? I think that is a question we need to ask ourselves and keep in the back of our mind.

Ms. HANABUSA. It comes back to strategy.

Mr. Chair, I know that it is not blinking, but I am pretty sure my time is up. Thank you very much.

Mr. FORBES. Thank you, Ms. Hanabusa.

Mr. Courtney is recognized.

Mr. COURTNEY. Thank you, Mr. Chairman.

Dr. Erickson, when you talked about that sort of disruption strategy as a smarter response than sort of a full-blown arms race or, you know, tit-for-tat kind of approach to China's buildup, undersea seemed to be sort of the domain that you, I think, stressed was where we have an advantage and also a better capability to employ that strategy.

You know, the Office of Naval Intelligence is saying, however, that China is building up its own submarine fleet, and that they are going to have 60 submarines in the relatively near future. And I guess the question is if your strategy, you know, is the approach that the U.S. adopts, is our inventory adequate to execute it, even with the two-sub-a-year build rate that you mentioned in your remarks?

Dr. ERICKSON. Sir, those are excellent questions, and I think they cut right to the heart of the matter of how we should be pre-

pared to execute what I would advocate, the strategy of deterrence by denial, which—I call it a bottom-line strategy because I see as the bottom line we ought to be able to do this. There is a lot more that I hope we could be able to do on top of that to include peacetime shaping and other capabilities, but at a minimum I think we need to be able to do this to keep the peace over time in the region.

You are absolutely right to refer to analyses that suggest that the number of Chinese submarines will continue to increase. Obviously, the vast majority of those will be focused on the immediate region as opposed to U.S. submarines and other forces which are dispersed around the world. And even more than quantity, it is the quality that will continue to increase. So this is very significant.

What I should stress, though, is that this increased submarine numbers and presence by China does not automatically translate into across-the-board antisubmarine warfare [ASW] capabilities. In fact, my colleague William Murray at the Naval War College calls Chinese approaches to their conventionally powered submarines making them aquatic tells or aquatic transporter erector launchers; in other words, a large focus on missile firing. And if you look at photographs available, you will see some load-outs that have a high ratio of anti-ship cruise missiles to torpedoes.

My point there is, yes, China is putting a big focus on submarines, but I don't think that negates the points that I was making about ASW being a major vulnerability that we can target in this regard.

What I do think this highlights, though, is in order to make sure we have that ASW capability, we do need to emphasize certainly keeping the current build rate on *Virginia*-class submarines. And I am not an expert on this subject per se, but I would say look at the great studies by CBO [Congressional Budget Office] and others. The number of U.S. SSNs in the outyears going forward, I think, is something we have to keep our eyes on very closely. I don't know what the exact number is, but if that gets too low, it is really going to have a negative impact on our ability to hold this bottom-line strategy. And I can tell you that Chinese publications, including some fairly serious publications, look very seriously at these issues. So by even having these reports come out that our numbers may get that low for SSNs, we are sending a powerful message to China in that regard, whether we intend to or not, and it is not necessarily a message that works in our favor.

Mr. O'ROURKE. Just as a quick addendum to what Andrew said, even at two per year, as you know, we will experience a shortfall in the attack submarine force in the 2020s relative to the 48-boat force level goal that forms part of the 306-ship fleet.

And the other thing I would say is that there is nothing physically limiting us to two per year. Two per year is the current program of record over the next few years before we get into the *Ohio* replacement years, at any rate. But there is nothing saying that physically that you couldn't do more than two. You could talk about three per year if you wanted, if you felt it was a high enough priority, if you felt that was the right thing to do, and you wanted to shift the resources into that.

Mr. COURTNEY. Thank you. Yield back.

Mr. FORBES. Thank you, Joe.

Mr. Langevin.

Mr. LANGEVIN. Thank you, Mr. Chairman. I want to thank our witnesses for being here today and sharing your insights with us.

So obviously today's budgetary constraints are familiar to all of us, and some of the hardest decisions that we are going to make will be basically trade-offs between the highly capital-intensive investments in platform modernization. And in the context of the focus on the Asia-Pacific region and the PLA's modernization, what military capabilities should we be prioritizing, developing, or maintaining? And, in particular, are we making strong enough investments in sub service and autonomous systems as well as maybe so-called a game-changer, next-generation technology such as directed energy and electromagnetic rail guns?

Now, Mr. Thomas, you kind of touched on some of these things. Maybe we could start with you.

Mr. THOMAS. Thank you, Congressman. I think you already put your finger on two of the things I put on the top of my list, which is doing everything we can to maximize the stealth and the weapons capacity of our manned submarines, and at the same time accelerating development of complementary unmanned underwater vehicle capabilities. And how these will work is essentially an undersea family of systems, just as we are building a long-range strike family of systems in the air today.

I think the second area is looking at game changers in terms of how we are going to do air and missile defense in the future not only for the fleet, but how we will protect forces ashore. Electromagnetic rail gun as well as solid-state lasers are two potential directions that we could be pursuing.

One of the things that is so attractive about these systems is, in fact, their ability to free up vertical launch system tubes on our surface combatants so we can focus more on offensive strike power, land-attack missiles, anti-ship missiles, and less on the air and missile defense mission. This is a broader concern with our naval investments as a whole, which is increasingly we are focusing more on our own self-defense and less on the offensive striking power that we can bring to bear for deterrence.

The third area that I would point out really is the transformation of the carrier air wing. How do we extend the reach of that carrier air wing through unmanned, longer-range, stealthier, and greater payload systems so that our carriers can operate beyond the range of anti-ship ballistic missiles and other threats to them and still maintain their punch?

And the last I would say is an area that is two interrelated areas that don't get a lot of attention and aren't terribly sexy. One is our fleet logistics that I think we are probably underinvested in terms of fleet logistics to support forward operations. And related to that is both the types of munitions that we have, that we are going to need longer-range munitions, stealthier munitions, hypersonic munitions. But we are also going to need a greater magazine of them. And we have got to find a way to reload our combatants, particularly our submarines at sea, so that we can keep them on station longer.

Submarines are great, and they have a lot of advantages, but one of them is they have a very small magazine, and they have to re-

turn to ports. If we could overcome that problem technologically, I think that would a game changer also.

Mr. LANGEVIN. On that point do you have suggestions of how we would actually undertake that kind of a——

Mr. THOMAS. I am not an engineer, but I think the idea of rather than switching out missile per tube to actually think of entire missile sets of VLS [vertical launch system] cells that you could switch out en masse might be part of that. But I think we have a long way to go. It is a well-recognized problem, but we haven't solved it yet.

Mr. LANGEVIN. Thank you.

Mr. O'Rourke, do you have anything that you wanted to add?

Mr. O'ROURKE. Yes. In terms of expanding the capabilities of the attack submarine force, we have already talked about the option of building *Virginia*-class boats, we have talked about the *Virginia* payload module. There are a couple of other things you could put on that list if you wanted to put more money into that area, and some of which we are already doing, and that would be to further the development of submarine-launched unmanned air vehicles and submarine-launched unmanned underwater vehicles to extend the eyes and the ears and the reach of the attack submarines.

Then I also want to call out one program that already is under way to modernize our existing *Los Angeles*-class attack submarines, and that is the Acoustic Rapid COTs [commercial-off-the-shelf] Insertion Program, or the A–R–C–I, ARCI, program. This is a very important program for getting increased utility out of our existing *Los Angeles*-class attack submarines in terms of their sonar signal processing. It makes them better boats, and that is important because they will continue to constitute a large share of the attack submarine force going many years into the future.

In terms of the air wing, we talked earlier about the UCLASS. We have talked about the issue of payloads for their airplanes. And one that I did call out in my testimony and I will repeat it here is the option of a new generation of long-range air-to-air missile. When we were encountering what was then called the Soviet sea-denial force, and what in today's terminology we would refer to as the Soviet A2/AD force, we had the F–14 armed with the Phoenix long-range air-to-air missile, and that was going to be succeeded by a next-generation long-range air-to-air missile called the Advanced Air-to-Air Missile, or the AAAM. That missile was under development in the late 1980s going into the early 1990s when it was cancelled as a result of the end of the cold war.

But if you want to extend the reach of the strike fighters that will continue to make up a large share of the carrier air wings alongside whatever UCLASSs we eventually deploy, then you would want to look at air-to-air refueling for those strike fighters, and you would also want to look at the option of giving them a next-generation long-range air-to-air missile, which they currently do not have. They only have a medium-range missile. So that would be a couple of other possibilities.

Mr. LANGEVIN. Okay. And let me move on to just one other question. Then I will yield back.

We touched on this already, but the U.S. Office of Naval Intelligence does project an unclassified assessment that China will

have between 313 and 342 submarines and surface combatants by 2020. Approximately 60 of those would be submarines, potentially, that are able to employ submarine-launched intercontinental ballistic missiles or anti-ship cruise missiles. My question is do you believe that the projected U.S. Navy attack submarine inventory will be able to sufficiently counter the submarine inventory of the PLA Navy?

Mr. O'ROURKE. That goes back to the issue I discussed earlier about the shortfall in the attack submarine force that we will experience in the 2020s going into the early 2030s. That creates a period of increased operational risk for the submarine force and the Navy as a whole. The Navy can attempt to mitigate against that by pushing the maintenance for the submarine into the earlier years and the later years so as to maximize the operational availability of the attack submarine force during that period in question, although that will also bear costs on the submarine force in those years prior to and after.

But that is a matter for policymaker judgment about whether that operational risk is acceptable or not, and if it is not, then you have the option of considering adding additional *Virginia*-class boats into the shipbuilding plan. That has a cost associated with it, and in a period of constrained resources, doing that would mean not doing something else. That is the trade-off that you would have to weigh and decide whether in the end the net result was better.

Mr. LANGEVIN. In your professional opinion, is it an unacceptable risk?

Mr. O'ROURKE. I think that in the long run, that is a policymaker judgment. What I can tell you is that there is some degree of risk, and that during a period of shortfall, whatever that risk is, it will be, other things held equal, greater if you have a period when the shortfall is in play. But whether it is acceptable or not ultimately is something for policymakers to judge based on the input that they get from military professionals.

Mr. LANGEVIN. Good.

Thank you, Mr. Chairman. Yield back.

Mr. FORBES. Thanks, Jim.

I just have three questions and I would like each of your opinions on this. The first one is this: If I could have a little bit larger room here, and I could bring Members of Congress and sit them over here, because obviously they have to weigh in on the resourcing that we are going to do, and I brought our allies over here and I sat representatives from them there, do each of you—you were some of the best experts we could bring on this. You write, you study, you look at it all the time. Could any of you—I am not asking you to do this—but could you articulate a U.S.-China strategy right now that exists for our country, and would you be able to articulate that to Members of Congress or to our allies?

Mr. Thomas, we will start with you.

Mr. THOMAS. Well, I think the short answer is no. And I think we don't have that strategy today. And I think it has to be established on multiple levels. Ultimately we need a grand strategy, which thinks about the problem from an interagency perspective, using all instruments of national power. And this gets to this issue

of how we think about buying time and a long-term strategic competition.

And then I think it gets down to the military dimension. And it has to start with, you know, an understanding of what our shared objectives are with our allies. What are we trying to accomplish in terms of maintaining the credibility of our security commitments and how we sustain those with the shifting challenges that are posed by China?

And then I think it has to get down to the operational level, and here I think it has to provide useful guidance on how we should think about presenting China with a multiplicity of problems that it would have to contemplate before it tried to undertake any form of coercion or aggression.

And here, again, I would just underscore the importance of presenting China with a multiplicity of challenges. The harder you make this—it cannot rely on some single silver bullet sort of solution. It is going to take the entire joint force; it is going to take air, surface and undersea, as well as space and cyberspace assets, I believe.

Mr. FORBES. But to the best of your knowledge, no such strategy exists right now.

Mr. THOMAS. Yes, sir.

Mr. FORBES. All right.

Dr. Cropsey.

Dr. CROPSEY. No such strategy exists. Forming one is difficult. When President Eisenhower had the problem with the cold war before him and the question of how to deal with the Soviet Union, I think you know he ran the Solarium Project, and he sat in on the meetings himself. At least that is what the record says. Someone with that distinguished a record in strategy felt that it was necessary to bring in a group of advisers and talk the issue through and sit there himself. Probably something like that is needed right now. If you are asking what I think we should do——

Mr. FORBES. Well, I will come back to that another time. I just want to know if we have got one right now.

Dr. CROPSEY. We do not.

Mr. FORBES. Mr. O'Rourke.

Mr. O'ROURKE. I will give you a two-part answer to that. One is you have the option of examining the classified war plans that we have for that part of the world, and you can decide whether those war plans reflect a strategy for conducting an upper-level war.

But to get back to Representative Conaway's point earlier, it is not just a matter of war at the high level, it is a matter of what is happening on the days when we are not at war in the situation short of war that we currently have in the East China Sea and the South China Sea, with this pattern of pressure and tactics short of outright conflict that China is using to pressure and consolidate its control of that area, and it is not clear to me that we have a strategy for that. That is a strategy that really I think needs to involve our allies inherently—it is not something for us to do by ourselves—and which the allies need to play a significant role in.

And so when you say do we have a strategy that we can articulate, I don't know about the big war, but at the moment I am just as worried about whether we have a strategy for countering what

China is doing in—currently on a day-to-day basis in the situation short of war for putting pressure on its neighbors regarding these maritime territorial issues.

Mr. FORBES. Dr. Erickson.

Dr. ERICKSON. This is an excellent point. I could spend a lot of time explaining why I think it is important to have explicit and understandable strategy, but I assure you I won't do that.

What I will say is I think the U.S. has an implicit collection of approaches that together can constitute a strategy, but it would be far more effective and clear to all the right people if this were brought together in a more cohesive framework invoked more consistently. I don't know if now is the time, but I can say very briefly what I think that strategy——

Mr. FORBES. I will let you do that another time because we are kind of out of time.

Last question I want to pose to each of you, and it is a two-part question, and then we will be done.

We have talked about China, and sometimes we think they are 10-foot tall, sometimes we think they are 6-foot tall, but we look at these projections of how much money they are spending for their military buildup. I would like for each of you to tell me, do you think they can sustain this, and if not, why not?

And the second thing is, what do you believe is the likely domestic pressure which may force them to do something militarily in the next 10 years as opposed to international pressures that might come on? And, Dr. Erickson, why don't we start with you, and we will work back to Mr. Thomas.

Dr. ERICKSON. Yes, Mr. Chairman. That is an excellent question, and that gets to the strategic issue of how do we approach things.

I think many people who are experts on China's economy and domestic issues would agree with the argument increasingly that China is facing a slowdown in the rate of national growth to the point that this coming decade will see increasing pressure and challenges for China to maintain its trajectory in the international system and also domestic support because so much of that has been contingent on economic growth.

And I think the risk is, as it becomes more and more difficult to generate a rate of economic growth that is seen as desirable for political purposes, the other main pillar of legitimacy, nationalism, will increase the chance of pursuing not diversionary war per se, but diversionary tension in the Yellow and especially the East and the South China Seas.

Mr. FORBES. Mr. O'Rourke.

Mr. O'ROURKE. I think in recent years there has often been an image of China as a juggernaut that is just going to be growing at some relentless pace, and that this would eventually pose an overwhelming problem. The concern, in fact, may not be that the juggernaut continues and that you can straight-line their growth, but that their growth will bend over and slow down to one degree or another as a result of the buildup of debt in the Chinese economy, bad debt, their demographic issue, the buildup of environmental issues.

If that is the case, if their growth line is going to bend downward, and if the Chinese Government is aware of that, they may

see the next few years as their period of maximum opportunity for pursuing their goals in the near-seas area. If that is the case, then they are going to be in a hurry. They are not going to see themselves as a situation in which time is necessarily on their side, but one in which time is not necessarily on their side. And if that is the case, it says something about the urgency of the years ahead and about their ability to sustain the kinds of growth and activities that we have seen over the last 30 years. It tends to put a premium on the next decade, which I think in part was what Andrew's presentation was getting at earlier.

Mr. FORBES. Dr. Cropsey.

Dr. CROPSEY. I agree with my colleagues' assessments about the Chinese future. It may not be all rosy. They are going to have problems ahead. But are those problems the kind that will turn China back into the country that it was before Deng Xiaoping? I don't think so. Is China going to revert to a small power with a failing economy and accept Third World status again or something minor? I don't see that in the future at all.

So I think that while I agree that they have significant problems ahead, that that does not mean that we can go home and rest easily.

Mr. FORBES. Mr. Thomas, we will let you have the last word.

Mr. THOMAS. Chairman, I think we share an interest with China in the sense that we want a China that is secure and prosperous. But I think there are real questions as we look ahead for China, whether it is demographically and the pressures it faces with the end of cheap labor, the environmental problems that are just enormous that it faces, very heavy municipal debt that I think goes unreported and nonperforming loans, as well as reliance on over-investment and infrastructure for GDP [gross domestic product] growth. So there are an awful lot of pressures out there that are going to require reforms.

At the same time, I think the honest answer is we simply don't know what China's future trajectory is going to be in terms of its defense program. I think that a strategy which in part helps us to buy time and manage through this period is probably the right course, but at the same time we have to hedge against continued growth in China's military capabilities.

And as far as domestic pressures for external actions, I agree with my colleagues that I think that China's increasing reliance on nationalism in its domestic policies as almost a replacement for a Communist ideology is of real concern because it introduces emotionalism into these discussions over disputed islands and so forth, which can lead to inadvertent escalation.

Thank you.

Mr. FORBES. Gentlemen, thank you all so much for your work in this area. Thanks for your willingness to help this subcommittee. All of us, I know, appreciate you being here today, your patience with us, and this late hour.

And, Mr. Conaway, if you or Ms. Hanabusa have nothing else, we will be adjourned. Thank you.

[Whereupon, at 5:45 p.m., the subcommittee was adjourned.]

# APPENDIX

DECEMBER 11, 2013

## PREPARED STATEMENTS SUBMITTED FOR THE RECORD

DECEMBER 11, 2013

**Opening Remarks of the Honorable J. Randy Forbes**

**for the**

**Subcommittee on Seapower and Projection Forces Hearing on**

**U.S. Asia-Pacific Strategic Considerations Related to P.L.A. Naval Forces Modernization**

**December 11, 2013**

I would like to welcome everyone to our Seapower and Projection Forces Subcommittee hearing today on the People's Liberation Army Naval Modernization efforts. This is a continuation of the Asia-Pacific Oversight Series that the full-committee kicked off last month.

In just a few weeks, recent developments in the East China Sea have demonstrated that improving our understanding of regional events and key players is critical to assuring our allies and partners of U.S. commitment to the region and protecting U.S. interests. Tensions in the East and South China Seas have been ongoing now for several years, as China attempts to exert its influence in claiming land, sea and air space that is clearly beyond their internationally recognized borders.

While naval modernization is a natural development for any sea-faring nation such as China, it is clear the modernization is emboldening the Chinese government to exert their interests by bullying their neighbors and pushing back the United States in the Asia-Pacific region. Therefore, it is also critical that we exercise congressional oversight of those requisite U.S. Navy capabilities that will be needed to counter any anti-access and area-denial capabilities the PLA Navy is rapidly

developing as they modernize and expand their fleet. We also must understand how to engage with the PLA Navy in a manner that is constructive for all parties involved and demonstrates respect and adherence to established international norms of maritime conduct. I hope our witnesses can provide insight to these key issues.

I'd like to thank our distinguished panel of witnesses for appearing before the subcommittee today.

Today we have testifying before us:

- Doctor Andrew Erickson, Associate Professor at the China Maritime Studies Institute of the U.S. Naval War College;
- Mr. Ronald O'Rourke, Specialist in Naval Affairs at the Congressional Research Service;
- Dr. Seth Cropsey, Senior Fellow at the Hudson Institute; and,
- Mr. Jim Thomas, Vice President and Director of Studies at the Center for Strategic and Budgetary Assessments.

We look forward to your testimony and with that, I turn to my good friend and colleague, the ranking member of the subcommittee and gentleman from North Carolina, Mr. Mike McIntyre for any remarks he may have.

I'd also like to recognize my good friend and co-lead for our Asia-Pacific Series, the gentlelady from Hawaii, Ms. Colleen Hanabusa for any remarks she may have.

Opening Statement by Congressman Mike McIntyre
Ranking Member, Seapower and Projection Forces Subcommittee
Hearing on People's Liberation Army Navy Modernization
December 11, 2013

- Today's hearing will address a growing issue facing the United States: the continued growth, in both size and quality, of China's naval and supporting maritime military forces.

- I deliberately chose the word "issue", as opposed to "threat" or "danger" because I do not believe that China has to become our enemy in the future.

- Great nations have choices, and I hope that China's government will, over time, develop into one that truly respects human rights and participates as a cooperative member of the international community, including recognizing international rules regarding freedom of navigation and peaceful resolution of territorial disputes.

- However, until that occurs, I do believe that prudent military planning must account for any potential situation our military may face, including a potential conflict in the Western Pacific.

- As a result, I look forward to hearing from today's panel of experts on China's naval modernization and what they think the United States should do about it.

- Before we get to their testimony, I would like to make a few broad points that I hope our witnesses can address in their statements or as part of answers to questions during today's hearing.

- My first issue of concern is that many nations in the past have tried "area denial" naval strategy approaches very similar to the one being pursued by China today, so I want to understand what history tells us:

    - While there are numerous examples, two significant recent ones are Germany in World War 1 and the Soviet Union during the Cold War.

    - In both cases, through a mix of different technologies, these nations made it extremely dangerous to approach their coastlines directly.

    - However, Great Britain in WW1 and NATO nations in the Cold War wisely avoided a "symmetrical" or "direct" approach to meeting such a threat.

    - To defeat these threats, in both cases, the correct approach appears to have been to <u>not</u> plan to "get up close" and duke it out with a large coastal nation right on their front doorstep where they have all the advantages.

- Instead, a "distant blockade" or other power projection at a distance turned out to be an economical, and winning, strategy.
- So my question is – what do those two historical examples tell us about what we should do if China continues to build up its naval forces along its current path?

- The second issue I'd like to hear more about is what could be a real win-win for the United States and our allies in the region.
  - Specifically, I would like to hear your thoughts on the potential to develop land-based cruise missiles, air-defense systems, and sensors to be fielded by US allies in the region, rather than just using more US troops for this purpose.
  - I think that could be a very attractive option to pursue because it shares the burden of deterring China from taking certain actions while also providing opportunities to support American jobs through manufacturing of the various systems our allies would need to equip themselves to fulfill this role.

- I look forward to our witnesses' testimony and thank the Chairman for holding today's hearing.

## China's Naval Modernization: Implications and Recommendations

**Andrew S. Erickson**[1]

China's military development pursues outstanding territorial and maritime claims in the Yellow, East, and South China Seas by targeting what I'll call "physics-based"[2] limitations in potential opponents' systems. Beijing is prioritizing an "anti-Navy" to deter U.S. forces from operating there over a blue water navy to project power far away. China's interests and capabilities, which decrease with distance from the mainland, must thus be viewed geographically. Current Chinese strategic and military priorities are unlikely to change radically because China faces unresolved domestic and regional challenges, yet is already increasingly experiencing an S-curve-shaped growth slowdown. China is thus already beginning to pose its greatest challenge to U.S. influence and interests in the Asia-Pacific.

Fundamental issues hang in the balance: If not addressed properly, China's rise as a major regional maritime power could begin an era in which the U.S. military lost unfettered access to key regions. Haunted by history, the Asia-Pacific has prospered during nearly seven decades of U.S. forces helping to preserve peace. No other nation has the capability and lack of territorial claims necessary to play this still-vital role. More broadly, Chinese success in subordinating international norms to its parochial interests in the region so that they do not apply fully in practice would harm U.S., regional, and international interests: these are the same standards that ensure the global system operates openly and effectively, for the security and prosperity of all. It would encourage the application of force to more of the world's many persistent disputes. The Asia-Pacific is simply too important for Washington to accept a diminished role there. As Singapore's founding father Lee Kuan Yew observes, "The 21st century will be a contest for supremacy in the Pacific, because that is where the growth will be. … If the U.S. does not hold its ground in the Pacific, it cannot be a world leader."[3]

Chinese leaders are acutely attuned to perceived changes in relative national power, and periodically examine other nations' stated policies for potential changes in the will to maintain their position regarding issues that are important to Beijing. They will create incidents and probe relentlessly when circumstances suggest that something may have changed, whether timing, leaders, or resources. When met with convincing capability—provided that they do not perceive gratuitous humiliation or threats to the most vital of interests—they typically retreat. When insufficiently opposed, they see how far they can push. The Impeccable Incident of March 2009 represented an important test from Beijing for newly elected President Barack Obama; he passed by maintaining U.S. policy vis-à-vis surveillance, reconnaissance, and observation (SRO) missions. It was made in the face of naysayers who claimed that the United States would never tolerate analogous activity in its "backyard," when in fact it accepted considerable Soviet SRO activity throughout the Cold War and today tolerates Russian SRO activity.

This was an extremely wise decision: with 38% of the world's oceans claimable as exclusive economic zones (EEZs), such an exception could not be accommodated without compromising vital U.S. interests, or establishing an unacceptable precedent. Now, driven by its own maritime interests and trajectory, Beijing is already shifting on this issue, pursuing approaches that will complicate future opposition to such U.S. activities. "Chinese maritime intelligence collection operations increased in 2012," Commander of the U.S. Pacific Command Admiral Samuel Locklear testified to the Senate Armed Services Committee in April 2013, "with historic first such missions into the Indian Ocean and within the U.S. exclusive economic zones off of Guam and Hawaii."[4] Chinese acknowledgement at the 2013 Shangri La Dialogue of its conducting military surveillance in America's undisputed EEZ may presage reduced opposition to similar activities in China's own EEZ as China rises as a maritime power with access interests of its own.

Similarly, dispatch of B-52s from Guam on a routine training mission following China's recent announcement of an East China Sea Air Defense Identification Zone (ADIZ) sent the right message: a coastal state has no authority to alter international freedoms in international airspace, or interfere with freedoms of others.[5] China's neighbors and the U.S. are rightly concerned about *how* China has (and *how* it has not) gone about the announcement and explanation of its ADIZ. Thus far, Beijing has defined its new ADIZ in a categorical manner that ignores the complexities and risks involved, and remains ambiguous in its compliance with international legal norms. This is particularly problematic because China's ADIZ overlaps so extensively with Japan's ADIZ (perhaps the only such overlap over an active sovereignty dispute), and even to some extent with South Korea's ADIZ. To diffuse the resulting tensions, China needs to exercise restraint and allay concerns by its neighbors and other users of the international airspace in question by offering specific clarifications and reassurances.

How the U.S. responds to such tests shapes subsequent Chinese behavior. Though Beijing dislikes it, rebalancing has already been effective. For instance, Chinese leaders disliked Secretary of State Hillary Clinton's 2010 speech in Hanoi but nevertheless at around that time began to "walk back" their overly assertive posture of 2009-10. The U.S. must be prepared for further tests, and must consistently resist counterproductive Chinese efforts designed to elicit weakness.

While conflict with China should be avoided if at all possible, China must also be prevented from significantly coercing its neighbors or altering the region's status quo. Failure to emphasize this point as well risks making the U.S. appear weak and acquiescent to Chinese assertiveness, both to Beijing and to regional allies, friends, and partners. This risks miscalculation on Beijing's part. It also makes it unclear to taxpayers and their representatives why significant U.S. military investments are needed in a time of austerity. This should be framed in terms of ensuring the continued functioning of the existing international system. Washington should clarify, as necessary, that it is not trying to contain Beijing *per se*, but rather to resist any Chinese actions that would harm the existing system.

The U.S. has upped the ante ambitiously, particularly in the South China Sea, while a rising and already potent China is playing a long game. The worst possible approach would be for the U.S., having anted up, to fail to follow through adequately, both in capability and in action. If both private and public expectations of America's "walk" matching its "talk" are not met across the Asia-Pacific, and views of a "hollow rebalancing" take hold, the results could be worse than not having tried in the first place.

To prevent such failure, as well as the destabilization of a vital but vulnerable region, the U.S. must maintain the credibility of regional presence and demonstrated capability. This is essential to renew and intensify the U.S. role in the region. The credibility of continuous naval presence and capability is essential. As the latest U.S. Maritime Strategy emphasizes, "trust and confidence cannot be surged." That is one reason why the U.S. would not be able to address anywhere near its present objectives if it allowed itself to diminish to a mere "offshore balancer."

The Asia-Pacific Rebalance must thus be comprehensive, credible, and sustained (properly funded). Here shipborne trade and ship numbers (particularly of nuclear-powered attack submarines) will speak much louder than sermons or soundbites, both to China, and perhaps equally importantly, to longstanding and newly emerging U.S. partners in the region. Lee Kuan Yew offers wisdom of particular relevance to the Asia-Pacific rebalance: "Americans seem to think that Asia is like a movie and that you can freeze developments out here whenever the U.S. becomes intensely involved elsewhere in the world. It does not work like that. If the United States wants to substantially affect the strategic evolution of Asia, it cannot come and go."[6]

At a minimum, the U.S. must continue to deter the use—or threat—of force to resolve Asia-Pacific disputes and cooperate where it can until Beijing embraces the *mutual* efforts required for the two Pacific powers to achieve durable, if frequently or even continuously competitive, coexistence. To ensure this, the U.S. should demonstrate the capability to deny China the ability to seize and hold disputed territories.

The need to avoid an insular approach, combined with the increasing inability for Washington to exercise undifferentiated global preeminence, makes it necessary to craft a coherent Asia-Pacific Strategy. Subordination of vital regional realities to global strategy may have been appropriate during the Cold War, when the U.S. confronted a global adversary that threatened vulnerable Euro-Atlantic allies directly, and in the subsequent "unipolar moment," when U.S. hegemony was undisputed and substantial regional challengers and direct global terrorist threats had yet to manifest themselves, but it is no longer sufficient. Failure to craft an explicit comprehensive Asia-Pacific Strategy will complicate efforts to "see the big picture" across the entire diplomacy, information, military, and economic (DIME) spectrum and beyond. The most relevant example to build on is a series of unclassified regional policy documents issued by the Office of International Security Affairs in the late 1990s.[7] This strategy should facilitate a coordinated, whole-of-government approach. At the same time, it should also support a clear bureaucratic division of labor based on which agency (or agencies, in special cases) is best placed to lead on

and address a given issue. This will help to maximize efficiency and effectiveness by offering clear strategic guidance, aligning resources, and ensuring that agencies not ideally placed to contribute in a given area are not motivated or pressured to waste resources chasing headlines.

The U.S. must (1) engage with China, (2) hedge against its possible negative behavior, and (3) work with its allies, friends, and other partners (including China) to further positive outcomes in the Asia-Pacific and beyond. Accordingly, U.S. policymakers should base their response to China's naval/military development on the following principles:

- Understand key dynamics of geography, physics, economics, and politics.
- Develop an Asia-Pacific Strategy.
- Support rhetoric with resources.
- Emphasize and demonstrate U.S. identity as an Asia-Pacific power.
- Maintain regional presence and credibility.
- Sustain alliances and partnerships and leverage them in new ways.
- Engage and cooperate with China where productive to build on substantial shared interests and interdependence.
- Accord China international status in proportion to its international contributions.
- Focus military and strategic hedging on resisting China's regional exceptionalism.
- Resist intimidation and coercion, pass Beijing's tests.
- Prevent China from using force, or threat of force, to address regional disputes or alter the region's status quo.
- Pursue deterrence by denial capabilities as a minimal foundation.
- Avoid making concessions during China's growth slowdown, while emphasizing that genuine constructiveness and reciprocity may be possible if it ultimately moderates its demands.

**The A2/AD Approach**

To further its maritime interests within approximately, say, 500 nautical miles of its coastline, China is undermining the efficacy of, and likelihood of involvement by, U.S., allied, and friendly military forces there. By developing abilities to hold U.S. and other foreign forces at risk, Beijing hopes to deter them from intervening in the Yellow, East, and South China Seas, and to persuade regional actors that Washington's assistance will be neither reliable nor forthcoming. The People's Liberation Army (PLA) thus systematically targets limitations in foreign military platforms stemming from laws of physics: for example, the fact that missile attack tends to be easier and cheaper than missile defense. Asymmetric weapons development, coupled with determination to address regional disputes, promise to radically improve China's anti-access/area denial (A2/AD) capabilities and undermine regional stability.

Strong close to shore, the PLA Navy (PLAN) is weaker farther away. Its capabilities are concentrated close to Mainland China, with ever-less-intensive layers radiating outward. The

PLAN is largely deployed in and around the Yellow, East, and South China Seas and their immediate approaches. Beijing is working assiduously to address its weaknesses. Since 2008, it has been deploying limited forces out-of-area. Over the next two decades, greater diversity of out-of-area missions will be overlaid on strengthening and -broadening A2/AD capabilities. Outside observers will be able to monitor many visible indicators, e.g., the PLAN's pursuit of overseas access points. In its near-to-mid-term development of a regional blue water navy to consolidate control in the region while pursuing influence further afield, China could develop and acquire the necessary hardware should it elect to expend sufficient resources, but "software" will be more difficult to accrue, and coordination and integration of data and forces may be most difficult of all. The further from shore China's forces operate, the fewer safeguards and workarounds will be available.

The U.S. should not be overly concerned that Asia-Pacific rebalancing could open up a vacuum far from China for China to fill. Generally speaking, China's overseas military activities should be viewed as far more vulnerable to disruption, and potentially mutually beneficial, than those in the Near Seas. Rather than involving nationalistic zero-sum claims, they target non-state actors who threaten not only Chinese lives, property, and prosperity but also potentially those of other nations as well. At a minimum, this allows for sovereign exercise of Chinese rights; in many cases, it permits productive pursuit of common interests. Overseas military operations occur far from China's homeland, with its extensive secure communications, logistics, and defenses. They are thus relatively unprotected; particularly any fixed overseas access points that China may develop. Far from China, China's military forces become vulnerable to the same physics-based limitations that it is working so persistently to target in U.S. and allied platforms, yet the PLA has far less ability to defend forces operating out of area than do the U.S. and its allies.

**The Regional Dilemma**

To address historical grievances and rise again as a great power that commands neighbors' deference, Beijing seeks to carve out from the global commons the Yellow, East, and South China Seas and the airspace above them as a zone of exceptionalism within which existing global legal, security, and resource management norms are subordinated to its national interests. China champions the idea of greater "democracy" in international relations in words, but in deeds coerces smaller neighbors when it regards them as not knowing their place. This bullying tendency is likely to worsen as China's power grows.

Absent Beijing's clarification to the contrary, there is reason for concern that the "new type of great power relations" it promotes appears to be nebulous rhetoric with undertones of expectation that Washington yield to an ascendant Beijing and its "principled" positions. This makes it risky for the U.S. to embrace such a concept. As with "core interests," China is likely to exploit perceived endorsement for future diplomatic and negotiating leverage.

While substantial Sino-American cooperation is already possible—and in many cases highly desirable—regarding overseas and global issues, particularly regarding non-traditional security threats, there is presently regrettably little hope of reaching effective, durable understanding regarding regional traditional security issues.

**The S-Curved Trajectory**

Mounting challenges stand in the way of China fulfilling its regional objectives and shifting emphasis to safeguarding growing overseas interests and resource imports through distant seas operations. First, China insists on preconditions involving recognition of its sovereignty over disputed claims that its neighbors are unlikely to accept. It is difficult to see how Beijing can peacefully realize its objectives anytime soon over its neighbors' growing opposition and Washington's continued commitment to preserving regional peace. Second, overseas objectives lack strategic coherence, limiting support for military approaches. This is especially true as the U.S. provides substantial global commons security free of charge.

Still larger dynamics are in play, however. Great powers typically follow an S-curved growth trajectory.[8] Initially, national consolidation and infrastructure development, combined with competitive labor and resource costs, unleashes rapid economic development. Smart policies in which the government regulates and supports in the right areas and stays out of the way in others can further enhance these synergies. Resulting increases in technological, military, and political power facilitate domestic consensus and international influence. Eventually, however, internal inefficiencies and external overextension slows growth. It is lately fashionable to trace such patterns in American power, but observers are only beginning to appreciate Chinese applications.

While Beijing may have limited its foreign commitments for now—and even abandoned forms of foreign aid that were burdensome to an impoverished China during the Cold War—it may be headed for rapid changes in the other two areas. China faces rent seeking behavior, aging, rising labor costs, growing welfare demands, and consequent reorientation of societal priorities away from economic and national power growth analogous to those that have affected the United States and other Western nations. In fact, the unleashing of Chinese society in 1978 after a century of foreign predation and internal turmoil and three decades of abnormally constricted individual possibilities and economic growth may have disguised the subsequent three decade economic boom—facilitated though it was by pragmatic policies and globalization—as a "new normal" when in fact it was an exceptionally-well-managed catch-up period that cannot last. Indeed, this one-time funneling of national potential, which has produced urbanization of unprecedented scale and rapidity, coupled with the world's greatest artificial demographic restriction (the "one child" policy) and dramatic internal disparities, may be sending China along the "S-curve" faster than any other major power has gone before.

In addition to demographic decline, Beijing's own policies have imposed unusually dire pollution, resource shortage, and vested interest problems. China may thus be further along the

S-curve than many realize. And China is already facing such headwinds long before it has achieved high per capita income, comprehensive social programs, or an innovative, high-efficiency economy that can absorb rapid cost increases generated by temporary or permanent resource scarcity. Eventually, Beijing will have to adjust its behavior accordingly, and may thereby become more receptive to mutually beneficial interaction with Washington at last.

**The Bully or The Benefactor?**

With these gathering challenges comes a risk and an opportunity. The risk is that Beijing will seek to compensate for waning economic achievements by bolstering its one other major source of popular legitimacy: nationalism. While China's leaders are unlikely to seek diversionary *war*, fanning historical grievances and pursuing diversionary *tension* vis-à-vis regional claims carries real temptations and risks. Efforts at deterrence themselves, however envisioned, can have significant strategic consequences; "defensiveness" is in the eye of the beholder. Disturbingly, authoritative PLA sources reveal overconfidence in China's ability to control escalation. Close encounters among Chinese and foreign military platforms could readily produce an accident, yielding at best a crisis harming all parties involved. That is one of the reasons why Washington cannot to afford delay in, or distraction from, maintaining presence and preserving peace in the Asia-Pacific.

The opportunity is for increasing realism in Chinese expectations. Chinese perceptions are outpacing reality, placing dangerous pressures on Sino-American relations. In fact, the extraordinary achievements of the past three decades have led many to believe that Chinese power will continue to grow at a similar rate in the future. An unusual lack of major recession or other setbacks during their lifetimes has severely inflated the expectations of an entire new generation of Chinese. Today, too many Chinese at every level appear to be conflating what might be called the "second derivative"—which measures how the rate of change of a quantity is itself changing—of national power with the actual rate of change in national power. They demand foreign treatment of China based in part on its perceived future potential: feeling empowered by newly-acquired capabilities, they expect to be given credit for capabilities that they don't yet have (but expect to obtain soon), and are emboldened by the promise of capabilities that appear within reach in the future (though they may never be realized in practice). China appears already be tempering some efforts at "soft power" because it views it to be less necessary given rapid shifting in the balance of power. Beijing increasingly reserves the right to ignore rules whose development it did not participate in, and to attempt to reshape organizations that it joined under previous circumstances. Hence the likely assumption undergirding Beijing's concept of "a new type of great power relations": to avoid repeating the conflict that has occurred repeatedly between rising and established powers throughout history, the U.S. should yield to China regarding issues on which Beijing takes a principled stand.

Under such circumstances, Beijing is simply not disposed to enter into binding agreements that it believes constrain it or otherwise harm its interests. Why agree to substantive constraints today

when China's negotiating position is only expected to strengthen tomorrow? To make matters worse, China's asymmetric regional security focus precludes the parallel global posture and interests that enabled Washington and Moscow to achieve a variety of agreements during the Cold War. Thus, while substantial Sino-American cooperation is already possible regarding overseas and global issues, particularly regarding non-traditional security threats, there is currently little hope of reaching effective and lasting agreement regarding regional security issues. Yet no economy is permanently immune to the business cycle, and rare is the straight-line projection that is proven in practice. No matter how capably managed, China is unlikely to long defy known laws of economics.

Pursuit of "selective power status" will not work anymore for China. China has become sufficiently powerful that it should not be allowed to have it both ways by posing as a poor developing country or a U.S. peer as convenient. When Beijing pushes overzealously for "equal" treatment from the U.S., Washington should politely emphasize that such efforts must not be selective, but rather part of larger norms of treating other countries appropriately even when they are less powerful. This includes avoiding both a "kiss up, kick down" approach (i.e., do unto India as you would have the U.S. do unto you) and a "schoolyard bully" approach (relations with Vietnam and the Philippines offer an excellent opportunity to show what "democracy" in international relations actually means in practice).

U.S. willingness to accord China international status should lie not in its internal development (a task for all nations, including the U.S.) or bilateral negotiations (many of which the U.S. is not a party to) but to the public goods it provides. Beijing will likely not offer all the public goods that Washington would find ideal, and may even see expectations in this regard as a ploy to burden it and slow its rise. Such differences in perspective are likely unavoidable. Nevertheless, Beijing is likely to grow into such an approach as its capabilities and interests continue to evolve. China's Gulf of Aden antipiracy missions represent a positive step forward, and have rightly received approbation from the U.S. and many other nations. Further steps in this direction could have similarly salutatory effects.

Achieving the great power status to which China understandably aspires will hinge largely on what it provides the world, not what it demands from it. It requires embracing reciprocity and a "responsible stakeholder" mentality. A popular movie says this best: "with great power comes great responsibility." Slowing growth may eventually help moderate public expectations and thereby allow Chinese leaders to pursue positive approaches even in its immediate region. Until that happens, however, only U.S. security capabilities and partnerships can preserve the peace that underwrites the success of all Asia-Pacific nations, including China itself.

**The Solution**

Washington's management of U.S.-China relations faces both unprecedented challenges and meaningful opportunities. America's present strategic approach, centered on defending the

global system and the institutions and norms that underpin it, remains vital. But maintaining the capability to do so in practice requires regional focus and prioritization to address key dynamics in the most important yet challenging regions for furthering U.S. interests. Washington must demonstrate commitment to sustaining a properly resourced, continually effective presence in the Asia-Pacific. This will require redirecting resources from elsewhere through prioritization—the essence of strategy.

As a great power, China is already here to stay. China has reached a level of aggregate national power at which it would be impossible and ineffectual for the U.S. to simply oppose *all* Chinese exercise of power with which it is not entirely satisfied. In many cases, *no* amount of lecturing will change Chinese behavior. With respect to communications, Washington's focus should instead be on ensuring that U.S. and allied taxpayers and voters are fully *informed*, and hence willing to continue to fund robust investment in all dimensions of national power and influence, as well as international cooperation, so that the U.S. continues to be able to approach interactions with China from a position of strength. With respect to actions vis-à-vis China, the U.S. should not waste time on unrealistic proposals. Instead, it should support positive Chinese approaches to cooperation and oppose with great care and selectivity specific Chinese negative approaches by marshaling concrete resources through a whole-of-government approach that combines information, economic, diplomatic, and military policies—all oriented toward achieving a common strategic outcome in U.S. policy toward China.

Yet, to paraphrase Mark Twain, reports of American decline are greatly exaggerated. In the analysis of Wang Jisi, Dean of the School of International Studies at Peking University, formerly a key advisor to President Hu Jintao, and one of *Foreign Policy*'s Top 100 Global Thinkers in 2012, legal traditions, social values, technological-institutional innovations, and civil society underwrite America's competitive edge and will keep it the world's sole superpower for the next 20-30 years at least.[9] Apart from the issue of distance, time is likely to be far kinder to America's approach and overall position in the Asia-Pacific than to China's. In the longer term, likely within a decade, China's growth rate is almost certain to slow considerably and its domestic challenges proliferate while the United States—for all its problems and ability to exacerbate them with counterproductive approaches—enjoys sustained advantages in national power and influence. This may finally establish a basis for the two Pacific powers to achieve "competitive coexistence"[10] by making Beijing willing to make adjustments and clarifications of its own instead of merely demanding that Washington do so while declining to specify what China might offer in return. *That* could allow for a "new type of great power relations."

In the meantime, with all the bilateral exchanges currently underway, including at the highest levels, it is reasonable for Washington to ask for—and receive promptly—a clear definition of this concept so that it can determine whether it is wise to embrace it. U.S. government understanding of the concept should be shared publicly so that the American people and all their representatives, as well as their allied and friendly counterparts, can be confident that Washington is not being manipulated. The U.S. would be ill advised to accept vague rhetoric to

help with problems of *international* concern, e.g., vis-à-vis North Korea and Iran, in return for U.S. 'acknowledgement' of 'core' Chinese *national* interests. Washington should not be an "ardent suitor" and bend over backwards to cater to Beijing's sensitivity while Beijing refuses to do the same for Washington. True reciprocity precludes China's exploiting its restrictive system to make demands of the U.S. in the name of American principles, while refusing American requests in the name of Chinese principles.

Until new, more positive possibilities materialize, it is essential for the U.S. to weather the present window of vulnerability without making hasty, unilateral concessions that would be difficult, if not impossible, to reverse later; losing credibility vis-à-vis allies or China; or—worst yet—allowing Beijing to change the status quo through the threat of, or use of, force. Defeating China is not necessary; it would be adequate to show that Beijing cannot achieve maritime territorial ambitions using force. This will enable the U.S. to keep the region peaceful, an important component both of reassuring U.S. allies and friends and ensuring security of, and access to, the global commons to maintain a stable global system.

**Policy Recommendations**

The following section elaborates on how these larger objectives can be achieved. Of most direct relevance to the work of the Committee, it is imperative to maintain military capabilities to deter any threatening or aggressive actions by China.

***Pursue Deterrence by Denial.*** *Given* the inherent conservatism and defensiveness of the U.S. approach, it should be possible to meet core objectives at an affordable, sustainable price through the most likely critical timeframe with strategy of *deterrence by denial*. Washington must be careful not to compete with Beijing in excessively expensive and ultimately ineffective arms competitions. It should not counter China's A2/AD weapons by attempting to acquire a more sophisticated, expensive counter in each and every instance. It must also avoid the temptation to embrace approaches such as mainland strikes that would be unduly escalatory or counterproductive—and lack the credibility to deter Beijing through their threatened use over issues in the East and South China Seas given a disparity of national interests. A distant blockade, also escalatory, is likewise unfeasible because of the logistical difficulty of implementation in a dynamic commercial world.

Instead, as China works to deny U.S. forces an ability to operate close to the mainland, the U.S. aim at a minimum should be to deny China the ability to resolve territorial and maritime disputes by the use of force. To resolve disputes conclusively, China would have seize and hold territory and also resupply its forces. This is inherently difficult on small islands, where geography imposes vulnerability. To demonstrate that China cannot achieve this, and thereby deter it from ever trying, the U.S. and its allies should maximize disruption capabilities—their own form of A2/AD. The U.S. should therefore develop, deploy, and demonstrate in a measured, targeted fashion the ability to deny China the ability to seize and hold offshore territories. Here, some

pages can be taken from China's own playbook. Modern military capabilities are based on a complex system of hardware and software. Amid this, certain platforms and weapons offer disproportionate benefits, including submarines, missiles, and naval mines.

A tight fiscal environment and threat timeline will place a premium on deploying and maintaining existing platforms and weapons systems with proven technologies in limited numbers as rapidly and effectively as possible. In this regard, the most promising approach is to hold and build on formidable U.S. undersea advantages, to which China or any other potential opponent lacks effective countermeasures and would have to invest vastly-disproportionate resources in a slow, likely futile effort to close the gap. Viewed in this light, it is essential to ensure the present two-a-year construction rate of *Virginia-class* nuclear-powered attack submarines (SSNs)—ideal for denying China the ability to hold and resupply any forcefully seized islands. The Virginia Payload Module allows for useful increases in missile capacity. Given China's ongoing limitations in anti-submarine warfare (ASW), and the inherent difficulty of progressing in this field, China could spend many times the cost of these SSNs and still not be able to counter them effectively.

Additionally, more can be done to better equip U.S. platforms, such as submarines. The U.S. should do far more with missiles, particularly anti-ship cruise missiles (ASCMs). Recent tests of the long-range anti-ship missile (LRASM) represent a step in the right direction, but more ought to be done in this regard. Offensive naval mine warfare is another underexploited area that offers maximum bang for the buck.

U.S. submarines can oppose any Chinese naval forces engaged in invasion, resupply, and protection. Long-range air or missile delivery can blow any lodgment off disputed islands or rocks. To be sure, both U.S. SSNs and LRASMs and Chinese A2/AD forces could achieve denial effects. Long-range surface-to-air missiles (SAMs) and air-to-air missiles from both sides might hold operations in the air over the features in question at risk, prevent continuous operations, or even fully create a "No Man's Land." U.S. forces, other than SSNs, might not be able to operate without assuming great risk, and hence be denied unfettered access. But Chinese forces would also not have access, and would also be denied their objective of seizing and holding disputed territory. It might not be necessary to defeat China militarily; preventing it from achieving its objectives would suffice. Demonstrating this to China would be an effective deterrent: Beijing could not afford to risk the likelihood of not achieving its objective.

To maintain a successful presence in the region and maximize its ability to influence Chinese behavior in a positive direction, the U.S. will also have to address other important challenges in its policy and with allies, friends, and partners:

***Maintain and Maximize Alliances and Partnerships.*** As central as these U.S. actions are, they will not be sufficient. Deepening and modernizing Asia-Pacific alliances and security partnerships is likewise critical. Alliances with five treaty allies—Australia, Japan, the

Philippines, South Korea, and Thailand—are at the heart of the U.S. security presence in the Asia-Pacific. Three key strategic relationships—with Singapore, India, and Indonesia—must be nurtured carefully and consistently over time. Due to its colonial history, India is particularly resistant to outside pressure. With the exception of China, all maritime nations welcome U.S. presence. U.S. has distinct advantages, including "honest broker" credibility for lack of territorial claims. China's neighbors simply to not want to be forced to "take sides" openly, given their vulnerability vis-à-vis, and reliance on trade with, China. What they fear most, after the threat of Chinese coercion, is lack of U.S. commitment to, or capability in, the region. The U.S. must therefore demonstrate that commitment and capacity, particularly the ability to persist amid growing Chinese A2/AD capabilities. It is not only the militaries and intelligence communities of key regional nations that make policy; in fact, they are sometimes marginalized in decision-making amid competing bureaucracies and priorities. Moreover, public opinion plays an increasingly important role. Therefore, counter-A2/AD capabilities must not only be proven to those in the region with a security clearance (whether in China or one of its neighbors); they must also be proven in some form to other actors and even the public more broadly.

Yet U.S military influence and operations have not fully demonstrated the ability to persist amid Chinese A2/AD challenges. Naval influence and operations remain untested in the age of long-range, large-scale missile threats. If ships become viewed increasingly as targets, overburdened U.S. taxpayers may ask increasingly what port calls and naval diplomacy actually accomplish. That, in turn, would undermine support critical to sustain rebalancing. Ideally, therefore, demonstrations of enduring capability could be tailored, e.g., to assure allies and deter Chinese leaders while not overly exciting the Chinese populace. An excellent example of an action so ideally targeted in its effect, was the simultaneous Asian port calls by multiple 7$^{th}$ Fleet submarines in July 2010: *USS Michigan* in Pusan; *USS Ohio* in Subic Bay, and *USS Florida* in Diego Garcia. It is extremely important to engage in such credible actions in the future, and Yokosuka is another important port of call. The U.S. must not be outmaneuvered by Chinese attempts to declare new "norms." It is much easier for Beijing to argue that activities should not be restarted than that they be ceased.

***Adapt Aging Alliances.*** Demographic decline will challenge Japan, South Korea, and Taiwan's investment in military capabilities and willingness to contribute. Japan-South Korea bilateral cooperation should be encouraged to the extent that lingering historical grievances will permit, particularly regarding intelligence sharing and missile defense. Perhaps the U.S. military can play a useful "convening" role. India, a rare source of excellent demographics, will be a constrained but useful partner. It will be important to establish and maintain a growing set of connections and exchanges as a particularly large and robust coalition of many ad hoc coalitions to further a variety of cooperative efforts in the region. The U.S. should help to India expand its presence in the Asia-Pacific maritime region, as part of a larger effort to help ensure that no one power can dominate it and thereby coerce its neighbors, a principle that is broadly appealing.

***Address "Ambivalent Alignment."*** Politics of American security ties in post-authoritarian East Asian societies require special attention from Washington. Throughout Cold War alliance history, the U.S. cooperated with the authoritarian governments then in power as key military allies, thus becoming embroiled in complex struggles over national identity playing out in democratic politics today. From a U.S. perspective, the goal was defend maritime East Asia from communism's dead-end devastation and thereby stem the spread of that destructive ideology, which is documented to have killed tens of millions in China alone, in addition to millions of others around the world. In a common pattern, populist political opposition, repressed under former authoritarian/colonial rule, finally achieves power and seeks policies to overturn elite power structures domestically, strengthen national identity symbolically, and put military relations with the U.S. on more "equal" terms. However understandable in principle, in practice this typically results in political paralysis, deterioration in relations with Washington, and exploitation by the nation whose earlier threats helped to motivate the alliance in the first place.

Examples have appeared in South Korea, Philippines, Taiwan, Indonesia, and even Japan. In South Korea, this was complicated by war, national division, and regional identity; in the Philippines, by America's colonial legacy. While the U.S. ended its alliance with the Republic of China in 1980, and it does not enjoy status as a sovereign nation, local politics today exhibits many similar dynamics thanks to similar historical factors. In a certain respect, parallel patterns have manifested themselves in Indonesia as well, given its long and convoluted history of relations with the U.S. This included clear long-term U.S. support for Suharto, and a perception that Washington suddenly withdrew support in 1998-99, just as Indonesia was transitioning to democracy. Even in Japan, a robust democracy since the beginning of the post-war era, distantly related factors appeared at work during an earlier administration.

It is thus imperative for Washington to be sensitive to domestic issues in host nations. U.S. basing issues will continue to be sensitive in this era of dynamic change in domestic politics; for example, the Japanese districts with the highest crime rates are those surrounding U.S. bases. While the U.S. military rightly remains studiously apolitical, by virtue of basing in and cooperation with allied nations, it cannot avoid operating in host nations' domestic sphere. To address these challenges, the U.S. needs to be sensitive to historical grievances and symbolism, particularly vis-à-vis basing issues. It must maintain robust connections and dialogue with actors across the political spectrum in each of its allies.

***Promote Foreign Military Sales (FMS) Systematically to Enhance Interoperability and Bilateral Ties.*** This will be essential to preserving U.S. military shipbuilding in an era of austerity. It is also a potent way to build and maintain connections with existing allies and potential new partners. China is likely to pursue this route increasingly; the U.S. would be ill advised to pass up the opportunity to maintain predominance in this area. For example, U.S.-Myanmar military connections can be strengthened through FMS, in part to limit reliance on purchases from China. Given its recent opening and ongoing effort to diversify away from

exclusive reliance on China, Myanmar may represent a particularly FMS window of opportunity for the U.S.

***Facilitate Development of Maritime Law Enforcement Forces for Regional Allies and Partners.*** China's rapid, broad-based development of MLE forces is giving it tremendous regional coverage, signaling, and escalation options. It enjoys an entire "rung" of escalation that others largely lack. As the recent incident at Scarborough Shoal demonstrated, the Philippines was handicapped its interaction with China there by not having an equivalent to China's MLE vessels that it could deploy there. Facilitating development of China's neighbors MLE forces could help limit Chinese coercion while reducing the risk of escalation—both important objectives.

***Help and Encourage Allies and Friends to Develop Defensive Capabilities.*** Mine countermeasures (MCM) and defensive mine laying capabilities should be emphasized in cooperation with Japan and South Korea. They can be bolstered as part of a "porcupine strategy" for the Philippines, Vietnam, and Taiwan. MCM proficiency can be enhanced with Singapore.

***Pursue Partnerships with Extra-regional Allies.*** Coordination with European allies as potentially useful partners in the rebalance and leveraging NATO offers underexplored potential. Over the past several centuries, Euro-American power, influence, institutions, and norms have truly flowed with the sea power that spread and supported them. Now, as the international economic, political and military balances converge in the Asia-Pacific, more than half a millennium of power and influence that has supported Western-originated interests, ideas, norms, and rules can no longer be taken for granted. Shall they now be permitted to ebb away?

Legal disputes in the South China Sea are prime examples of the enormous potential for U.S.-EU cooperation to uphold international security norms in the Asia-Pacific. Both sides disagree with Beijing's legal stance on territorial claims in the South China Sea. A longer-term issue for the U.S. and EU is the risk that the international norms they have developed could be undermined if China exploits 'legal warfare' and rallies support to pressure the UN to alter UNCLOS and other international security mechanisms over time. Cyber security represents an additional field in which improvements in U.S.-EU policy alignment are increasingly imperative. More direct capability development cooperation between the U.S. and EU countries would help both sides defend against future attacks. NATO already has strong cyber intelligence capabilities, which could potentially be shared with allies in the Asia-Pacific. Space development is another strategic plane where the 'Tyranny of Distance' does not apply and where both sides have a stake in enhanced coordination. Beijing's advocacy of a multilateral treaty focused on constraining in-space, but not ground-based, weapons deployment contributes to China's counter-space aspirations and simultaneously undermines current U.S. and EU plans. Other possible areas of cooperation include coordination with the UK regarding the Five Power Alliance and sharing of regional facilities. The U.S. should continue cooperation with the UK vis-à-vis Diego Garcia, encourage UK to station SSN(s) in Asia-Pacific in return for U.S. basing access (e.g., in Guam),

and welcome reciprocal access and visits between U.S. and French regional forces (e.g., at France's bases in South Pacific and Indian Ocean).

Finally, as the U.S. works to engage with China and shape its behavior in a positive direction, several principal approaches are in order.

- ***Encourage reduction in Chinese 'free-riding' in international system.*** The essence of U.S. concern with respect to Chinese Far Seas operations should not be an "overactive" China, but rather a "selfish superpower" China that husbands its military energies for coercing its neighbors.
- ***Expand international cooperation as feasible.*** A key question for U.S.-China relations will be to what extent the two Pacific powers can *broaden cooperation* in the Far Seas amid ongoing differences in the Near Seas. Given China's Near Seas focus, this question will be answered largely in Beijing.
- ***Welcome constructive Chinese contributions, don't fixate on form.*** In keeping with its imperative to prioritize interests, the U.S. should *show flexibility* vis-à-vis Chinese actions that are largely positive. Washington should anticipate Beijing's hesitancy to simply integrate into Western-established security mechanisms (e.g., Combined Task Force/CTF-151) and look for ways to deepen cooperation incrementally through other mechanisms, such as Shared Awareness and Deconfliction (SHADE).

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[1] The views expressed here are solely those of the author, and in no way represent the policies or estimates of the U.S. Navy or any other organization of the U.S. government. They draw on his previous scholarship, which is available at www.andrewerickson.com.

[2] By "physics-based," I mean that the Chinese have identified, and are exploiting, limitation in U.S. weapons systems that stem from restrictions on fundamental physical principals. For example, quiet diesel submarines will always be difficult to detect, track and kill. Fixed targets like airbases will always be difficult to defend against ballistic missiles.

[3] Graham Alison and Robert D. Blackwill, with Ali Wyne, *Lee Kuan Yew: The Grand Master's Insights on China, the United States, and the World* (Cambridge, MA: MIT Press, 2013), 35.

[4] http://www.armed-services.senate.gov/statemnt/2013/04%20April/Locklear%2004-09-13.pdf.

[5] Peter A. Dutton, "Caelum Liberam: Air Defense Identification Zones Outside Sovereign Airspace," *The American Journal of International Law* 1:9 (2009), http://www.usnwc.edu/Research---Gaming/China-Maritime-Studies-Institute/Publications/documents/Dutton-NC-1st-proofs-(9-29-09)-(3)1.pdf.

[6] Graham Alison and Robert D. Blackwill, with Ali Wyne, *Lee Kuan Yew: The Grand Master's Insights on China, the United States, and the World* (Cambridge, MA: MIT Press, 2013), 28.

[7] See, in particular, *United States Security Strategy for the Asia-Pacific Region*, 1995, 1998.

[8] Andrew S. Erickson and Gabriel B. Collins, "China's S-Curve Trajectory," *China SignPost™* 44 (15 August 2011), http://www.chinasignpost.com/wp-content/uploads/2011/08/China-SignPost_44_S-Curves_Slowing-Chinese-Econ-Natl-Power-Growth_20110815.pdf.

[9] 王缉思 [Wang Jisi], "20 年内美国仍是唯一超级大国" [America Will Still Be the Only Superpower for the Next 20 Years], 环球时报 [Global Times], 2 August 2011, http://opinion.huanqiu.com/roll/2011-08/1870188.html; http://news.xinhuanet.com/world/2011-08/02/c_121759583.htm.

[10] Andrew S. Erickson, "Assessing the New U.S. Maritime Strategy: A Window into Chinese Thinking," *Naval War College Review* 61.4 (Fall 2008): 35-71, http://www.usnwc.edu/getattachment/21380430-28cf-4a54-afbb-cb1f64761b27/Assessing-the-New-U-S--Maritime-Strategy--A-Window.aspx.

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In addition to advising a wide range of student research, Erickson has taught courses at the Naval War College and Yonsei University, and has lectured extensively at government, academic, and private sector institutions throughout the United States and Asia. He has briefed the U.S. Chief of Naval Operations and his Executive Panel, as well as the Secretary of the Navy. Erickson previously worked for Science Applications International Corporation (SAIC) as a Chinese translator and technical analyst. He has also worked at the U.S. Embassy in Beijing, the U.S. Consulate in Hong Kong, the U.S. Senate, and the White House. Proficient in Mandarin Chinese and Japanese, he has traveled extensively in Asia and has lived in China, Japan, and Korea.

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Erickson's research, which focuses on Asia-Pacific defense, international relations, technology, and resource issues, has been published widely in edited volumes and in such peer-reviewed journals as *China Quarterly* (forthcoming), *Asian Security*, *Journal of Strategic Studies*, *Orbis*, and *China Security*; as well as in *Foreign Affairs*, *Joint Force Quarterly*, *The National Interest*,*The American Interest*, *Foreign Policy*, and *China International Strategy Review* (中国国际战略评论).

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- China's military and foreign policy
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STATEMENT OF

RONALD O'ROURKE

SPECIALIST IN NAVAL AFFAIRS

CONGRESSIONAL RESEARCH SERVICE

BEFORE THE

HOUSE ARMED SERVICES COMMITTEE

SUBCOMMITTEE ON SEAPOWER AND PROJECTION FORCES

ON

# U.S. ASIA-PACIFIC STRATEGIC CONSIDERATIONS RELATED TO PLA NAVAL FORCES MODERNIZATION

DECEMBER 11, 2013

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HOUSE ARMED SERVICES COMMITTEE

Chairman Forbes, Ranking Member McIntyre, Representative Hanabusa, and other distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss U.S. Asia-Pacific strategic considerations related to China's naval modernization effort.

As part of my work as a naval issues analyst at CRS, I have been tracking developments relating to China's naval forces since 1984. In 2005, I initiated a CRS report on China's naval modernization effort and its implications for U.S. Navy capabilities.[1] The report was first issued in November 2005 and has since been updated more than 90 times, most recently on September 30. The report currently runs 119 pages and includes a wealth of data and discussion on China's naval modernization effort. This statement draws from that report and makes additional observations in connection with the specific topic of this hearing.

China's forces for influencing events in the Asia-Pacific region include not only the PLA Navy, but also China's newly reorganized Coast Guard and land-based Chinese military forces that are not part of the PLA Navy or China's Coast Guard, such as land-based anti-ship ballistic missiles (ASBMs), land-based surface-to-air missiles (SAMs), land-based air force aircraft armed with anti-ship cruise missiles (ASCMs), and land-based long-range radars for detecting and tracking ships at sea. For convenience, this statement uses the term China's naval modernization effort to refer to its effort for modernizing all these forces.

## Some Top-Level U.S. Strategic Considerations

Top-level U.S. strategic considerations related to China's naval modernization effort include, among other things, the following:

- preventing the emergence of a regional hegemon in one part of Eurasia or another;
- preserving the U.S.-led international order that has operated since World War II;
- fulfilling U.S. treaty obligations;
- shaping the Asia-Pacific region; and
- having a military strategy for China.

Each of these is discussed briefly below.

### Preventing Emergence of A Regional Hegemon

In response to the United States' location in the Western Hemisphere, U.S. policymakers for the last several decades have chosen to pursue, as a key element of U.S. national strategy, a goal of preventing the emergence of a regional hegemon in one part of Eurasia or another, on the grounds that such a hegemon could deny the United States access to important resources and economic activity. Although U.S. policymakers do not often state this key national strategic goal explicitly in public, U.S. military operations in recent decades—both wartime operations and day-to-day operations—have been carried out in no small part in support of this key goal. Consequently, a potential key question for Congress to consider is whether China's naval modernization effort forms part of a broader Chinese effort to become a regional hegemon, and if so, how the United States should respond.

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

### Preserving the U.S.-Led International Order

A second top-level U.S. strategic consideration concerns the implications that developments involving China, including its naval forces, may have for preserving the U.S.-led international order that has operated since World War II. Key characteristics of this order include, among other things, a rules- and norms-based system grounded in international law, the use of international law and other non-coercive mechanisms for resolving disputes, market-based economies and free trade, broadly defined global commons at sea and in the air, and freedom of operations in international waters and airspace. This international order has benefitted not only the United States and its allies, but many other countries as well, including China. Consequently, a second potential key question for Congress to consider is whether China's naval modernization effort forms part of a broader Chinese effort to rewrite one or more elements of the post-World War II international order, at least for the Asia-Pacific region, and if so, how the United States should respond.

It is important to note that a Chinese effort to rewrite one or more elements of the international order in the Asia-Pacific might have implications that go well beyond the Asia-Pacific. International law, for example, is universal in its application, so a change in its application in the Asia-Pacific region would imply a change in its application globally. If China, for example, were to succeed in an effort to gain international acceptance of its view that it, as a coastal state, has the right to regulate the activities of foreign military forces operating in its 200-nautical-mile exclusive economic zone (EEZ), that would have important implications not only for U.S. military operations in the Asia-Pacific, but for U.S. military operations around the world.[2]

### Fulfilling U.S. Treaty Obligations

A third top-level U.S. strategic consideration concerns the potential implications of China's naval modernization effort for the United States in terms of the current and future ability of the United States to fulfill its obligations to treaty allies in the Asia-Pacific region, particularly Japan, South Korea, and the Philippines, and its obligations to Taiwan under the Taiwan Relations Act (P.L. 96-8 of April 10, 1979). This, too, is an issue that could have implications that go beyond the Asia-Pacific region, because a failure to fulfill such obligations in the Asia-Pacific region, or uncertainty among third-party observers regarding the U.S. ability or will to fulfill them, could lead to uncertainty among observers regarding the U.S. ability or will to fulfill obligations to countries in other parts of the world.

### Shaping the Asia-Pacific Region

A fourth top-level U.S. strategic consideration for Congress concerns the implications that China's naval modernization effort may have for shaping the future of the Asia-Pacific region. Some observers consider a military conflict involving the United States and China to be very unlikely, in part because of significant U.S.-Chinese economic linkages and the tremendous damage that such a conflict could cause on both sides. In the absence of such a conflict, however, the U.S.-Chinese military balance in the Asia-Pacific region could nevertheless influence day-to-day choices made by other Asia-Pacific countries, including choices on whether to align their policies more closely with China or the United States. In this sense, decisions by policymakers regarding U.S. Navy and other DOD programs (as well as other measures, including possibly non-military ones) for countering improved Chinese naval forces could influence the political evolution of the Asia-Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Asia-Pacific region and elsewhere.

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[2] For more on this issue, see CRS Report R42784, *Maritime Territorial and Exclusive Economic Zone (EEZ) Disputes Involving China: Issues for Congress*, by Ronald O'Rourke.

### Having a Military Strategy for China

A fifth top-level U.S. strategic consideration for Congress is whether the United States has a military strategy for deterring or defeating China. Some observers have questioned whether the United States has such a strategy.[3] The Air-Sea Battle (ASB) concept is not a such strategy, and does not purport to be one—it is, rather, a concept for countering anti-access/area-denial (A2/AD) forces (such as those being fielded by China) that could be used to help implement a strategy.

## Overview of China's Naval Modernization Effort[4]

China's naval modernization effort appears aimed at producing a regionally powerful navy with a limited but growing ability to conduct operations in more distant waters. The paragraphs below provide an overview of China's naval modernization effort.

### Date of Inception

Observers date the beginning of China's naval modernization effort to various points in the 1990s.[5] Design work on the first of China's newer ship classes appears to have begun in the later 1980s.[6] Some observers believe that China's naval modernization effort may have been reinforced or accelerated by a 1996 incident in which the United States deployed two aircraft carrier strike groups to waters near Taiwan in response to Chinese missile tests and naval exercises near Taiwan.[7]

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[3] See, for example, Seth Cropsey, "America Has No Military Strategy for China," *Real Clear Defense (www.RealClearDefense.com)*, November 25, 2013, which states:

> The ideas offered by the ASB, while necessary, are neither based upon, nor do they serve as the basis of, strategy for any region of the world where countries, most notably China, are actively building the command and control, intelligence, reconnaissance, surveillance, and offensive capability to deny the U.S. and its allies access to the seas far off its coast. The ASB office public document does not include the word "China." So, although the U.S. Defense Department acknowledges the challenge of China's anti-access efforts, we have no strategy to defeat it nor does there appear to be a plan to construct one.

See also T.X. Hammes, "A Military Strategy to Deter China," *Real Clear Defense (www.RealClearDefense.com)*, December 1, 2013, which states that

> the United States has no strategy for a conflict with China. Secretary Cropsey notes that the AirSea Battle concept is the 'sole U.S. preparation' but that it is not a strategy.... [T]he United States has a clearly articulated national strategy to encourage peaceful growth in the region. Unfortunately, as Cropsey noted, the United States has failed to express a coherent military strategy to support its national strategy.

[4] Unless otherwise indicated, shipbuilding program information in this section is taken from *Jane's Fighting Ships 2012-2013*, and previous editions. Other sources of information on these shipbuilding programs may disagree regarding projected ship commissioning dates or other details, but sources present similar overall pictures regarding PLA Navy shipbuilding.

[5] China ordered its first four Russian-made Kilo-class submarines in 1993, and its four Russian-made Sovremenny-class destroyers in 1996. China laid the keel on its first Song (Type 039) class submarine in 1991, its first Luhu (Type 052) class destroyer in 1990, its Luhai (Type 051B) class destroyer in 1996, and its first Jiangwei I (Type 053 H2G) class frigate in 1990.

[6] First-in-class ships whose keels were laid down in 1990 or 1991 (see previous footnote) likely reflect design work done in the latter 1980s.

[7] DOD, for example, stated in 2011 that "The U.S. response in the 1995-96 Taiwan Strait crisis underscored to Beijing the potential challenge of U.S. military intervention and highlighted the importance of developing a modern navy, capable of conducting A2AD [anti-access/area-denial] operations, or 'counter-intervention operations' in the PLA's lexicon." Department of Defense, *Annual Report to Congress [on] Military and Security Developments Involving the People's Republic of China 2011*, p. 57. (Hereafter *2011 DOD CMSD*; other editions cited similarly.)

## Elements of Modernization Effort

China's naval modernization effort encompasses a broad array of weapon acquisition programs, including programs for anti-ship ballistic missiles (ASBMs), anti-ship cruise missiles (ASCMs), land-attack cruise missiles (LACMs), surface-to-air missiles, mines, manned aircraft, unmanned aircraft, submarines, aircraft carriers, destroyers, frigates, corvettes, patrol craft, amphibious ships, mine countermeasures (MCM) ships, underway replenishment ships, hospital ships, and supporting C4ISR[8] systems. China's naval modernization effort also includes reforms and improvements in maintenance and logistics, naval doctrine, personnel quality, education and training, and exercises.[9]

For actual and projected numbers of Chinese ships and aircraft, see the tables presented in the **appendix** to this statement.

## Limitations and Weaknesses

Although China's naval modernization effort has substantially improved China's naval capabilities in recent years, observers believe China's navy continues to exhibit limitations or weaknesses in several areas, including capabilities for sustained operations by larger formations in distant waters,[10] joint operations with other parts of China's military,[11] antisubmarine warfare (ASW), MCM, a dependence on foreign suppliers for some ship propulsion systems,[12] and a lack of operational experience in combat situations.[13]

The sufficiency of a country's naval capabilities is best assessed against that navy's intended missions. Although China's navy has limitations and weaknesses, it may nevertheless be sufficient for performing certain missions of interest to Chinese leaders. As China's navy reduces its weaknesses and limitations, it may become sufficient to perform a wider array of potential missions.

## Goals of Naval Modernization Effort

### *Capabilities for Taiwan Scenarios, Including Acting as An A2/AD Force*

DOD and other observers believe that a near-term focus of China's military modernization effort, including its naval modernization effort, has been to develop military options for addressing the situation

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[8] C4ISR stands for command and control, communications, computers, intelligence, surveillance, and reconnaissance.

[9] For a discussion of improvements in personnel, training, and exercises, see Office of Naval Intelligence, *The People's Liberation Army Navy, A Modern Navy with Chinese Characteristics*, Suitland (MD), Office of Naval Intelligence, August 2009, pp. 31-40. (Hereafter *2009 ONI Report*)

[10] DOD stated in 2012 that "By the latter half of the current decade, China will likely be able to project and sustain a modest-sized force, perhaps several battalions of ground forces or a naval flotilla of up to a dozen ships, in low-intensity operations far from China. This evolution will lay the foundation for a force able to accomplish a broader set of regional and global objectives. However, it is unlikely that China will be able to project and sustain large forces in high-intensity combat operations far from China prior to 2020." (*2011 DOD CMSD*, p. 27.)

[11] DOD stated in 2011 that "Despite significant improvements, the PLA continues to face deficiencies in inter-service cooperation and actual experience in joint exercises and combat operations." (*2011 DOD CMSD*, p. 27.)

[12] DOD states that China's naval shipbuilding industry "continues to invest in foreign suppliers for some [ship] propulsion units, but is becoming increasingly self-reliant." (*2013 DOD CMSD*, p. 48.)

[13] DOD stated in 2010 that "the PLA remains untested in modern combat. This lack of operational experience continues to complicate outside assessment of the progress of China's military transformation." (*2010 DOD CMSD*, p. 22)

with Taiwan.[14] Consistent with this goal, observers believe that China wants its military to be capable of acting as an A2/AD force—a force that can deter U.S. intervention in a conflict involving Taiwan, or failing that, delay the arrival or reduce the effectiveness of intervening U.S. naval and air forces.

ASBMs, attack submarines, and supporting C4ISR systems are viewed as key elements of China's emerging maritime A2/AD force, though other force elements—such as ASCMs, LACMs (for attacking U.S. air bases and other facilities in the Western Pacific), and mines—are also of significance.[15]

China's emerging maritime A2/AD force can be viewed as broadly analogous to the sea-denial force that the Soviet Union developed during the Cold War to deny U.S. use of the sea or counter U.S. forces participating in a NATO-Warsaw Pact conflict. One potential difference between the Soviet sea-denial force and China's emerging maritime A2/AD force is that China's force includes ASBMs capable of hitting moving ships at sea.

China's emerging maritime A2/AD force can also support additional Chinese goals not directly related to Taiwan, including those discussed in the next section.

### *Additional Goals Not Directly Related to Taiwan*

DOD and other observers believe that China's military modernization effort, including its naval modernization effort, is increasingly oriented toward pursuing additional goals not directly related to Taiwan, including the following:

- asserting or defending China's territorial claims in the South China Sea and East China Sea;[16]
- enforcing China's view—a minority view among world nations—that it has the legal right to regulate foreign military activities in its 200-nautical-mile maritime exclusive economic zone (EEZ);[17]
- protecting China's sea lines of communications, including those running through the Indian Ocean to the Persian Gulf, on which China relies for much of its energy imports;
- protecting and evacuating Chinese nationals living and working in foreign countries;
- displacing U.S. influence in the Pacific; and
- asserting China's status as a major world power.

## A Possible Overarching Goal of Gaining Greater Control of the Near Seas Region and Breaking Out Into the Pacific

A range of Chinese actions in recent years—including the modernization of its navy and coast guard, its actions for asserting and defending China's territorial and EEZ claims in the South China Sea and East China Sea, and its recent announcement of an air defense identification zone (ADIZ) for the East China

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[14] For a DOD summary of these options—including maritime quarantine or blockade, limited force or coercive options, an air and missile campaign, and an amphibious invasion—see *2013 DOD CMSD*, pp. 56-57.

[15] For further discussion, see, for example, *2013 DOD CMSD*, pp. 32, 34-35.

[16] For more on China's territorial claims in the South and East China Seas, see CRS Report R42784, *Maritime Territorial and Exclusive Economic Zone (EEZ) Disputes Involving China: Issues for Congress*, by Ronald O'Rourke, and CRS Report R42930, *Maritime Territorial Disputes in East Asia: Issues for Congress* , by Ben Dolven, Shirley A. Kan, and Mark E. Manyin.

[17] For more on China's view regarding its rights within its EEZ, see CRS Report R42784, *Maritime Territorial and Exclusive Economic Zone (EEZ) Disputes Involving China: Issues for Congress*, by Ronald O'Rourke.

Sea—has suggested to some observers that China is pursuing an overarching goal of gaining greater control of China's near-seas region (meaning the waters, land features, and airspace of the Yellow Sea, East China Sea, and South China Sea—that is, the area inside the so-called first island chain), and of breaking out into the Pacific.[18] There is debate among observers regarding China's goals and strategy for the near-seas region, but if China were to achieve a position of being able to exert control over access to, and activities within, this region, it would have major implications for the top-level U.S. strategic considerations outlined at the beginning of this statement: it would constitute a major step toward China becoming a regional hegemon, pose a significant challenge to the preservation of the post-World War II international order, and substantially complicate the ability of the United States to fulfill treaty obligations to countries in the region and shape the region's future. It would amount to a fundamental reordering of the security situation of the Asia-Pacific.

## Some Observations on the U.S. Response To China's Naval Modernization Effort

Below are some observations on the U.S. response to China's naval modernization effort, particularly as it relates to U.S. Navy programs.

### Funding for Programs

Many observers, viewing constraints on U.S. defense spending levels that could result from the Budget Control Act or other legislation, have expressed doubts about the prospective ability to fully fund Navy and other DOD programs for implementing the military pillar of the U.S. strategic rebalancing toward the Asia-Pacific. In a situation of reduced levels of defense spending, such as what would occur if defense spending were to remain constrained to the revised cap levels in the Budget Control Act, the challenge of fully funding these programs would be intensified. Even so, the challenge would not necessarily be insurmountable, particularly if these programs were given priority in the DOD resource-allocation process, and if actions beyond those now being implemented by DOD were taken to control military personnel pay and benefits and reduce what some observers refer to as DOD's overhead or back-office costs.

Fully funding the Navy's current 30-year shipbuilding plan in coming years, for example, would require shifting to the Navy's shipbuilding account 1.5% or less of what DOD's total budget would be under the revised caps of the Budget Control Act. Fully funding the Department of the Navy's (DON's) total budget as shown in the FY2014 budget submission would require shifting to the DoN budget 4% or 5% of what DOD's total budget would be under the revised caps of the Budget Control Act. In a context of giving priority to the strategic rebalancing, such budget shifts would appear feasible.[19]

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[18] See, for example, Henry Sanderson and Shai Oster, "China Air Zone Seen Step to Expanding Access to West Pacific," *Bloomberg News (www.bloomberg.com)*, December 4, 2013; David E. Sanger, "In the East China Sea, a Far Bigger Test of Power Looms," *New York Times (www.nytimes.com)*, December 1, 2013; Daniel Goure, "New Chinese Air Defense Zone Is Latest Move In Beijing's Strategy To Dominate East Asia," *Lexington Institute (www.lexington institute.org)*, November 25, 2013; Dean Cheng, "China's ADIZ as Area Denial," *The National Interest (http://nationalinterest.org)*, December 4, 2013; Jim Talent, "The Equilibrium of East Asia," *National Review Online (www.nationalreview.com)*, December 5, 2013; Dan Blumenthal, "China Tips Its Hand," *The National Interest (http://nationalinterest.org)*, December 5, 2013; Wendell Minnick, "China's Air Zone Part Of Anti-access Strategy," *DefenseNews.com*, December 7, 2013; Trudy Rubin, "The China Strategy," *Seattle Times*, December 7, 2013 (reporting remarks made by Toshi Yoshihara of the U.S. Naval War College). See also John Bolton, "How to Answer China's Muscle-Flexing," *Wall Street Journal (http://online.wsj.com)*, December 4, 2013.

[19] For further discussion, see Statement of Ronald O'Rourke, Specialist in Naval Affairs, Congressional Research Service, Before the House Armed Services Committee, Subcommittee on Seapower and Projection Forces, on the Navy's FY2014 30-Year Shipbuilding Plan, October 23, 2013, pp. 1-4.

## Forward-Deployed Ships

Responding to China's naval modernization effort can focus attention on options for enhancing the number of forward-deployed ships that the U.S. Navy can maintain in the Asia-Pacific region, particularly if constraints on defense spending limit the size of the Navy to something less than the Navy's 306-ship force-level goal. Such options include lengthening deployments, making greater use of multiple crewing and crew rotation, and making more use of overseas homeporting and/or overseas stationing of ships. Although these options can enhance the Navy's number of forward-deployed ships, they also have potential costs in terms of impact on Navy ship crews, impact on ship maintenance and material condition, and (for ships homeported or stationed in foreign ports) potential host-nation limits on how the ships can be used.

## Countering Maritime A2/AD Weapons

Some observers, viewing China's growing maritime A2/AD capabilities, have posited that these weapons will at some point compel U.S. Navy surface ships to remain outside China's A2/AD perimeter. Doing that would, among other things, reduce the Navy's ability to conduct forward-deployed deterrence, reassurance, and engagement operations in the Asia-Pacific, which could lead to doubts among third-party observers about the U.S. ability or willingness to fulfill its treaty obligations to countries in the region and reduce U.S. options for shaping the region's future. It is far from clear, however, that U.S. Navy surface ships will be compelled at some point to remain outside China's maritime A2/AD perimeter, as the Navy has numerous options at its disposal for breaking the kill chains of China's maritime A2/AD weapons (i.e., for disrupting the sequence of actions that China would need to complete to successfully employ these weapons).

Much of the discussion about U.S. Navy surface ships possibly being compelled at some point to remain outside China's A2/AD perimeter, for example, relates to China's ASBMs, which some observers have described as "game changers." Although a new type of weapon like the ASBM might be described as a game changer, that does not mean it cannot be countered. The ASBM is not the first "game changer" that the Navy has confronted; the Navy in the past has developed counters for other new types of weapons, such as ASCMs, and is likely exploring various approaches for countering ASBMs.

Countering China's projected ASBMs could involve employing a combination of active (i.e., "hard-kill") measures, such as shooting down ASBMs with interceptor missiles, and passive (i.e., "soft-kill") measures, such as those for masking the exact location of Navy ships or confusing ASBM reentry vehicles. Navy surface ships, for example, could operate in ways (such as controlling electromagnetic emissions or using deception emitters) that make it more difficult for China to detect, identify, and track those ships.[20] The Navy could acquire weapons and systems for disabling or jamming China's long-range maritime surveillance and targeting systems, for attacking ASBM launchers, for destroying ASBMs in various stages of flight, and for decoying and confusing ASBMs as they approach their intended targets. Options for destroying ASBMs in flight include developing and procuring improved versions of the SM-3 BMD interceptor missile (including the planned Block IIA version of the SM-3), accelerating the acquisition of the Sea-Based Terminal (SBT) interceptor (the planned successor to the SM-2 Block IV

[20] For a journal article discussing actions by the Navy during the period 1956-1972 to conceal the exact locations of Navy ships, see Robert G. Angevine, "Hiding in Plain Sight, The U.S. Navy and Dispersed Operations Under EMCON, 1956-1972," *Naval War College Review*, Spring 2011: 79-95. See also Jonathan F. Sullivan, Defending the Fleet From China's Anti-Ship Ballistic Missile: Naval Deception's Roles in Sea-Based Missile Defense, A Thesis submitted to the Faculty of the Graduate School of Arts and Sciences of Georgetown University in partial fulfillment of the requirements for the degree of Master of Arts in Security Studies, April 15, 2011, accessed August 10, 2011 at http://gradworks.umi.com/1491548.pdf.

terminal-phase BMD interceptor),[21] accelerating development and deployment of the electromagnetic rail gun (EMRG), and accelerating the development and deployment of shipboard high-power free electron lasers (FELs) and solid state lasers (SSLs). Options for decoying and confusing ASBMs as they approach their intended targets include equipping ships with systems, such as electronic warfare systems or systems for generating radar-opaque smoke clouds, that could confuse an ASBM's terminal-guidance radar.[22]

### Directed-Energy Weapons

Directed-energy weapons such as the electromagnetic rail gun (EMRG) and high-power lasers could be the U.S. Navy's own "game changers" for countering Chinese air and missile systems, particularly in terms of dramatically reducing the Navy's cost per shot and substantially increasing the magazine depth of Navy surface ships. To field such systems, the Navy would need not only to continue their development, but also procure ships with integrated electric drive systems or some other means of providing enough electrical power to support them. The Navy's shipbuilding plan currently does not include any surface combatants that will clearly have enough electrical power to support lasers with more than a certain amount of power.[23]

### Long-Range Aircraft and Weapons

The geographic expanse of the Asia-Pacific region and the potential advantages of being able to outrange Chinese A2/AD systems when needed may focus attention on the option of acquiring long-range carrier-based aircraft such as the Unmanned Carrier Launched Surveillance and Strike (UCLASS) aircraft and long-range weapons such as the Long Range Anti-Ship Missile (LRASM). Potential oversight issues for the subcommittee include whether the UCLASS will be designed to be capable of penetrating capable air-defense systems[24] and whether the Navy should also pursue the acquisition of a long-range air-to-air missile for carrier-based strike fighters.[25]

### Submarines and Antisubmarine Warfare (ASW)

U.S. Navy attack submarines are considered capable of operating effectively in waters that are well inside China's surface and air A2/AD perimeters. This can focus attention not only on the procurement of Virginia-class attack submarines, but also on other options for expanding the capabilities of the attack

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[21] For more on the SM-3, including the Block IIA version, and the SBT, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[22] Regarding the option of systems for generating radar-opaque smoke clouds, Thomas J. Culora, "The Strategic Implications of Obscurants," *Naval War College Review*, Summer 2010: 73-84; Scott Tait, "Make Smoke!" U.S. Naval Institute Proceedings, June 2011: 58-63.

[23] For a discussion, see CRS Report R41526, *Navy Shipboard Lasers for Surface, Air, and Missile Defense: Background and Issues for Congress*, by Ronald O'Rourke, particularly the sections entitled "Potential Advantages and Limitations of Shipboard Lasers" and "Implications for Ship Design and Acquisition." See also Statement of Ronald O'Rourke, Specialist in Naval Affairs, Congressional Research Service, Before the House Armed Services Committee, Subcommittee on Seapower and Projection Forces, on the Navy's FY2014 30-Year Shipbuilding Plan, October 23, 2013, pp. 13-14.

[24] For a discussion, see Dave Majumdar, "Navy Shifts Plans to Acquire a Tougher UCLASS," *USNI News (http://news.usni.org)*, November 12, 2013; USNI News Editor, "Pentagon Altered UCLASS Requirements for Counterterrorism Mission," *USNI News (http://news.usni.org)*, August 29, 2013.

[25] Such a missile might be broadly similar to the Advanced Air-to-Air Missile (AAAM), a long-range air-to-air missile that was being developed in the late-1980s as a successor to the Navy's long-range Phoenix air-to-air missile. The AAAM program was cancelled as a result of the end of the Cold War.

submarine force, such as the Virginia Payload Module (VPM),[26] submarine-launched unmanned air and underwater vehicles, and the Acoustic Rapid COTS Insertion (ARCI) program for upgrading the capabilities of existing Los Angeles class attack submarines (which will continue to constitute a significant portion of the attack submarine fleet into the 2020s). Conversely, China's submarine force can focus attention on U.S. Navy ASW capabilities and surface-ship torpedo-defense systems, including the anti-torpedo torpedo (ATT), which could improve the Navy's ability to counter wake-homing torpedoes that might otherwise be difficult to counter.

### Computers and the Electromagnetic Spectrum

Responding to China's naval modernization effort can focus attention on Navy cyber capabilities, Navy electronic warfare programs, Navy networking capabilities (and, conversely, the ability of Navy ships and aircraft to continue to operating effectively if networks are degraded), and the ability of Navy systems to withstand electromagnetic pulse (EMP).

### Fleet Architecture

The growth of Chinese (and Iranian) maritime A2/AD capabilities has helped propel a debate about whether the U.S. Navy should shift from its current fleet architecture to a more-distributed architecture that would include fewer large surface ships (such as aircraft carriers and large surface combatants) and greater numbers of smaller surface ships (such as smaller aircraft carriers and small surface combatants). Advocates of a more-distributed fleet architecture—who appear to include, among others, analysts working at the Naval Postgraduate School—argue that a more-distributed architecture would offer benefits in terms of fleet affordability and effectiveness in countering adversaries who field capable maritime A2/AD systems.[27] The Navy and other supporters of the Navy's current fleet architecture disagree on both of these points.

Participants on the two sides of this debate appear to proceed from differing or even contradictory views on underlying factors such as the likely effectiveness of adversary A2/AD weapons, the likely effectiveness of U.S. Navy systems for countering them, the resulting likely survivability of Navy surface ships to attack from such weapons, and how the survivability of a ship changes as a function of ship size. Due to differences on matters such as these, it can sometimes appear as if the two groups are almost talking past one another.

One option for the subcommittee would be to attempt to understand why the two groups have come to such differing views on these underlying issues. Given the significantly different points of view of these two groups, and the potential stakes of this issue in terms of its implications for the Navy's program of record, this might qualify as a high-priority item for the subcommittee.

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[26] For more on the Virginia class program and the VPM, see CRS Report RL32418, *Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke.

[27] See, for example, Wayne P. Hughes, Jr., *The New Navy Fighting Machine: A Study of the Connections Between Contemporary Policy, Strategy, Sea Power, Naval Operations, and the Composition of the United States Fleet, Monterey (CA), Naval Postgraduate School*, August 2009, 68 pp.; Timothy C. Hanifen, "At the Point of Inflection," *U.S. Naval Institute Proceedings*, December 2011: 24-31; David C. Gompert, *Sea Power and American Interests in the Western Pacific*, RAND, Santa Monica (CA), 2013, 193 pp. (RR-151-OSD); and John Harvey Jr., Wayne Hughes Jr., Jeffrey Kline, and Zachary Schwartz, "Sustaining American Maritime Influence," *U.S. Naval Institute Proceedings*, September 13, 2013: 46-51.

## Activities Conducted by China's Coast Guard

Many of China's actions for asserting and defending its maritime territorial claims in the East China Sea and South China Sea are being conducted by ships from China's Coast Guard (with PLA Navy ships over the horizon as potential back-up forces). In the East China Sea, operations by Chinese Coast Guard ships for asserting and defending China's maritime territorial claims are being countered by Japanese Coast Guard ships. In the eastern and southern portions of the South China Sea, in contrast, operations by Chinese Coast Guard for asserting and defending China's maritime territorial claims often go uncountered by equivalent Philippine forces, because the Philippines has relatively few such ships. To the extent that gradual consolidation of Chinese control over parts of the Spratly islands and other South China Sea features such as Scarborough Shoal would affect U.S. interests connecting back to the top-level U.S. strategic considerations discussed at the beginning of this statement, policymakers may wish to consider the option of accelerating actions for expanding and modernizing the Philippines' maritime defense and law enforcement capabilities.

## Cooperation With China in Maritime Operations

None of the foregoing precludes the United States from pursuing opportunities to cooperate with China in maritime operations when and where the two countries have shared interests. Chinese forces continue to contribute to the international effort to counter piracy in waters off Somalia, and in the future could contribute to anti-piracy operations in other locations as well. U.S. and Chinese naval forces might also cooperate in search-and-rescue operations and humanitarian assistance/disaster response (HA/DR) operations. Such operations, plus Chinese participation in multilateral naval exercises (such as the next RIMPAC exercise) and interactions through multilateral fora such as the Western Pacific Naval Symposium (WPNS)[28] and the North Pacific Coast Guard Forum (NPCGF),[29] could build trust and help reinforce compliance with rules for operating ships and aircraft safely in proximity to one another. Cooperative maritime operations might also provide an opportunity for demonstrating to China the benefits that China receives from the current international order, and China's consequent interest in preserving that order.

Mr. Chairman, this concludes my statement. I will pleased to respond to any questions the subcommittee may have.

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[28] For more on the WPNS, see Singapore Ministry of Defense, "Fact Sheet: Background of the Western Pacific Naval Symposium, MCMEX, DIVEX and NMS," updated March 25, 2011, accessed October 1, 2012, at http://www.mindef.gov.sg/imindef/news_and_events/nr/2011/mar/25mar11_nr/25mar11_fs.html. See also the website for the 2012 WPNS at http://www.navy.mil.my/wpns2012/.)

[29] For more on the NPCGF, see, for example, Glynn Smith, "North Pacific Coast Guard Forum," Coast Guard Compass, September 16, 2010, accessed December 5, 2013, at: http://coastguard.dodlive.mil/2010/09/north-pacific-coast-guard-forum-2010-2/; "The North Pacific Coast Guard Forum," U.S. Coast Guard Prevention Blog, May 25, 2010, accessed December 5, 2013, at: http://cgmarinesafety.blogspot.com/2010/05/north-pacific-coast-guard-forum.html; and "North Pacific Coast Guard Forum," Canadian Coast Guard, June 24, 2013, accessed December 5, 2013, at: http://www.ccg-gcc.gc.ca/e0007869.

## Appendix: Numbers of Chinese Ships and Aircraft; Comparisons to U.S. Navy

This appendix, which is adapted from the CRS report on China's naval modernization effort and its implications for U.S. Navy capabilities, presents figures on actual and projected numbers of Chinese ships and naval aircraft and a discussion on comparing U.S. and Chinese and naval capabilities.

### Numbers Provided by ONI in 2013

**Table 1** shows figures provided by the Office of Naval Intelligence (ONI) in 2013 on numbers of Chinese navy ships in 2000, 2005, and 2010, and projected figures for 2015 and 2020, along with the approximate percentage of ships within these figures considered by ONI to be of modern design.

**Table 1. Numbers of PLA Navy Ships Provided by ONI in 2013**

| Ship type | 2000 | 2005 | 2010 | 2015 | 2020 |
|---|---|---|---|---|---|
| **Numbers** | | | | | |
| Diesel attack submarines (SSs) | 60 | 51 | 54 | 57 to 62 | 59 to 64 |
| Nuclear-powered attack submarines (SSNs) | 5 | 6 | 6 | 6 to 8 | 6 to 9 |
| Ballistic missile submarines | 1 | 2 | 3 | 3 to 5 | 4 to 5 |
| Aircraft carriers | 0 | 0 | 0 | 1 | 1 to 2 |
| Destroyers | 21 | 21 | 25 | 28 to 32 | 30 to 34 |
| Frigates | 37 | 43 | 49 | 52 to 56 | 54 to 58 |
| Corvettes | 0 | 0 | 0 | 20 to 25 | 24 to 30 |
| Amphibious ships | 60 | 43 | 55 | 53 to 55 | 50 to 55 |
| Missile-armed coastal patrol craft | 100 | 51 | 85 | 85 | 85 |
| **Approximate percent of modern design** | | | | | |
| Diesel attack submarines | 7 | 40 | 50 | 70 | 75 |
| Nuclear-powered attack submarines | 0 | 33 | 33 | 70 | 100 |
| Destroyers | 20 | 40 | 50 | 70 | 85 |
| Frigates | 25 | 35 | 45 | 70 | 85 |

**Source:** Prepared by CRS using data from Craig Murray, Andrew Berglund, and Kimberly Hsu, *China's Naval Modernization and Implications for the United States*, U.S.-China Economic and Security Review Commission (USCC), August 26, 2013, Figures 1 through 4 on pp. 6-7. The source notes to Figures 1 through 4 state that the numbers and percentages "were provided by the U.S. Office of Naval Intelligence. U.S. Office of Naval Intelligence, *PLA Navy Orders of Battle 2000-2020*, written response to request for information provided to the U.S.-China Economic and Security Review Commission, Suitland, MD, June 24, 2013." Citing this same ONI document, the USCC publication states in footnotes on pages 6 and 7 that "Modern submarines are those able to employ submarine-launched intercontinental ballistic missiles or antiship cruise missiles," and that "Modern surface ships are those able to conduct multiple missions or that have been extensively upgraded since 1992."

### Numbers Provided by ONI in 2009

**Table 2** shows figures provided by ONI in 2009 on numbers of Chinese navy ships and aircraft from 1990 to 2009, and projected figures for 2015 and 2020. The figures in the table lump older and less capable ships together with newer and more capable ships. The modern attack submarines, destroyers, and frigates

shown below in **Table 4**, **Table 5**, and **Table 6** account for about half of the attack submarines, about half of the destroyers, and about 42% of the frigates shown in **Table 2** for 2009. An August 2009 ONI report states that "as newer and more capable platforms replace aging platforms, the PLA(N)'s total order of battle may remain relatively steady, particularly in regard to the surface force."[30]

**Table 2. Numbers of PLA Navy Ships and Aircraft Provided by ONI in 2009**

(Figures include both older and less capable units and newer and more capable units)

| | 1990 | 1995 | 2000 | 2005 | 2009 | Projection for 2015 | Projection for 2020 |
|---|---|---|---|---|---|---|---|
| ***Ships*** | | | | | | | |
| Ballistic missile submarines | 1 | 1 | 1 | 2 | 3 | 4 or 5? | 4 or 5? |
| Attack submarines (SSNs and SSs) | 80 | 82 | 65 | 58 | 59 | ~70 | ~72 |
| *SSNs* | *5* | *5* | *5* | *6* | *6* | *n/a* | *n/a* |
| *SSs* | *75* | *77* | *60* | *52* | *53* | *n/a* | *n/a* |
| Aircraft carriers | 0 | 0 | 0 | 0 | 0 | 1? | 2? |
| Destroyers | 14 | 18 | 21 | 25 | 26 | ~26 | ~26 |
| Frigates | 35 | 35 | 37 | 42 | 48 | ~45 | ~42 |
| ***Subtotal above ships*** | ***130*** | ***136*** | ***124*** | ***127*** | ***136*** | ***~146 or ~147?*** | ***~146 or ~147?*** |
| Missile-armed attack craft | 200 | 165 | 100 | 75 | 80+ | n/a | n/a |
| Amphibious ships | 65 | 70 | 60 | 56 | 58 | n/a | n/a |
| *Large ships (LPDs/LHDs)* | *0* | *0* | *0* | *0* | *1* | *~6?* | *~6?* |
| *Smaller ships* | *65* | *70* | *60* | *56* | *57* | *n/a* | *n/a* |
| Mine warfare ships | n/a | n/a | n/a | n/a | 40 | n/a | n/a |
| Major auxiliary ships | n/a | n/a | n/a | n/a | 50 | n/a | n/a |
| Minor auxiliary ships and support craft | n/a | n/a | n/a | n/a | 250+ | n/a | n/a |
| ***Aircraft*** | | | | | | | |
| Land-based maritime strike aircraft | n/a | n/a | n/a | n/a | ~145 | ~255 | ~258 |
| Carrier-based fighters | 0 | 0 | 0 | 0 | 0 | ~60 | ~90 |
| Helicopters | n/a | n/a | n/a | n/a | ~34 | ~153 | ~157 |
| ***Subtotal above aircraft*** | n/a | n/a | n/a | n/a | ***~179*** | ***~468*** | ***~505*** |

**Source:** Prepared by CRS. Source for 2009, 2015, and 2020: *2009 ONI report*, page 18 (text and table), page 21 (text), and (for figures not available on pages 18 or 21), page 45 (CRS estimates based on visual inspection of ONI graph entitled "Estimated PLA[N] Force Levels"). Source for 1990, 1995, 2000, and 2005: Navy data provided to CRS by Navy Office of Legislative Affairs, July 9, 2010.

**Notes:** n/a is not available. The use of question marks for the projected figures for ballistic missile submarines, aircraft, carriers, and major amphibious ships (LPDs and LHDs) for 2015 and 2020 reflects the difficulty of resolving these numbers visually from the graph on page 45 of the ONI report. The graph shows more major amphibious ships than ballistic missile submarines, and more ballistic missile submarines than aircraft carriers. Figures in this table for aircraft carriers include the *Liaoning*. The ONI report states on page 19 that China "will likely have an operational, domestically produced carrier sometime after 2015." Such a ship, plus the *Liaoning*, would give China a force of 2 operational carriers sometime after 2015.

The graph on page 45 shows a combined total of amphibious ships and landing craft of about 244 in 2009, about 261 projected for 2015, and about 253 projected for 2015.

[30] *2009 ONI Report*, p. 46.

Since the graph on page 45 of the ONI report is entitled "Estimated PLA[N] Force Levels," aircraft numbers shown in the table presumably do not include Chinese air force (PLAAF) aircraft that may be capable of attacking ships or conducting other maritime operations.

## Numbers Presented in Annual DOD Reports to Congress

**Table 3** shows numbers of Chinese navy ships as presented in annual DOD reports to Congress on military and security developments involving China (previously known as the annual report on China military power). As with **Table 2**, the figures in **Table 3** lump older and less capable ships together with newer and more capable ships. The modern attack submarines, destroyers, and frigates shown below in **Table 4**, **Table 5**, and **Table 6** account for about half of the attack submarines, about half of the destroyers, and about 42% of the frigates shown in **Table 3** for 2009. DOD stated in 2011 that the percentage of modern units within China's submarine force has increased from less than 10% in 2000 and 2004 to about 47% in 2008 and 50% in 2009, and that the percentage of modern units within China's force of surface combatants has increased from less than 10% in 2000 and 2004 to about 25% in 2008 and 2009.[31]

DOD states that "The PLA Navy has the largest force of major combatants, submarines, and amphibious warfare ships in Asia. China's naval forces include some 79 principal surface combatants, more than 55 submarines, 55 medium and large amphibious ships, and roughly 85 missile-equipped small combatants."[32]

**Table 3. Numbers of PLA Navy Ships Presented in Annual DOD Reports to Congress**

(Figures include both older and less capable units and newer and more capable units)

| | 2000 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Nuclear-powered attack submarines | 5 | 5 | ~60 | n/a | 6 | 5 | 5 | 5 | 6 | 6 | 5 | 5 | 5 |
| Diesel attack submarines | ~60 | ~ 50 | | n/a | 51 | 50 | 53 | 54 | 54 | 54 | 49 | 48 | 49 |
| Destroyers | ~20 | ~ 60 | > 60 | n/a | 21 | 25 | 25 | 29 | 27 | 25 | 26 | 26 | 23 |
| Frigates | ~40 | | | n/a | 43 | 45 | 47 | 45 | 48 | 49 | 53 | 53 | 52 |
| Missile-armed coastal patrol craft | n/a | ~ 50 | ~ 50 | n/a | 51 | 45 | 41 | 45 | 70 | 85 | 86 | 86 | 85 |
| Amphibious ships: LSTs and LPDs | almost 50 | ~ 40 | > 40 | n/a | 20 | 25 | 25 | 26 | 27 | 27 | 27 | 28 | 29 |
| Amphibious ships: LSMs | | | | n/a | 23 | 25 | 25 | 28 | 28 | 28 | 28 | 23 | 26 |

**Source:** Table prepared by CRS based on data in 2000-2013 editions of annual DOD report to Congress on military and security developments involving China (known for 2009 and prior editions as the report on China military power).

**Notes: n/a** means data not available in report. **LST** means tank landing ship; **LPD** means transport dock ship; **LSM** means medium landing ship.

[31] *2011 DOD CMSD*, p. 43 (figure).

[32] *2013 DOD CMSD*, p. 6.

## Annual Numbers of New Submarines, Destroyers, and Frigates

**Table 4**, **Table 5**, and **Table 6** present actual and projected figures on new Chinese navy submarines, destroyers, and frigates, respectively, entering service each year. For discussions of the ship classes listed in these tables, see the CRS report on China's naval modernization effort and its implications for U.S. Navy capabilities.

**Table 4. PLA Navy Submarine Commissionings**

Actual (1995-2011) and *Projected (2012-2016)*

| | Jin (Type 094) SSBN | Shang (Type 093) SSN | Kilo SS (Russian-made) | Ming (Type 035) SS[a] | Song (Type 039) SS | Yuan (Type 039A) SS[b] | Qing SS | Annual total for all types shown | Cumulative total for all types shown | Cumulative total for modern attack boats[c] |
|---|---|---|---|---|---|---|---|---|---|---|
| **1995** | | | 2[d] | 1 | | | | **3** | **3** | **2** |
| **1996** | | | | 1 | | | | **1** | **4** | **2** |
| **1997** | | | | 2 | | | | **2** | **6** | **2** |
| **1998** | | | 1 | 2 | | | | **3** | **9** | **3** |
| **1999** | | | 1 | | 1 | | | **2** | **11** | **5** |
| **2000** | | | | 1 | | | | **1** | **12** | **5** |
| **2001** | | | | 1 | 2 | | | **3** | **15** | **7** |
| **2002** | | | | 1 | | | | **1** | **16** | **7** |
| **2003** | | | | | 2 | | | **2** | **18** | **9** |
| **2004** | | | 1 | | 3 | | | **4** | **22** | **13** |
| **2005** | | | 4 | | 3 | | | **7** | **29** | **20** |
| **2006** | | 1 | 3 | | 2[e] | 1 | | **7** | **36** | **27** |
| **2007** | 1 | 1[f] | | | | | | **2** | **38** | **28** |
| **2008** | | | | | | | | **0** | **38** | **28** |
| **2009** | | | | | | 2 | | **2** | **40** | **30** |
| **2010** | 1 | | | | | 1 | | **2** | **42** | **31** |
| **2011** | | | | | | 3 | 1[g] | **4** | **46** | **35** |
| ***2012*** | *1* | | | | | *5* | | **6** | ***51*** | ***40*** |
| ***2013*** | *1* | | | | | *n/a* | *n/a* | *n/a* | *n/a* | *n/a* |
| ***2014*** | *1* | | | | | *n/a* | *n/a* | *n/a* | *n/a* | *n/a* |
| ***2015*** | | | | | | *n/a* | *n/a* | *n/a* | *n/a* | *n/a* |
| ***2016*** | *1*[h] | | | | | *n/a* | *n/a* | *n/a* | *n/a* | *n/a* |

**Source:** *Jane's Fighting Ships 2012-2013*, and previous editions.

**Note:** n/a = data not available.

[a] Figures for Ming-class boats are when the boats were launched (i.e., put into the water for final construction). Actual commissioning dates for these boats may have been later.

[b] Some observers believe the Yuan class to be a variant of the Song class and refer to the Yuan class as the Type 039A.

[c] This total excludes the Jin-class SSBNs and the Ming-class SSs.

[d] *Jane's Fighting Ships 2012-2013* lists the commissioning date of one of the two Kilos as December 15, 1994.

[e] No further units expected after the 12th and 13th shown for 2006.

[f] *Jane's Fighting Ships 2012-2013* states that production of the two Shang-class boats shown in the table is expected to be followed by production of a new SSN design known as the Type 095 class, of which a total of five are expected. A graph on page 22 of *2009 ONI Report* suggests that ONI expects the first Type 095 to enter service in 2015.

[g] It is unclear whether this is the lead ship of a new class, or a one-of-a-kind submarine built for test purposes. *Jane's Fighting Ships 2012-2013* refers to the boat as an auxiliary submarine (SSA).

[h] A total of six Jin-class boats is expected by *Jane's*, with the sixth unit projected to be commissioned in 2016.

**Table 5. PLA Navy Destroyer Commissionings**

Actual (1994-2011) and *Projected (2012-2014)*

| | Sovre-menny (Russian-made) | Luhu (Type 052) | Luhai (Type 051B) | Luyang I (Type 052B) | Lyugang II (Type 052C) | Louzhou (Type 051C) | Luyang III (Type 052D) | Annual total | Cumulative total |
|---|---|---|---|---|---|---|---|---|---|
| **1994** | | 1 | | | | | | **1** | **1** |
| **1995** | | | | | | | | **0** | **1** |
| **1996** | | 1 | | | | | | **1** | **2** |
| **1997** | | | | | | | | **0** | **2** |
| **1998** | | | | | | | | **0** | **2** |
| **1999** | 1 | | 1 | | | | | **2** | **4** |
| **2000** | | | | | | | | **0** | **4** |
| **2001** | 1 | | | | | | | **1** | **5** |
| **2002** | | | | | | | | **0** | **5** |
| **2003** | | | | | | | | **0** | **5** |
| **2004** | | | | 2 | 1 | | | **3** | **8** |
| **2005** | 1 | | | | 1 | | | **2** | **10** |
| **2006** | 1 | | | | | 1 | | **2** | **12** |
| **2007** | | | | | | 1 | | **1** | **13** |
| **2008** | | | | | | | | **0** | **13** |
| **2009** | | | | | | | | **0** | **13** |
| **2010** | | | | | | | | **0** | **13** |
| ***2011*** | | | | | | | | ***0*** | ***13*** |
| ***2012*** | | | | | ***1*** | | | ***1*** | ***14*** |
| ***2013*** | | | | | 2 | | | **2** | ***16*** |
| ***2014*** | | | | | *1* | | *n/a* | ***n/a*** | ***n/a*** |

**Source:** *Jane's Fighting Ships 2012-2013*, and previous editions.

**Table 6. PLA Navy Frigate Commissionings**

Actual (1991-2011) and *Projected (2012-2013)*

| | Jiangwei I (Type 053 H2G) | Jiangwei II (Type 053H3) | Jiangkai I (Type 054) | Jiangkai II (Type 054A) | Annual total | Cumulative total |
|---|---|---|---|---|---|---|
| 1991 | 1 | | | | 1 | 1 |
| 1992 | 1 | | | | 1 | 2 |
| 1993 | 1 | | | | 1 | 3 |
| 1994 | 1 | | | | 1 | 4 |
| 1995 | | | | | 0 | 4 |
| 1996 | | | | | 0 | 4 |
| 1997 | | | | | 0 | 4 |
| 1998 | | 1 | | | 1 | 5 |
| 1999 | | 4 | | | 4 | 9 |
| 2000 | | 1 | | | 1 | 10 |
| 2001 | | | | | 0 | 10 |
| 2002 | | 2 | | | 2 | 12 |
| 2003 | | | | | 0 | 12 |
| 2004 | | | | | 0 | 12 |
| 2005 | | 2 | 1 | | 3 | 15 |
| 2006 | | | 1 | | 1 | 16 |
| 2007 | | | | | 0 | 16 |
| 2008 | | | | 4 | 4 | 20 |
| 2009 | | | | | 0 | 20 |
| 2010 | | | | 3 | 3 | 23 |
| 2011 | | | | 2 | 2 | 25 |
| *2012* | | | | *2* | 2 | 27 |
| *2013* | | | | *5* | 5 | 32 |

**Source:** *Jane's Fighting Ships 2012-2013*, and previous editions.

## Comparing U.S. and Chinese Naval Capabilities

U.S. and Chinese naval capabilities are sometimes compared by showing comparative numbers of U.S. and Chinese ships. Although numbers of ships (or aggregate fleet tonnages) can be relatively easy to compile from published reference sources, they are highly problematic as a means of assessing relative U.S. and Chinese naval capabilities, for the following reasons:

- **A fleet's total number of ships (or its aggregate tonnage) is only a partial metric of its capability.** In light of the many other significant contributors to naval capability,[33] navies with similar numbers of ships or similar aggregate tonnages can have significantly different capabilities, and navy-to-navy comparisons of numbers of ships or aggregate tonnages can provide a highly inaccurate sense of their relative capabilities. In recent years, the warfighting capabilities of navies have derived increasingly from the sophistication of their internal electronics and software. This factor can vary greatly from one navy to the next, and often cannot be easily assessed

[33] These include types (as opposed to numbers or aggregate tonnage) of ships; types and numbers of aircraft; the sophistication of sensors, weapons, C4ISR systems, and networking capabilities; supporting maintenance and logistics capabilities; doctrine and tactics; the quality, education, and training of personnel; and the realism and complexity of exercises.

by outside observation. As the importance of internal electronics and software has grown, the idea of comparing the warfighting capabilities of navies principally on the basis of easily observed factors such as ship numbers and tonnages has become increasingly less valid, and today is highly problematic.

- **Total numbers of ships of a given type (such as submarines, destroyers, or frigates) can obscure potentially significant differences in the capabilities of those ships, both between navies and within one country's navy.**[34] The potential for obscuring differences in the capabilities of ships of a given type is particularly significant in assessing relative U.S. and Chinese capabilities, in part because China's navy includes significant numbers of older, obsolescent ships. Figures on total numbers of Chinese submarines, destroyers, frigates, and coastal patrol craft lump older, obsolescent ships together with more modern and more capable designs.[35] As mentioned earlier, DOD stated in 2011 that the percentage of modern units within China's submarine force has increased from less than 10% in 2000 and 2004 to 50% in 2008 and about 56% in 2010, and that the percentage of modern units within China's force of surface combatants has increased from less than 10% in 2000 and 2004 to about 25% in 2008 and 26% in 2010.[36] This CRS report shows numbers of more modern and more capable submarines, destroyers, and frigates in **Table 4**, **Table 5**, and **Table 6**, respectively.
- **A focus on total ship numbers reinforces the notion that increases in total numbers necessarily translate into increases in aggregate capability, and that decreases in total numbers necessarily translate into decreases in aggregate capability.** For a Navy like China's, which is modernizing in some ship categories by replacing larger numbers of older, obsolescent ships with smaller numbers of more modern and more capable ships, this is not necessarily the case. As shown in **Table 2**, for example, China's submarine force today has fewer boats than it did in 1990, but has greater aggregate capability than it did in 1990, because larger numbers of older, obsolescent boats have been replaced by smaller numbers of more modern and more capable boats. A similar point might be made about China's force of missile-armed attack craft. DOD states that "Since the 1990s, the PLA Navy has rapidly transformed from a large fleet of low-capability, single-mission platforms, to a leaner force equipped with more modern, multi-mission platforms."[37] The August 2009 ONI report states that "even if [China's] naval force sizes remain steady or even decrease, overall naval capabilities can be expected to increase as forces gain multimission capabilities."[38] For assessing navies like China's, it can be more useful to track the growth in numbers of more modern and more capable units. This CRS report shows numbers of more modern and more capable submarines, destroyers, and frigates in **Table 4**, **Table 5**, and **Table 6**, respectively.

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[34] Differences in capabilities of ships of a given type can arise from a number of other factors, including sensors, weapons, C4ISR systems, networking capabilities, stealth features, damage-control features, cruising range, maximum speed, and reliability and maintainability (which can affect the amount of time the ship is available for operation).

[35] For an article discussing this issue, see Joseph Carrigan, "Aging Tigers, Mighty Dragons: China's bifurcated Surface Fleet," *China Brief*, September 24, 2010: 2-6.

[36] *2011 DOD CMSD*, p. 43 (figure).

[37] *2011 DOD CMSD*, p. 3.

[38] *2009 ONI Report*, p. 46.

- **Comparisons of numbers of ships (or aggregate tonnages) do not take into account maritime-relevant military capabilities that countries might have outside their navies,** such as land-based anti-ship ballistic missiles (ASBMs), land-based anti-ship cruise missiles (ASCMs), and land-based air force aircraft armed with ASCMs or other weapons. Given the significant maritime-relevant non-navy forces present in both the U.S. and Chinese militaries, this is a particularly important consideration in comparing U.S. and Chinese military capabilities for influencing events in the Western Pacific. Although a U.S.-China incident at sea might involve only navy units on both sides, a broader U.S.-China military conflict would more likely be a force-on-force engagement involving multiple branches of each country's military.
- **The missions to be performed by one country's navy can differ greatly from the missions to be performed by another country's navy.** Consequently, navies are better measured against their respective missions than against one another. Although Navy A might have less capability than Navy B, Navy A might nevertheless be better able to perform Navy A's intended missions than Navy B is to perform Navy B's intended missions. This is another significant consideration in assessing U.S. and Chinese naval capabilities, because the missions of the two navies are quite different.

**Ronald O'Rourke**

Mr. O'Rourke is a Phi Beta Kappa graduate of the Johns Hopkins University, from which he received his B.A. in international studies, and a valedictorian graduate of the University's Paul Nitze School of Advanced International Studies, where he received his M.A. in the same field.

Since 1984, Mr. O'Rourke has worked as a naval analyst for the Congressional Research Service of the Library of Congress. He has written numerous reports for Congress on various issues relating to the Navy. He regularly briefs Members of Congress and Congressional staffers, and has testified before Congressional committees on several occasions.

In 1996, Mr. O'Rourke received a Distinguished Service Award from the Library of Congress for his service to Congress on naval issues.

Mr. O'Rourke is the author of several journal articles on naval issues, and is a past winner of the U.S. Naval Institute's Arleigh Burke essay contest. He has given presentations on Navy-related issues to a variety of audiences in government, industry, and academia.

Statement of Seth Cropsey
Subcommittee on Seapower and Projection Forces
U.S. Asia-Pacific Strategic Considerations Related to P.L.A. Naval Forces Modernization
11 December 2013

Chairman Forbes; Ranking Member McIntyre, Representative Hanabusa:

It is an honor to speak before this subcommittee. Thank you for your invitation.

As dangerous as the threats posed by jihadism are, so far they don't approach the risks of open confrontation between the US and the Soviet Union in the Cold War. But the likelihood is that we'll again face a larger challenge than the one the jihadists now present. No one is a better candidate to offer such a challenge than China, which is not to say that China is an enemy, or to predict that China will become an enemy. But it's clear that Chinese leaders are ambitious, and that their diplomatic policy and their military armament are moving them toward great power status, or at least regional hegemony, in a series of small steps designed to achieve those ends with minimal resistance from their Pacific competitors, America's allies. And the U.S. is not taking this possibility as seriously as it should.

This is different from the America of the 1920's and 1930's, when the generation that had experienced a World War learned the hard way why strategy was needed to be prepared for whatever the future might bring. Then, the U.S. anticipated a potential future threat from Japan and acted to prepare for such a threat. In what was known as War Plan Orange, the U.S. military leadership devised and tested a concrete strategy for a potential conflict with Japan, which evolved with new technology and tactics during the interwar period to incorporate the critical roles of aircraft carriers and submarines, amphibious warfare, and an island-hopping campaign in any potential Pacific conflict.

The linchpin of this plan was the doctrine of "advanced base" strategy, the idea developed and exhaustively tested in the interwar period that a Pacific conflict with Japan would be won by securing the outlying archipelagos and islands of the theater by amphibious assault that would secure American bases from which to launch offensive operations further and further into enemy territory. At the same time this would deny the enemy territory from which to do the same. As a result, the U.S. military had a strategy when such a conflict broke out, one whose familiarity to officers improved its execution and which was in fact highly successful. We have no such strategy towards China today.

Diplomatically, the closest we've come is the long-standing effort that's existed since the administration of George H.W. Bush to persuade China to become a stakeholder in the international system. One of the most fundamental principles of that system is respect for untrammeled navigation through international waters and airspace. The events of the past few weeks, as China declared an Air Defense Identification Zone over a large section of the East China Sea, show that they have no such respect. So, while efforts to persuade China to become a stakeholder in the international order should not be abandoned, we ought to understand that those efforts have proved of limited value in generating any positive effect on Chinese international

behavior. To the extent that any American strategy hangs on our and the international community's attempt to transform China into a state that accepts the general principles of the international order, it has been a failure.

The Obama administration's much publicized "Pivot to Asia" is not a strategy for dealing with China. It's an idea which, if sensibly implemented, would preserve and increase our influence in the region. But so far, all the hard power of the pivot is a minor element of the administration's preference for using soft power. The hard power consists of a Marine contingent in Northern Australia that remains much smaller than the envisioned 2,500 Marine rotational force, 4 littoral combat ships to be based in Singapore, and a U.S. military budget that is being whittled away at a rate that alarms our allies in Asia and the rest of the world. A successful "Pivot to Asia" would require more cooperation, especially with our Asian treaty allies, the most important of which is Japan. In the current and potentially risky matter of the People's Republic's recently-declared air defense identification zone (ADIZ), Japan has said that its commercial airliners would not identify themselves when passing through the airspace in question. At the same time, the US State Department has urged American commercial flights to comply with the zone. This is not cooperation.

China, by its own admission and actions, wants to deny us access to large parts of the Western Pacific. The Defense Department's response so far has been a set of ideas known as the Air-Sea Battle (ASB). The ASB itself is a plan for greater cooperation between the military services in gaining access where a potential enemy would deny it. Much like the administration's "Pivot," or "rebalance," it is not based on a strategy, and it is not a strategy towards China; in fact, it makes no mention of China at all.

China's leaders are more tolerant of risk than the Soviet leaders were. The ASB talks about blinding a potential enemy's surveillance, reconnaissance and intelligence capabilities. In China's case, this would mean striking targets on the mainland. But the U.S. is not doing anything to turn the access denial ideas of the ASB into a strategic plan for such an eventuality. There are other possible strategic approaches to the same problem of access denial. However, the first question that needs to be considered is, what is the objective of *any* strategy towards China? The answer is the same as our objective in World War I, World War II, and the Cold War. In each of those, our objective was to prevent the rise of a hegemonic power on the European continent. With China, our objective ought to be to prevent the rise of an Asian hegemon, a power that would destroy the current U.S. alliance system in Asia, dominate the world's most populous region—economically and militarily, and perhaps extend itself into Eurasia and beyond.

As in the U.S.' experience in Europe, our first diplomatic objective in executing a strategy that seeks to prevent the rise of an Asian hegemon should be to establish an alliance of likeminded nations. This is very difficult, because of ancient enmities in the region. But as the threat from China grows, current realities may eclipse historic fear. An important part of U.S. strategy towards China should be to prepare the groundwork now for such an alliance, one which establishes contingencies for repatriating allied business interests on the mainland back to allied countries, so as to exert economic pressure on the PRC in the event of a conflict. As for the immediate problem of access denial, which does indeed require strategy to counter, there are

approaches which don't require an attack on China's mainland. One would be to destroy the Chinese navy at Sea. Another would be to impose a blockade on Chinese merchant and naval shipping. Like the ASB, neither of these are being looked at as possible military strategies toward China.

What is clear is that any strategy to counter China's increasing access denial capabilities should prioritize deterrence—which means readiness, sustainability, and overmatching firepower and defense—and be built upon an integration of the ground forces necessary to control the outlying islands, archipelagos, littorals and straits of the Pacific with the naval and air power necessary to control the air and seas. Such a strategy should also include an increased focus on missile defense, to protect civil and military infrastructure, sea and airports and mobile warfare capabilities, and it should, above all, be designed to give the U.S. the power to assemble a durable forward defense in the event of a long war.

But, however one regards these strategic ideas the fact remains that we don't have any strategy toward the most populous nation in the world, one whose economic strength is gathering in tandem with the military power its leaders are gradually accumulating to match their ambitions. My colleagues who are testifying here this afternoon are offering a thoughtful account of the hardware that supports those ambitions. This needs to figure in our strategy—as it clearly does in China's.

Thank you for the opportunity to address this committee.

HUDSON
INSTITUTE

Seth Cropsey began his career in government as assistant to Secretary of Defense Caspar Weinberger. In 1984 he was appointed Deputy Undersecretary of the Navy where he advised the Secretary on strategy, special operations, defense organization, and naval education. In the George H. W. Bush administration he served as Principal Deputy Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict.

After leaving the Defense Department in 1991 Cropsey led the Asia Studies Center where his work focused on U.S.-Japan security and diplomacy as well as emerging commercial and security relations between the U.S. and China.

In 1994 he returned to the government as first department chairman and distinguished professor at the George W. Marshall European Center for Security Studies in Garmisch-Partenkirchen, Germany. He administered the department of national security planning, developed curriculum, lectured, and led seminars. After returning to the U.S. Cropsey joined the American Enterprise Institute where he wrote and published a monograph on defense export controls.

In 2002 he was confirmed by the Senate as director of international broadcasting where he helped increase resources, broadcasting, and focus on audiences in key Middle Eastern states.

In 2005 Cropsey returned to writing, analyzing, and lecturing on U.S. strategy. He is currently a Senior Fellow Senior at Hudson Institute and serves as Senior Advisor for maritime strategy at the Center for Naval Analyses. He completed a book on the decline of American seapower in January 2012, scheduled for publication in early 2013.

Cropsey served as a naval officer from 1985 to 2004 and served with Special Boat Squadron TWO in Little Creek. He has lectured at Oxford, the Ecole Militaire, the NATO School at Oberammergau, various national security forums in Albania, Hungary and Romania, Taiwan's National Defense University, and U.S. colleges and universities. His articles have been published in such journals and newspapers as the *Foreign Affairs*, *World Affairs*, *The American Interest*, *The Wall Street Journal*, *The Washington Post, Harper's, Commentary*, and *The Weekly Standard.*

He is a graduate of St. Johns College in Santa Fe and received his M.A. from Boston College. He holds a Ph.D. in philosophy from the University of Cluj in Romania. Cropsey, his wife, and 12-year old son live in Bethesda, MD.

**DISCLOSURE FORM FOR WITNESSES**
**CONCERNING FEDERAL CONTRACT AND GRANT INFORMATION**

**INSTRUCTION TO WITNESSES:** Rule 11, clause 2(g)(5), of the Rules of the U.S. House of Representatives for the 113th 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 Committee on Armed Services in complying with the House rule. Please note that a copy of these statements, with appropriate redactions to protect the witness's personal privacy (including home address and phone number) will be made publicly available in electronic form not later than one day after the witness's appearance before the committee.

**Witness name: Dr. Seth Cropsey**

**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 2013**

| federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| none | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**FISCAL YEAR 2012**

| federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| Booz Allen Hamilton | | $30,000 dollars | Provide strategic advice to U.S. Southern Command, Special Operations Command. |
| | | | |
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|---|---|---|---|
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**FISCAL YEAR 2011**

| Federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| none | | | |
| | | | |
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**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 (2013): 0;
Fiscal year 2012: 1;
Fiscal year 2011: 0.

Federal agencies with which federal contracts are held:

Current fiscal year (2013): 0;
Fiscal year 2012: 1;
Fiscal year 2011: 0.

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 (2013):;
Fiscal year 2012: Booz Allen Hamilton;
Fiscal year 2011:.

Aggregate dollar value of federal contracts held:

Current fiscal year (2013):;
Fiscal year 2012: $30,000 dollars;
Fiscal year 2011:.

**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 (2013):__0_____;
Fiscal year 2012:_____1_____;
Fiscal year 2011:_____0_____.

Federal agencies with which federal grants are held:

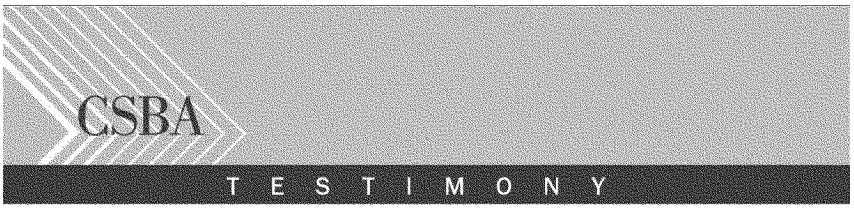
Current fiscal year (2013):___0_____;
Fiscal year 2012:_____Booz Allen Hamilton forDepartment of Defense____(I was a subcontractor)_____;
Fiscal year 2011:_____0_____.

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

Current fiscal year (2013):_____0_____;
Fiscal year 2012:_____provide strategic advice to Special Operations Command of US Southern Command_____;
Fiscal year 2011:_____.

Aggregate dollar value of federal grants held:

Current fiscal year (2013):_____0_____;
Fiscal year 2012:_____$30,000 dollars_____;
Fiscal year 2011:_____0_____.




**STATEMENT BEFORE THE HOUSE ARMED SERVICES COMMITTEE**
**SEAPOWER AND PROJECTION FORCES SUBCOMMITTEE**

**By Jim Thomas**
**Vice President and Director of Studies**
**Center for Strategic and Budgetary Assessments**

Chairman Forbes, Ranking Member McIntyre, and Members of the Subcommittee, thank you for convening this important series of hearings on Asia-Pacific regional security. I appreciate your invitation to testify today on the subject of PLA naval modernization and its implications for how the United States and its allies preserve the regional security balance during a period of rapid change. I will discuss key trends and priorities in the Chinese People's Liberation Army (PLA) naval modernization program, as well as China's development of an anti-ship ballistic missile, although it is technically not a naval modernization program. I will also address the implications of this modernization effort for U.S. and allied operational and force planning.

Assessing modernization requires comparing capabilities of one country with the capabilities of its competitors. Over the long term, this is an interactive process since the modernization effort of one country will influence the modernization decisions of the other. Since 2003, the U.S. has been engaged in extended counter-insurgency campaigns in Iraq and Afghanistan that have consumed a great deal of American attention and resources that might otherwise have been focused on countering the PLA innovations detailed below. As a result, the PLA has had a relatively free hand to field new systems and forces specifically designed to exploit characteristics of "the American Way of War" that have been easily observable over the past two decades of U.S. military operations in the Middle East, Central Asia, North Africa, and the Balkans. These characteristics include reliance on large theater bases, long-haul satellite communications and logistics networks, and a relatively shallow inventory of long-range precision-guided weapons. While the PLA has fielded a wide and growing array of advanced capabilities to counter U.S. power projection, the United States has spent insufficient time, intellectual effort, and resources responding to new and innovative PLA capabilities.

Assessing modernization also requires thinking about trends in force development over time. In this regard, it is worth recalling just how far China has come over the past decade, a period in which China's rapid naval modernization has been fueled by substantial increases in defense spending. In 2003, annual Chinese defense spending was estimated by the U.S. Department of Defense (DoD) to be $45-60 billion. Ten years later, DoD estimated that PLA spending had

increased to $135-215 billion, or roughly 25-40 percent what the United States spends on its military annually. In addition, China has been able to focus its defense effort almost entirely on its immediate maritime perimeter in support of its "counter-intervention" strategy, unlike the United States with its competing global security responsibilities. This strategy emphasizes surprise and the ability to conduct short, decisive campaigns while precluding effective U.S. intervention long enough that China could realize its campaign objectives and present the United States with a *fait accompli*. Anti-access and area denial (A2/AD) capabilities—designed to prevent an adversary from entering the theater or to deny those already in the theater from being able to operate effectively—play a central role in China's strategy. China's naval modernization, in turn, has underwritten efforts to expand its geographic A2/AD envelope over time and extend it farther out in the western Pacific Ocean.

***A Decade of Rapid Naval Modernization***

A decade ago China was also heavily reliant on Russian assistance for its armaments. The most sophisticated surface combatants in its fleet at the time were two SOVREMENNY-class destroyers, and the most advanced submarines in its fleet were four KILO-class submarines, all acquired from Russia. Since that time, the situation has changed markedly. The PLA Navy (PLAN) has reduced its reliance on Russia in favor of indigenous ship and submarine design and production. The PLAN today includes roughly 190 major combatants and is on a trajectory to surpass the U.S. Navy in size by 2020. This force is increasingly capable of denying access within 200 miles of the Chinese coastline and will have the ability to support some power projection at greater distances (e.g., along China's sea lines of communication). Interestingly, the PLA fleet is growing even while it is aggressively retiring or transferring older ships to China's maritime law enforcement agencies—the so-called "Five Dragons" under the State Oceanic Administration—paramilitary forces carrying out fisheries law enforcement, surveillance, coast guard and other maritime functions.

As impressive as the PLAN's growth has been, its qualitative improvements are even more remarkable. Ongoing modernization programs with respect to counter-intervention operations include:

Advanced Submarines. China is rapidly building up a modern submarine force while retiring its older submarines. Its latest, indigenously produced submarines—the Improved SHANG-class SSN and Type 095 SSGN—have greater acoustic signature reduction than older HAN-class SSNs and incorporate advanced nuclear reactors. Type 095s also incorporate vertical launch system (VLS) tubes. The YUAN-class (Type 041) SSP now in production replaces obsolete ROMEO- and MING-class SSKs and incorporates air-independent propulsion to extend its submerged endurance. Together, these advanced submarines will help to screen for the surface fleet. The most significant concern, however, is their improving ability to conduct long-range anti-ship and land-attack cruise missile strikes. As long as they can remain submerged underway and receive targeting information, they can attack surface ships and land targets from outside the effective detection range of U.S. systems.

Guided-Missile Destroyers. The PLA is also continuing construction of LUYANG II-class (Type 052C) DDGs, and starting to procure the follow-on LUYANG III-class (Type 052D) DDGs, which incorporate multi-purpose VLS that can launch land attack, anti-ship, or air defense missiles interchangeably. In total, China is likely to have sixteen advanced DDGs (both Type 052Cs and Ds) within the next several years. These advanced guided-missile destroyers represent a major improvement in fleet air defense and, along with advanced submarines, will allow China to protect its aircraft carriers and amphibious ships while pushing China's naval defense perimeter out farther into the Pacific Ocean.

Guided-Missile Patrol Craft. China is beginning to field JIANGDAO-class (Type 056) stealthy corvettes, which, along with its large inventory of HOUBEI-class (Type 022) guided missile patrol boats, will carry the YJ-83 long-range, supersonic anti-ship cruise missile. These fast, small combatants have improved the PLA's ability to conduct littoral warfare, and their numbers could create a significant tracking and targeting problem. Working in tandem with land-based missile forces and aircraft, these smaller naval combatants could make it far more difficult for foreign surface forces to safely approach within 200 nautical miles of China's coast.

Land-Based Naval Fighter and Strike Aircraft. The PLAN has traditionally relied on land-based combat aircraft to provide support to the fleet and has long operated significant numbers of land-based fighter and strike aircraft dedicated to supporting naval operations. A decade ago these aircraft were overwhelmingly Chinese derivatives of 1950s-era Soviet designs. This has changed significantly in recent years. The PLAN now operates more than 100 modern strike-fighters including Russian-supplied Su-30MK2 and indigenous J-11B, JH-7A, and J-10 aircraft equipped with modern avionics, sensors, and advanced air-to-air and anti-ship missiles. The first three of these aircraft are capable of operating 500 nautical miles or more from the Chinese coast while carrying multiple advanced air-to-air and/or anti-ship missiles. The J-10 is a shorter-range multi-role aircraft also capable of employing advanced air-to-air and anti-ship missiles. The PLAN advanced strike aircraft are capable of carrying well over 100 advanced anti-ship missiles in a single mass attack. They could also be supplemented by hundreds of similar aircraft operated by the PLA Air Force to increase the odds of overwhelming the defensive capabilities of U.S. and allied naval forces operating within their reach.

***Beyond the PLA Navy: Land-Based Sea Denial Missile Forces***

While distinctly separate from the PLA naval force, a critical component of China's counter-intervention strategy is its land-based ballistic missile forces under the control of the Second Artillery Corps (a separate military "service" assigned responsibility for China's nuclear and conventional missile strike forces). China has placed high priority on its missile strike forces, particularly the development of an anti-ship ballistic missile (ASBM). Known as the Dong Feng-21D (DF–21D), the two-stage, solid-fueled missile with a range exceeding 930 miles is a variant of the DF-21 (CSS-5) medium-range ballistic missile (MRBM) and carries a maneuverable warhead optimized to attack large surface combatants, such as aircraft carriers, underway. The motivation for developing the ASBM appears to be the 1996 Taiwan Strait crisis in which two

U.S. aircraft carriers were sent to the vicinity of the Strait. The ASBM is intended to inhibit similar U.S. interventions in the future.

Although the DF-21D reached Initial Operational Capability (IOC) in 2010, there are questions about the maturity the missile system's associated battle network, comprised of the suite of surveillance, reconnaissance, and battle management capabilities needed to enable accurate DF-21D strikes. To date China has yet to conduct a successful test of the capability under realistic conditions at long-range against a mobile target at sea—although it reportedly conducted a test against a stationary mock-up of an aircraft carrier in the Gobi desert earlier this year. Nevertheless, China has made great strides in its long-range surveillance capabilities including improvements in its ability to integrate data from its land-based over-the-horizon radars, airborne sensors, and its naval ocean surveillance satellites to cue China's ASBMs. Despite the lack of evidence that China could effectively target its DF-21D missiles, it is useful to keep in mind that large salvo attacks could compensate for the lack of a fully mature battle network. China might be willing to expend hundreds of ASBMs (with an estimated unit cost of $25 million) in a saturation attack to destroy or "mission kill" a single aircraft carrier (valued $10-15 billion)—essentially a "brute force" approach to compensate for its battle network limitations.

***Implications for the U.S. and Allied Defense Planning***

The cumulative effect of China's modernization efforts is that the military balance in the western Pacific is being altered, and the costs to the United States of projecting power into the region are rising dramatically. With the DF-21D, advanced submarines, large numbers of modern surface combatants, and maritime strike aircraft, increasingly the United States faces a multi-dimensional "last thousand-mile" power projection problem. These capabilities, coupled with growing evidence that China intends to unilaterally challenge and alter the geo-political status quo of the western Pacific, present the United States with a choice: it can accommodate China's ambitions at the expense of its allies' and partners' security interests, or it can attempt to balance China's increasing assertiveness and growth in military capabilities with measures designed to ensure the continued viability of its power projection forces. There is no single "silver bullet" approach to preserve the regional military balance. Instead the United States and its allies will likely have to undertake a combination of efforts to demonstrate their defensive strength in the face of China's challenge. These efforts should include preparations to:

1. Counter Hostile C4ISR. U.S. and allied military forces should plan to conduct operations to disrupt, degrade, or spoof hostile communications, command and control, computer, intelligence, surveillance and reconnaissance networks. All of these efforts can help to break an adversary's "kill chain"—their ability to effectively employ their weapons against friendly forces. These efforts could help to reduce the size of missile salvos Chinese forces could mount. For example, if target information is degraded or many more targets appear than are actually there, salvos will be diluted or smaller as the attacker "hedges his bets" by attacking each likely target or holding fire until the "real" target becomes clear. The concept of countering C4ISR has generated controversy given that China's battle networks for its conventional and nuclear forces are

intertwined. Nevertheless, a credible capability to counter discrete elements of an adversary's C4ISR systems—ideally using non-kinetic capabilities to inflict reversible effects—could undermine their confidence in achieving "information dominance," which Chinese analysts have written is a prerequisite for taking offensive actions. Finally, there is a need to develop a joint approach to Counter-C4ISR, which could emerge as the most important joint mission area of this century.

2. Sustain Operations Inside a Hostile A2/AD Envelope. Beyond the ability to counter hostile C4ISR systems, U.S. and allied military forces must take additional steps to improve their ability to operate inside China's growing A2/AD envelope. This will entail initiatives to harden facilities at airbases against attacks and to access to a wider range of shared military facilities in the Indo-Pacific. It will also require the development of alternative operating concepts as the U.S. Air Force and U.S. Marine Corps are now pursuing to facilitate distributed air operations from cluster airbases and *ad hoc* forward arming refueling points for short takeoff and vertical landing aircraft, as well as unconventional forward refueling at dispersal bases from transport aircraft like the C-17 and V-22. Finally, it will likely require a new generation of integrated air and missile defense systems incorporating solid-state laser and electro-magnetic rail-gun technologies. While some have argued that the United States could minimize risks to its own forces by withdrawing them from forward positions inside a hostile A2/AD zone area, doing so would call into question America's security commitments to frontline maritime allies like Japan. U.S. military forces must stay forward to reassure its allies and partners while deterring potential adversaries, but they must be more survivable and able to sustain operations under attack. At a minimum, alongside the military forces of maritime frontline states like Japan, they should be capable of denying an aggressor its immediate military objectives within the contested zone.

3. Operate from Beyond the Range of Hostile A2/AD. Complementing improvements in the U.S. military's ability to operate inside hostile A2/AD zones, U.S. air and naval forces must improve their ability to operate from far greater ranges and penetrate contested airspace and seas to find and engage the full range of land and maritime targets. While some have argued that the United States should forswear attacks on an aggressor's territory given the risks of escalation, such a policy could make war more likely as the perceived risks to the aggressor would be lower. A more prudent policy would maximize deterrence through the demonstrated ability to attack targets within an adversary's territory and littoral waters in response to aggression against U.S. or allied interests. Underwriting an enduring US conventional deterrent capability will require the fielding of several new aircraft. The Navy will need a carrier-based unmanned combat air system incorporating advanced features such as broad-band/all-aspect radar cross-section reduction for survivability, aerial refueling for extreme range and endurance, an unrefueled combat radius exceeding 1,000 miles so that tankers can stand off from hostile fighter range, a robust sensor suite to find heavily defended targets, and the largest possible weapons payload feasible in combination with the aforementioned attributes. The Air Force will also need to field a combination of two new aircraft to bolster deterrence: a new stealth bomber and a penetrating,

persistent surveillance/electronic attack system to enhance bomber lethality and survivability. These aircraft would operate as team in the medium- to deep-battlespace, while the carrier-based system would generally focus on the littorals and the shallow- to medium-battlespace. The land-based component of this new conventional airborne "triad" will also need access to a wider range of secure bases throughout the Indo-Pacific region. Submarine forces, including unmanned underwater vehicles, will also be critical for penetrating A2/AD zones from undersea to conduct surveillance and strike missions. Increasing their strike capacity—to include developing an at-sea weapons reloading capability—should be a top priority. Finally, the United States will need longer range stealthy or hypersonic standoff anti-ship and land-attack weapons that can be launched from the air, sea, and undersea, as well as by ground forces.

4. Build Up Allied and Partner A2/AD Capacities. U.S. allies and partners on the new maritime frontline in Asia should accelerate efforts to develop their own mini-A2/AD architectures to defend their own sovereignty and provide U.S. forces sanctuaries from which they could operate in a conflict. Such an archipelagic defense concept would entail allies and partners improving their ability to conduct air and sea denial operations through the use of mobile coastal artillery anti-ship missile batteries and truck-mounted air defense systems as well as the ability to conduct offensive and defensive mining operations and undersea warfare to impede hostile naval forces. Building up the A2/AD capabilities of allies and partners will make help them less susceptible to regional power projection and threats of intimidation, thereby improving regional stability. The Army and Marine Corps in particular might play prominent roles in helping build up partners' air and sea denial capacities.

5. Conduct Peripheral Operations. Finally, as a global maritime power, the United States will continue for the foreseeable future to exercise a high degree of air and sea control beyond the reach of potential adversaries' A2/AD systems. Thus, in a conflict it may have an advantage in conducting more indirect, peripheral operations such as a distant blockade. Such operations are unlikely to be a silver bullet in a major conflict. Historically, blockading alone has rarely achieved its objectives and is unlikely to compel an aggressor to withdrawal and give back its ill-gotten gains. The more effective a blockade is, moreover, the higher the likelihood that it would be perceived by the adversary as an escalatory move, akin to a direct attack on its territory. Despite these potential drawbacks, the prospect of imposing a blockade may help to deter conflict in the first place by holding out the prospect of a protracted conflict and horizontal escalation while raising the risks that an aggressor would not be able to achieve a *fait accompli*.

No single one of these elements on its own is likely to be successful in preserving the regional security balance and upholding our security commitments. It is how they are pursued in combination that will determine the overall success of our approach. Future operating concepts will likely incorporate varying degrees of all of these elements. Force development efforts, in turn, will need to be aligned with them.

***Conclusion***

Some might argue that in light of our fiscal situation this is the wrong time to introduce what amounts to a major overhaul of our power projection forces. I would argue the opposite: that a clear vision of America's future force design should inform the near-term choices the Administration and Congress will have to make about which forces and capabilities to preserve or expand as well as lower priority areas where we will have to divest and accept greater risk. Changes that begin today will take years, if not decades, to fully play themselves out. PLA modernization and the contested air, sea, land, space, and cyber environments it is creating through its multi-domain denial capabilities offers one lens for evaluating these choices with the objective of ensuring the U.S. military preserves and develops the most viable elements of its forces to remain in the power projection business.

The past decade has illustrated that even relatively small wars against opponents with unsophisticated capabilities are extremely costly. Investments made today to maintain a stable military balance in the Western Pacific, while costly in absolute terms, are a relatively inexpensive "insurance policy" against a major conflict. We have time to make the needed adjustments in our force posture, but no time to waste.

Jim Thomas is Vice President and Director of Studies at the Center for Strategic and Budgetary Assessments. He oversees CSBA's research programs and directs the Strategic and Budget Studies staff.

Prior to joining CSBA, he was Vice President of Applied Minds, Inc., a private research and development company specializing in rapid, interdisciplinary technology prototyping. Before that, Jim served for thirteen years in a variety of policy, planning and resource analysis posts in the Department of Defense, culminating in his dual appointment as Deputy Assistant Secretary of Defense for Resources and Plans and Acting Deputy Assistant Secretary of Defense for Strategy. In these capacities, he was responsible for the development of the Defense Strategy, conventional force planning, resource assessment, and the oversight of war plans. He spearheaded the 2005-2006 Quadrennial Defense Review (QDR), and was the principal author of the QDR report to Congress.

Jim began his career in national security at Los Alamos National Laboratory, analyzing foreign technological lessons learned from the first Gulf War. After serving as research assistant to Ambassador Paul H. Nitze, Jim joined the Department of Defense as a Presidential Management Intern in 1993 and undertook developmental management assignments across the Department of Defense over the next two years. From 1995 to 1998, he managed a NATO counterproliferation initiative and wrote three reports endorsed by allied foreign and defense ministers to integrate countering-WMD as a mission area into NATO post-Cold War force planning. From 1998 to 1999, he was seconded to the International Institute of Strategic Studies (IISS) in London, where he wrote Adelphi Paper 333, The Military Challenges of Transatlantic Coalitions (Oxford: Oxford University Press, 2000). From 1999 to 2001, Jim worked in the Secretary of Defense's Strategy Office, playing a lead role developing the defense strategy and force planning construct for the 2001 QDR. From 2001 to 2003, he served as Special Assistant to the Deputy Secretary of Defense. He was promoted to the Senior Executive Service in 2003.

Jim received the Department of Defense Medal for Exceptional Civilian Service in 1997 for his work at NATO, and the Department of Defense Medal for Distinguished Public Service, the department's highest civilian award, in 2006 for his strategy work.

Jim is a member of the Council on Foreign Relations and the International Institute for Strategic Studies. He holds a B.A. with high honors from the College of William and Mary, an M.A. from the University of Virginia and an M.A. from Johns Hopkins University's School of Advanced International Studies.

A former Naval reserve officer, Jim attained the rank of lieutenant commander.

**DISCLOSURE FORM FOR WITNESSES**
**CONCERNING FEDERAL CONTRACT AND GRANT INFORMATION**

**INSTRUCTION TO WITNESSES:** Rule 11, clause 2(g)(5), of the Rules of the U.S. House of Representatives for the 113th 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 Committee on Armed Services in complying with the House rule. Please note that a copy of these statements, with appropriate redactions to protect the witness's personal privacy (including home address and phone number) will be made publicly available in electronic form not later than one day after the witness's appearance before the committee.

**Witness name: Mr. Jim Thomas**

**Capacity in which appearing:** (check one)

___Individual

_X__Representative

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

Center for Strategic and Budgetary Assessments (CSBA)

**FISCAL YEAR 2013**

| federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| WHS | DOD/ONA | $1,750,200 | Assessments/analysis, wargames, and briefings on international security environment, strategic challenges, future warfare, and portfolio rebalancing |
| DLA Acquisition Directorate | National Defense University | $83,000 | Secretary of Defense Corporate Fellows Program Orientation |
| MICC ICO Carlisle Barracks | Army War College | $120,805 | Portfolio rebalancing exercises |
| WHS | National Commission on the Structure of the Air Force | $74,728 | Strategic analysis support |
| DARPA | DARPA/STO | $174,929 | Study on battle network competitions |

**FISCAL YEAR 2012**

| federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| WHS | DOD/ONA | $1,800,000 | Assessments/analysis, wargames, and briefings on international security environment, strategic challenges, future warfare, and portfolio rebalancing |
| DLA Acquisition Directorate | National Defense University | $80,000 | Secretary of Defense Corporate Fellows Program Orientation |
| CTTSO SETA | OASD (SO/LIC) | 551,000 | Future requirements and visioning |

**FISCAL YEAR 2011**

| Federal grant(s) / contracts | federal agency | dollar value | subject(s) of contract or grant |
|---|---|---|---|
| WHS | DOD/ONA | $2,300,000 | Assessments/analysis, wargames, and briefings on international security environment, strategic challenges, future warfare, and portfolio rebalancing |
| DARPA/Strategic Assessments | DARPA | $95,000 | Crisis simulation exercise in national security decision making environment |
| DLA Acquisition Directorate | National Defense University | $75,000 | Secretary of Defense Corporate Fellows Program Orientation |

**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 (2013): 5;
Fiscal year 2012: 3;
Fiscal year 2011: 3.

Federal agencies with which federal contracts are held:

Current fiscal year (2013):_____5_____;
Fiscal year 2012:_____3_____;
Fiscal year 2011:_____3_____.

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 (2013):____Research and analysis_____;
Fiscal year 2012:_____Research and analysis_____;
Fiscal year 2011:_____Research and analysis _____.

Aggregate dollar value of federal contracts held:

Current fiscal year (2013):_____$2,203,662_____;
Fiscal year 2012:_____$2,431,000_____;
Fiscal year 2011:_____$2,470,000_____.

**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 (2013):_____;
Fiscal year 2012:_____;
Fiscal year 2011:_____.

Federal agencies with which federal grants are held:

Current fiscal year (2013):_____;
Fiscal year 2012:_____;
Fiscal year 2011:_____.

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

Current fiscal year (2013):_____;
Fiscal year 2012:_____;
Fiscal year 2011:_____.

Aggregate dollar value of federal grants held:

Current fiscal year (2013):_____;
Fiscal year 2012:_____;
Fiscal year 2011:_____.

## QUESTIONS SUBMITTED BY MEMBERS POST HEARING

DECEMBER 11, 2013

## QUESTIONS SUBMITTED BY MR. FORBES

Mr. FORBES. Do you assess that the United States currently possesses a relevant and tangible National Security Strategy, Defense Strategy, and Military Strategy for successfully addressing China's growing regional and global influence? If not, why not?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Trends in China's defense spending, research and development, and shipbuilding industry suggest China will continue its naval modernization for the foreseeable future and may field the largest fleet of modern submarines and surface combatants in the Western Pacific by 2020. What factors do you recommend decisionmakers consider when determining the necessary and appropriate U.S. military force structure posture to maintain in the Asia-Pacific region?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. The PLA Navy's expanding role in military missions other than war and new willingness to operate beyond China's immediate periphery creates opportunities to enhance maritime cooperation between the United States and China. How do you believe the United States military should leverage these opportunities for increased engagement with the PLA Navy?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Regarding United States current and planned naval modernization and recapitalization programs, do you believe the Department of the Navy is on the right track to project global power in the foreseeable future for anticipated missions the Department may have to perform in the Asia-Pacific region? What is the Department doing well? What are the gaps?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. The challenges associated with fiscal resource constraints stemming from the Budget Control Act of August 2011 and subsequent sequestration will make it nearly impossible for the Department of the Navy to maintain a sufficient force structure required to meet all global power requirements in the maritime domain. In the context of the "rebalance to Asia" strategy, what maritime naval capabilities should decisionmakers consider high-priority to develop and/or maintain given limited fiscal resources to maximize flexibility and elasticity in meeting global force projection requirements in the maritime domain?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Although China's primary maritime focus remains regional, Beijing aspires to play a larger role in select global issues that will require a naval power projection capability. These ambitions are driving the development of PLA Navy capabilities to operate on a limited basis outside of the Western Pacific region. At what point in time, if ever, do you believe China will be able to project maritime global power similar to how the Department of the Navy projects naval power in the maritime domain?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. The U.S. Office of Naval Intelligence projects in an unclassified assessment that China will have between 313 and 342 submarines and surface combatants by 2020, including approximately 60 submarines that are able to employ submarine-launched intercontinental ballistic missiles or anti-ship cruise missiles. Do you believe the projected U.S. Navy attack submarine inventory will be able to sufficiently counter the submarine inventory of the PLA Navy?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to assert regional influence, and if so, how should the United States respond?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Key characteristics of international order in the Asia-Pacific region include, among other things, a rules- and norms-based system grounded in international law, the use of international law and other non-coercive mechanisms for resolving disputes, market-based economies and free trade, broadly defined global commons at sea and in the air, and freedom of operations in international waters and airspace. Do you assess that China's naval modernization effort forms part of

a broader Chinese effort to alter one or more elements of this international order, at least for the Asia-Pacific region, and if so, how should the United States respond?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. The United States has obligations to treaty allies in the Asia-Pacific region, particularly Japan, South Korea, and the Philippines, and certain obligations to Taiwan under the Taiwan Relations Act. As China continues to exert sovereignty claims in the Asia-Pacific region, such as its declared Economic Engagement Zones in the East and South China Seas and its recently declared Air Defense Identification Zone (ADIZ) in the East China Sea, how should the United States balance international obligations with China's desire to exert territorial influence in the Asia-Pacific?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. FORBES. Do you assess that the United States currently possesses a relevant and tangible National Security Strategy, Defense Strategy, and Military Strategy for successfully addressing China's growing regional and global influence? If not, why not?

Mr. O'ROURKE. Regarding potential combat operations, the subcommittee has the option of examining classified U.S. war plans and deciding whether those plans reflect a relevant and tangible U.S. wartime strategy. A related issue is whether the strategy reflected in classified U.S. war plans should be articulated publicly in unclassified form (i.e., be issued as a declarative strategy) for purposes of deterring China, reassuring U.S. allies and partners in the region, and otherwise shaping the security environment of the Asia-Pacific region.

Some observers perceive China to be implementing a concerted strategy for gradually asserting and consolidating control of its near-seas regions using measures, many implemented by Chinese Coast Guard ships, that fall short of war. The United States, in addition to periodically reiterating U.S. positions regarding the resolution of maritime territorial disputes and operational rights in EEZs, announced on December 16 an expansion of U.S. regional and bilateral assistance "to advance maritime capacity building in Southeast Asia," particularly Vietnam and the Philippines.[1] A potential oversight issue for the subcommittee would be to see whether the December 16 announcement is followed in time by other U.S. actions that might reflect a more active U.S. strategy for countering the strategy that some observers perceive China to be following for gradually asserting and consolidating control of its near-seas regions.

Mr. FORBES. Trends in China's defense spending, research and development, and shipbuilding industry suggest China will continue its naval modernization for the foreseeable future and may field the largest fleet of modern submarines and surface combatants in the Western Pacific by 2020. What factors do you recommend decisionmakers consider when determining the necessary and appropriate U.S. military force structure posture to maintain in the Asia-Pacific region?

Mr. O'ROURKE. Top-level U.S. strategic considerations that policymakers may consider in determining U.S. military force structure and posture for the Asia-Pacific region include:

- preventing the emergence of a regional hegemon in one part of Eurasia or another,
- preserving the U.S.-led international order that has operated since World War II,
- fulfilling U.S. treaty obligations, and
- shaping the Asia-Pacific region.

Additional factors that policymakers may consider include:

- the capabilities of U.S. allies and partners in the region, and the likelihood that those capabilities will be committed in crisis and conflict scenarios involving China,
- demands for U.S. forces in other parts of the world,
- constraints on U.S. defense resources,
- the benefits and costs of measures such as forward homeporting, forward stationing, multiple crewing, and crew rotation, and
- industrial-base considerations.

Mr. FORBES. The PLA Navy's expanding role in military missions other than war and new willingness to operate beyond China's immediate periphery creates opportunities to enhance maritime cooperation between the United States and China. How do you believe the United States military should leverage these opportunities for increased engagement with the PLA Navy?

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[1] Department of State, "Expanded U.S. Assistance for Maritime Capacity Building," fact sheet, December 16, 2013, accessed December 19, 2013, at: http://www.state.gov/r/pa/prs/ps/2013/218735.htm.

Mr. O'ROURKE. Cooperative maritime operations with China's navy can be used as an opportunity to:

- marginally reduce demands on U.S. Navy forces for performing certain missions (such as the anti-piracy mission),
- demonstrate the professionalism of U.S. naval personnel to Chinese personnel,
- build trust among Chinese personnel regarding U.S. intentions,
- help reinforce Chinese compliance with existing rules for operating ships and aircraft safely in proximity to one another (including the October 1972 multilateral convention on the international regulations for preventing collisions at sea, commonly known as the COLREGs or the "rules of the road," to which both China and the United States are parties),[2] and
- demonstrate to China the benefits that China receives from the current international order, and China's consequent interest in preserving that order.

Mr. FORBES. Regarding United States current and planned naval modernization and recapitalization programs, do you believe the Department of the Navy is on the right track to project global power in the foreseeable future for anticipated missions the Department may have to perform in the Asia-Pacific region? What is the Department doing well? What are the gaps?

Mr. O'ROURKE. Regarding the Navy's plans for modernizing and recapitalizing the cruise-destroyer force, the replacement of the CG(X) and DDG–1000 programs with resumed DDG–51 procurement leaves the Navy without a clear roadmap in the 30-year shipbuilding plan for accomplishing certain things for the cruiser-destroyer force that were to have been accomplished by the CG(X) and DDG–1000 programs, including but not limited to the following:

- restoring ship growth margin for accommodating future capabilities;
- introducing integrated electric drive technology into a large number of ships, particularly for supporting future high-power electrical weapons such as high-power lasers; and
- substantially reducing ship life-cycle O&S costs by, among other things, reducing crew size.

Accomplishing the above three items will depend to a large degree on when procurement of large surface combatants shifts from Flight III DDG–51s to some follow-on design, and on the features of that follow on design. Options for the next large surface combatant after the Flight III DDG–51 include a further modification of the DDG–51 design (i.e., a Flight IV design, which might include a lengthening of the hull to accommodate new systems and restore growth margin), the current DDG–1000 design or a modified version of the DDG–1000 design, and a clean-sheet design that might be intermediate in size between the DDG–51 and DDG–1000 designs.

Regarding the Navy's plans for developing and procuring new aircraft, a potential oversight item for the subcommittee concerns the mission definition for the UCLASS carrier-based unmanned aircraft. Recent press reporting suggests that there is some debate and uncertainty within the Navy regarding whether the UCLASS should be designed to be capable of penetrating capable air-defense systems.[3] Given potential constraints on Navy funding and potential future mission demands, the subcommittee may also wish to examine the future mix of strike fighters on carrier air wings. The current plan is for each air wing to include two squadrons of F/A–18E/F Super Hornets and two squadrons of F–35C Joint Strike Fighters (i.e., "2+2"). Potential alternative mixes that might be examined include 0+4, 1+3, 3+1, and 4+0.

Regarding the Navy's plans for developing and acquiring unmanned vehicles (other than the above discussed UCLASS), a potential oversight item for the Navy concerns the Navy's plans for transitioning current experiments and demonstration efforts in submarine-launched unmanned vehicles into procurement programs of record.

Regarding the Navy's plans for developing and procuring new weapons, potential oversight items include the Navy's plans for developing and procuring:

- the Long Range Anti-Ship Missile (LRASM) as a next-generation successor to the Harpoon anti-ship cruise missile;

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[2] 28 UST 3459; TIAS 8587. The treaty was done at London October 20, 1972, and entered into force July 15, 1977. A summary of the agreement is available online at http://www.imo.org/about/conventions/listofconventions/pages/colreg.aspx.

[3] For a discussion, see Dave Majumdar, "Navy Shifts Plans to Acquire a Tougher UCLASS," USNI News (http://news.usni.org), November 12, 2013; USNI News Editor, "Pentagon Altered UCLASS Requirements for Counterterrorism Mission," USNI News (http://news.usni.org), August 29, 2013.

- a long-range air-to-air missile for use by carrier-based strike fighters (no such weapon is currently planned);[4]
- the previously mentioned anti-torpedo torpedo (ATT);
- the electromagnetic rail gun, including its use as an air and missile defense weapon;
- solid-state lasers (SSLs) with beam powers of a few hundred to several hundred kilowatts that could be capable of countering anti-ship cruise missiles (ASCMs) and perhaps also anti-ship ballistic missiles (ASBMs); and
- a megawatt-class free electron laser (FEL).

Mr. FORBES. The challenges associated with fiscal resource constraints stemming from the Budget Control Act of August 2011 and subsequent sequestration will make it nearly impossible for the Department of the Navy to maintain a sufficient force structure required to meet all global power requirements in the maritime domain. In the context of the "rebalance to Asia" strategy, what maritime naval capabilities should decisionmakers consider high-priority to develop and/or maintain given limited fiscal resources to maximize flexibility and elasticity in meeting global force projection requirements in the maritime domain?

Mr. O'ROURKE. Naval capabilities that policymakers might consider as candidates for receiving priority in a context of the U.S. strategic rebalancing to the Asia-Pacific region and limits on fiscal resources include but are not limited to the following:

- platforms that can evade China's A2/AD capabilities—attack submarines and stealthy aircraft are the examples usually mentioned, but they may not be the only examples;
- capabilities of all kinds (both soft-kill and hard-kill) for breaking the kill chains of China's A2/AD weapons;
- platforms and weapons that can improve the Navy's ability to outrange China's A2/AD capabilities when needed;
- capabilities that can substantially increase surface ship magazine depth and, by dramatically reducing cost per shot, substantially improve cost-exchange ratios against China's A2/AD weapons, such as electronic warfare capabilities, other soft-kill mechanisms, electromagnetic rail guns, and lasers;
- technologies for reducing ship operation and support (O&S) costs, so that a Navy budget of a given size can more easily support a force structure of a given number of ships;
- measures (such as forward homeporting, forward stationing, multiple crewing, and crew rotation) that can increase the fraction of the fleet that can be forward-deployed sustainably (i.e., without overburdening crews or wearing out ships)—although, as mentioned earlier, the costs as well as the benefits of such measures would need to be weighed;
- capabilities that would be expensive for China to counter (i.e., so-called cost-imposing or competitive strategies)—attack submarines are often mentioned in this connection; mines and large numbers of inexpensive unmanned vehicles might additional examples;
- capabilities for performing missions that, within DOD, are performed solely or largely by naval forces, such as ASW or mine countermeasures; and
- improved capabilities for other nations in the region (particularly the Philippines and Vietnam) for maintaining maritime domain awareness (MDA) and defending territorial claims and operational rights in the South China Sea.

Regarding the first part of the question, overall Navy force structure and the 30-year shipbuilding plan will be affected in coming years not only by the future DOD budget top line as influenced by the Budget Control Act or other legislation, but also by additional factors, such as the allocation of the DOD budget top line among the military departments and by the portion of the DOD budget top line that is used for other expenses, including military pay and benefits and DOD's so-called overhead and back-office costs. Presentations from the Navy, CBO, GAO, or other sources on future Navy force structure and the 30-year shipbuilding plan sometimes appear to assume little or no change in these additional factors, perhaps because there is no specific basis that can be cited for assuming a particular change. The fact that other organizations choose to assume little or no change in these additional factors does not prevent Congress from considering such possibilities. The alternative of assuming at the outset that there is no potential for making anything more than very marginal changes in these additional factors could unnecessarily

[4] Such a missile might be broadly similar to the Advanced Air-to-Air Missile (AAAM), a long-range air-to-air missile that was being developed in the late-1980s as a successor to the Navy's long-range Phoenix air-to-air missile. The AAAM program was cancelled as a result of the end of the Cold War.

constrain options available to policymakers and prevent the allocation of DOD resources from being aligned optimally with U.S. strategy.

In a situation of reduced levels of defense spending, such as what would occur if defense spending were to remain constrained to the revised cap levels in the Budget Control Act, the affordability challenge posed by the 30-year shipbuilding plan would be intensified. Even then, however, the current 30-year shipbuilding plan would not necessarily become unaffordable.

The Navy estimates that, in constant FY2013 dollars, fully implementing the current 30-year shipbuilding plan would require an average of $16.8 billion in annual funding for new-construction ships, compared to an historic average of $12 billion to $14 billion provided for this purpose.[5] The required increase in average annual funding of $2.8 billion to $4.8 billion per year equates to less than 1% of DOD's annual budget under the revised caps of the Budget Control Act. The Congressional Budget Office estimates that, in constant FY2013 dollars, fully implementing the current 30-year shipbuilding plan would require an average of $19.3 billion in annual funding for new-construction ships, or $2.5 billion per year more than the Navy estimates.[6] This would make the required increase in average annual funding $5.3 billion to $7.3 billion per year, which equates to roughly 1.1% to 1.5% of DOD's annual budget under the revised caps of the Budget Control Act.

Some observers, noting the U.S. strategic rebalancing toward the Asia-Pacific region, have advocated shifting a greater share of the DOD budget to the Navy and Air Force, on the grounds that the Asia-Pacific region is primarily a maritime and aerospace theater for DOD. In discussing the idea of shifting a greater share of the DOD budget to the Navy and Air Force, some of these observers refer to breaking the so-called "one-third, one-third, one-third" division of resources among the three military departments—a shorthand term sometimes used to refer to the more-or-less stable division of resources between the three military departments that existed for the three decades between the end of U.S. participation in the Vietnam War in 1973 and the start of the Iraq War in 2003.[7] In a context of breaking the "one-third, one-third, one-third" allocation with an aim of better aligning defense spending with the strategic rebalancing, shifting 1.5% or less of DOD's budget into the Navy's shipbuilding account would appear to be quite feasible.

More broadly, if defense spending were to remain constrained to the revised cap levels in the Budget Control Act, then fully funding the Department of the Navy's total budget at the levels shown in the current Future Years Defense Plan (FYDP) would require increasing the Department of the Navy's share of the non-Defense-Wide part of the DOD budget to about 41%, compared to about 36% in the FY2014 budget and an average of about 37% for the three-decade period between the Vietnam and Iraq wars.[8] While shifting 4% or 5% of DOD's budget to the Department of the Navy would be a more ambitious reallocation than shifting 1.5% or less of the DOD budget to the Navy's shipbuilding account, similarly large reallocations have occurred in the past:

- From the mid-1950s to the mid-1960s, reflecting a U.S. defense strategy at the time that placed a strong reliance on the deterrent value of nuclear weapons, the Department of the Air Force's share of the non-Defense-Wide DOD budget increased by several percentage points. The Department of the Air Force's share

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[5] See *Report to Congress on the Annual Long-Range Plan for Construction of Naval Vessels for FY2014*, May 2013, p. 18.

[6] Congressional Budget Office, *An Analysis of the Navy's Fiscal Year 2014 Shipbuilding Plan,* October 2013, Table 3 (page 13).

[7] The "one-third, one-third, one-third" terminology, though convenient, is not entirely accurate—the military departments' shares of the DOD budget, while more or less stable during this period, were not exactly one-third each: the average share for the Department of the Army was about 26%, the average share for the Department of the Navy (which includes both the Navy and Marine Corps) was about 32%, the average share for the Department of the Air Force was about 30%, and the average share for Defense-Wide (the fourth major category of DOD spending) was about 12%. Excluding the Defense-Wide category, which has grown over time, the shares for the three military departments of the remainder of DOD's budget during this period become about 29% for the Department of the Army, about 37% for the Department of the Navy, and about 34% for the Department of the Air Force.

[8] Since the Defense-Wide portion of the budget has grown from just a few percent in the 1950s and 1960s to about 15% in more recent years, including the Defense-Wide category of spending in the calculation can lead to military department shares of the budget in the 1950s and 1960s that are somewhat more elevated compared to those in more recent years, making it more complex to compare the military departments' shares across the entire period of time since the end of the World War II. For this reason, military department shares of the DOD budget cited in this statement are calculated after excluding the Defense-Wide category. The points made in this statement, however, can still made on the basis of a calculation that includes the Defense-Wide category.

averaged about 45% for the 10-year period FY1956–FY1965, and peaked at more than 47% in FY1957–FY1959.

- For the 11-year period FY2003–FY2013, as a consequence of combat operations in Iraq and Afghanistan, the Department of the Army's share of the non-Defense-Wide DOD budget increased by roughly ten percentage points. The Department of the Army's share during this period averaged about 39%, and peaked at more than 43% in FY2008. U.S. combat operations in Iraq and Afghanistan during this period reflected the implementation of U.S. national strategy as interpreted by policymakers during those years.

The point here is not to argue whether it would be right or wrong to shift more of the DOD budget to the Navy's shipbuilding account or to the Department of the Navy's budget generally. Doing that would require reducing funding for other DOD programs, and policymakers would need to weigh the resulting net impact on overall DOD capabilities. The point, rather, is to note that the allocation of DOD resources is not written in stone, that aligning DOD spending with U.S. strategy in coming years could involve changing the allocation by more than a very marginal amount, and that such a changed allocation could provide the funding needed to implement the current 30-year shipbuilding plan.

As an alternative or supplement to the option of altering the allocation of DOD resources among the military departments, the 30-year shipbuilding plan could also become more affordable by taking actions beyond those now being implemented by DOD to control military personnel pay and benefits and reduce what some observers refer to as DOD's overhead or back-office costs. Multiple organizations have made recommendations for such actions in recent years. The Defense Business Board, for example, estimated that at least $200 billion of DOD's enacted budget for FY2010 constituted overhead costs. The board stated that "There has been an explosion of overhead work because the Department has failed to establish adequate controls to keep it in line relative to the size of the warfight," and that "In order to accomplish that work, the Department has applied ever more personnel to those tasks which has added immensely to costs." The board stated further that "Whether it's improving the tooth-to-tail ratio; increasing the 'bang for the buck', or converting overhead to combat, Congress and DoD must significantly change their approach," and that DOD "Must use the numerous world-class business practices and proven business operations that are applicable to DoD's overhead."[9]

One potential way to interpret the affordability challenge posed by the Navy's 30-year shipbuilding plan is to view it as an invitation by the Navy for policymakers to consider matters such as the alignment between U.S. strategy and the division of DOD resources among the military departments, and the potential for taking actions beyond those now being implemented by DOD to control military personnel pay and benefits and reduce DOD overhead and back-office costs. The Navy's prepared statement for the September 18 hearing before the full committee on planning for sequestration in FY2014 and the perspectives of the military services on the Strategic Choices and Management Review (SCMR) provides a number of details about reductions in Navy force structure and acquisition programs that could result from constraining DOD's budget to the revised cap levels in the Budget Control Act.[10] These potential reductions do not appear to reflect any substantial shift in the allocation of DOD resources among the military departments, or the taking of actions beyond those already being implemented by DOD to control DOD personnel pay and benefits and reduce DOD overhead and back-office costs.

Mr. FORBES. Although China's primary maritime focus remains regional, Beijing aspires to play a larger role in select global issues that will require a naval power projection capability. These ambitions are driving the development of PLA Navy capabilities to operate on a limited basis outside of the Western Pacific region. At what point in time, if ever, do you believe China will be able to project maritime

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[9] Defense Business Board briefing, "Reducing Overhead and Improving Business Operations, Initial Observations," July 22, 2010, slides 15, 5, and 6, posted online at: http://www.govexec.com/pdfs/072210rb1.pdf. See also Defense Business Board, Modernizing the Military Retirement System, Report to the Secretary of Defense, Report FY11–05, posted online at: http://dbb.defense.gov/Portals/35/Documents/Reports/2011/FY11-5_Modernizing_The_Military_Retirement_System_2011-7.pdf; and Defense Business Board, Corporate Downsizing Applications for DoD, Report to the Secretary of Defense, Report FY11-08, posted online at: http://dbb.defense.gov/Portals/35/Documents/Reports/2011/FY11-8_Corporate_Downsizing_Applications_for_DoD_2011-7.pdf.

[10] Statement of Admiral Jonathan Greenert, U.S. Navy, Chief of Naval Operations, Before the House Armed Services Committee on Planning for Sequestration in FY 2014 and Perspectives of the Military Services on the Strategic Choices and Management Review, September 18, 2013, pp. 6–10.

global power similar to how the Department of the Navy projects naval power in the maritime domain?

Mr. O'ROURKE. China's ability to operate naval forces in more-distant waters will likely continue to grow, but if "project[ing] maritime global power similar to how the Department of the Navy projects naval power in the maritime domain" is taken to mean a capability to operate substantial forward-deployed forces on a sustained basis in multiple ocean areas around the world, and to project substantial power ashore in one or more of those areas on a sustained basis, then I am not sure that China's navy will ever become capable of doing that, or that China's leadership would aspire to having a navy with that capability.

The missions assigned to navies reflect the national strategies of their parent countries. The ability of the U.S. Navy to operate substantial forward-deployed forces on a sustained basis in multiple ocean areas around the world, and to project substantial power ashore in one or more of those areas on a sustained basis, reflects the United States' location in the Western hemisphere and the consequent top-level U.S. strategic goal of preventing the emergence of a regional hegemon in one part of Eurasia or another. China's geographic setting and consequent national strategy differ from those of the United States, and may never require a navy that can operate substantial forward-deployed forces on a sustained basis in multiple ocean areas around the world, and project substantial power ashore in one or more of those areas on a sustained basis. China's navy will, however, likely develop a growing capability to operate in more distant waters on a focused and selective basis, and may develop a capability for projecting some amount of power ashore from those waters on a focused and selective basis.

Mr. FORBES. The U.S. Office of Naval Intelligence projects in an unclassified assessment that China will have between 313 and 342 submarines and surface combatants by 2020, including approximately 60 submarines that are able to employ submarine-launched intercontinental ballistic missiles or anti-ship cruise missiles. Do you believe the projected U.S. Navy attack submarine inventory will be able to sufficiently counter the submarine inventory of the PLA Navy?

Mr. O'ROURKE. U.S. Navy operations to counter Chinese submarines would be conducted not only by Navy attack submarines, but by aircraft and surface ships as well. Conversely, U.S. Navy attack submarines have missions other than countering submarines, such as conducting intelligence, surveillance, and reconnaissance operations, attacking land targets with Tomahawk cruise missiles, tracking and attacking surface ships, inserting and recovering special operations forces, and detecting and countering mines. So there would likely be U.S. platforms other than attack submarines countering Chinese submarines, and missions other than countering Chinese submarines being performed by U.S. attack submarines. That said, the projected attack submarine shortfall will, other things held equal, add some degree of risk during the period of the shortfall to the ability of the attack submarine force to contribute to U.S. operations for countering Chinese submarines and to perform other missions. The Navy can attempt to mitigate that risk by taking measures to maximize attack submarine availability during the period of the shortfall, such as shifting submarine maintenance work outside the shortfall period. Such measures, however, might simply spread some of the added risk to neighboring years.

Mr. FORBES. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to assert regional influence, and if so, how should the United States respond?

Mr. O'ROURKE. Yes, China's naval modernization effort forms part of a broader Chinese effort to assert regional influence. Factors that policymakers may consider in determining the U.S. response include those listed above in response to an earlier question, namely:

- the following top-level strategic considerations:
  - preventing the emergence of a regional hegemon in one part of Eurasia or another,
  - preserving the U.S.-led international order that has operated since World War II,
  - fulfilling U.S. treaty obligations, and
  - shaping the Asia-Pacific region, and
- the following additional factors:
  - the capabilities of U.S. allies and partners in the region, and the likelihood that those capabilities will be committed in crisis and conflict scenarios involving China,
  - demands for U.S. forces in other parts of the world,
  - constraints on U.S. defense resources,
  - the benefits and costs of measures such as forward homeporting, forward stationing, multiple crewing, and crew rotation, and

• industrial-base considerations.

Regarding the goal of shaping the Asia-Pacific region, some observers consider a military conflict involving the United States and China to be very unlikely, in part because of significant U.S.-Chinese economic linkages and the tremendous damage that such a conflict could cause on both sides. In the absence of such a conflict, however, the U.S.-Chinese military balance in the Asia-Pacific region could nevertheless influence day-to-day choices made by other Asia-Pacific countries, including choices on whether to align their policies more closely with China or the United States. In this sense, decisions by policymakers regarding U.S. Navy and other DOD programs (as well as other measures, including possibly non-military ones) for countering improved Chinese naval forces could influence the political evolution of the Asia-Pacific, which in turn could affect the ability of the United States to pursue goals relating to various policy issues, both in the Asia-Pacific region and elsewhere.

As noted earlier, the Philippines military in particular currently has relatively little capability for maintaining maritime domain awareness (MDA) and defending its territorial claims and operational rights in the South China Sea. In the eastern and southern portions of the South China Sea, operations by Chinese Coast Guard ships for asserting and defending China's maritime territorial claims and operational rights often go uncountered by equivalent Philippine forces. To the extent that gradual consolidation of Chinese control over parts of the Spratly Islands and other South China Sea features such as Scarborough Shoal would affect U.S. interests, policymakers may wish to consider the option of accelerating actions for expanding and modernizing the Philippines' maritime defense and law enforcement capabilities.

Mr. FORBES. Key characteristics of international order in the Asia-Pacific region include, among other things, a rules- and norms-based system grounded in international law, the use of international law and other non-coercive mechanisms for resolving disputes, market-based economies and free trade, broadly defined global commons at sea and in the air, and freedom of operations in international waters and airspace. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to alter one or more elements of this international order, at least for the Asia-Pacific region, and if so, how should the United States respond?

Mr. O'ROURKE. Views among observers on this question vary. My own assessment as an analyst is that China's naval modernization effort appears to form part of a broader Chinese effort to alter one or more elements of the current international order. Specifically, my assessment is that China appears, at a minimum, to be seeking to change the international order as it relates to freedom of operations in international waters and airspace. Although China may be seeking to do this only for the Asia-Pacific region, Chinese success in that regard would potentially have implications for other regions as well: Since international law is universal in its application, changing its application in one region would create a precedent for changing it in other regions. In addition, my assessment is that China appears to be seeking to change the international order as it relates to non-use of coercive mechanisms for resolving disputes, at least in the Asia-Pacific region. Again, views among observers on this question vary; some might assess that China's effort goes further than what I have described, while others might assess that there is no such broader Chinese effort, at least not as a matter of conscious, coordinated Chinese policy.

If policymakers judge that China's naval modernization effort forms part of a broader Chinese effort to alter one or more elements of this international order, at least for the Asia-Pacific region, there would be various options for responding. One possibility would be to recognize the issue formally and explicitly in the policymaking process and devise an integrated, cross-agency strategy for addressing it. Such a strategy might have multiple elements and involve U.S. allies and partners in the region.

Mr. FORBES. The United States has obligations to treaty allies in the Asia-Pacific region, particularly Japan, South Korea, and the Philippines, and certain obligations to Taiwan under the Taiwan Relations Act. As China continues to exert sovereignty claims in the Asia-Pacific region, such as its declared Economic Engagement Zones in the East and South China Seas and its recently declared Air Defense Identification Zone (ADIZ) in the East China Sea, how should the United States balance international obligations with China's desire to exert territorial influence in the Asia-Pacific?

Mr. O'ROURKE. In seeking to balance U.S. international obligations with China's desire to exert territorial influence in the Asia-Pacific, one key factor to keep in mind is whether China's actions are consistent with customary international law as reflected in instruments such as the United Nations Convention on the Law of the Sea (UNCLOS) and the October 1972 multilateral convention on the international regulations for preventing collisions at sea, commonly known as the COLREGs or

the "rules of the road," to which both China and the United States are parties.[11] The current international legal regime provides mechanisms for resolving maritime territorial disputes that can result in decisions in China's favor, and it provides for freedom of operations in international waters and airspace that can benefit Chinese maritime and air operations not only in China's near-seas regions, but around the world. If China's actions to exert territorial influence in the Asia-Pacific challenge the current international legal regime, it could affect the ability of the United States to fulfill its international obligations not only in the Asia-Pacific region, but in other regions as well, because, as noted earlier, international law is universal in its application, so changing its application in one region consequently would create a precedent for changing it in other regions.

Mr. FORBES. Do you assess that the United States currently possesses a relevant and tangible National Security Strategy, Defense Strategy, and Military Strategy for successfully addressing China's growing regional and global influence? If not, why not?

Dr. CROPSEY. The U.S.'s current National Security, Defense, and Military Strategy documents contain many admirable principles and desired outcomes. The documents neither explain how these outcomes will be achieved, what forces are needed to produce the outcomes, nor how much these forces will cost. Closest to a strategy for addressing China's growing regional and global influence is the current administration's idea of a "rebalance" to Asia. This is longer on soft power than the hard power needed to support it. However, current and recent U.S. efforts to improve relations with Vietnam, Myanmar, and other Southeast Asian states on China's periphery that fear it are worthwhile and should be continued and accelerated. However, this is necessary but not sufficient. China is seeking influence around the world in the form of investments, presence, cultural exchange, and foreign assistance. No sign exists that we have thought through how to address this. What's needed is an Eisenhower-like approach similar to the Solarium Project but broader in scope since China's wealth makes it a more formidable global actor than the Soviets whose ideology had a very restricted international appeal for which they had limited funds to advance in any event. Congress could play an important role in creating such a project whose ideas the current administration might not adopt. But thinking through the questions and starting to answer them would shape national attitudes and possibly the ideas of a future administration. After the "rebalance" concept comes the Air-Sea Battle concept. It is not a strategy, and does not claim to be one. The project I propose ought to have a national security team that would examine and make recommendations about U.S. security policy toward China. Again, the current administration is not likely to look kindly on a hard-headed recommendation about strategy. But, thinking ahead, this is what is needed to shape thinking and action for a future administration.

Mr. FORBES. Trends in China's defense spending, research and development, and shipbuilding industry suggest China will continue its naval modernization for the foreseeable future and may field the largest fleet of modern submarines and surface combatants in the Western Pacific by 2020. What factors do you recommend decisionmakers consider when determining the necessary and appropriate U.S. military force structure posture to maintain in the Asia-Pacific region?

Dr. CROPSEY. The under-funded U.S. submarine force that Navy's 30-year shipbuilding plans anticipates will be smaller than China's current subsurface force. During the same three decades Chinese naval modernization will continue. Even if the U.S. withdraws its commitments from the rest of the world this will put us at a numerical disadvantage compared to China which—even without its planners' admiration for the ideas of Alfred Thayer Mahan—is likely to concentrate its submarine force in the West Pacific. Decision-makers should consider this probable imbalance with particular attention because of the littoral combat ship's (which is expected to include an ASW module) vulnerability to China's growing arsenal of missiles, naval air, and the reasonable possibility that the DF–21 missile will become a useful instrument of China's anti-access/area denial strategy. Destroying Chinese subs should be the U.S. and its allies' strategic objective. This precedes using U.S. submarine-launched attacks on Chinese land targets which are likely to produce a response against U.S. territory. The more of their submarine force that is sunk the safer it will be for the U.S. to hold at risk their amphibious capability, control the island chains, and maintain their access to such strategic and sea-borne supplies as energy. U.S. decision-makers should fund not only unmanned subsurface drones that augment the capability of our current SSN force and the networking capacity

[11] 28 UST 3459; TIAS 8587. The treaty was done at London October 20, 1972, and entered into force July 15, 1977. A summary of the agreement is available online at http://www.imo.org/about/conventions/listofconventions/pages/colreg.aspx.

that multiplies their combat effectiveness, but also a large number of (relatively) inexpensive and quieter diesel-electric boats. Besides offering the U.S. submarine fleet a low-cost numerical advantage these vessels should be based or supplied from our treaty allies in the region thus offering the additional benefit of assuring them that we continue to deserve their trust. Navy will also need to make important investments in the logistics ships that are particularly important for sustaining a naval force at the western end of the Pacific. Navy's 30-year plan aims to build more logistics ships but the entire plan lies under a cloud—as Congress has noted—because of the gulf between the Navy's plans and reasonable expectations for funding the SCN account. No appropriate posture for the U.S. Pacific Fleet can reasonably ignore the necessity of resupplying ships at sea including the ability to re-arm underway. Moreover, the Flight III DDG–51-class only puts off the question of the character of Navy's surface fleet backbone. By the time they join the fleet—in the early '20s—the demand for electrical power from rail guns and laser weapons, for example, will likely have exceeded the power-generating capacity that the Flight IIIs volume can accommodate. Despite submarines' increasing importance in the West Pacific, the U.S. cannot maintain a force posture worthy of the name without a resilient and dominant surface fleet. The Zumwalt has the needed capacity including space for electrical generation. Alternatives include less expensive surface ships that perform fewer missions that can be changes in the same modular fashion as the LCS. Navy should be making and funding decisions about the surface fleet now—one hopes—guided by strategy. Finally, although the USAF is taking the increased importance of Asia seriously, the Army is well behind and shows few signs of catching up. The Army is responsible for the defending our bases in the Western Pacific from air and missile attack. Rather than concentrating on this mission the Army is looking at Asia as justification for maintaining force structure. There may be something to this in holding or retaking territory in the island chains that bracket the Asian mainland—as the Army did in WWII. But—unlike WWII—we already have good positions in WestPac. Our first priority should be to assure their safety. Decision-makers would benefit our military posture by looking more closely at the air defense of our bases in the region.

Mr. FORBES. The PLA Navy's expanding role in military missions other than war and new willingness to operate beyond China's immediate periphery creates opportunities to enhance maritime cooperation between the United States and China. How do you believe the United States military should leverage these opportunities for increased engagement with the PLA Navy?

Dr. CROPSEY. As noted above in the answer to Question 12, China's aggressive actions of the past year make this the wrong time to increase cooperation with the PLA Navy. If our goal is to encourage China to become a stakeholder in the international order we do not advance it by rewarding them for behavior that violates international norms. However, if and when China ceases territorial and armed provocations in the East and South China Seas maritime cooperation with the PLAN could include search-and-rescue, disaster relief, and humanitarian operations outside the states that border China. There can be no point in suggesting to Southeast Asian states on China's periphery that Beijing's intentions are benign. Nothing in these smaller states' history would lead them to believe it. Africa offers the best opportunity for cooperation between the U.S. and China in non-combatant maritime operations. Ice-breaking if it is needed to open or keep open sea lanes through the Arctic offers an opportunity for maritime cooperation that has relatively few political implications while it assists the most tangible benefit of U.S.-China relations, trade. This would be better than the implicit message of U.S.-China maritime cooperation in any state whose leaders could conclude that cooperation between the two navies implies American collaboration with, or approval of, Chinese foreign policy.

Mr. FORBES. Regarding United States current and planned naval modernization and recapitalization programs, do you believe the Department of the Navy is on the right track to project global power in the foreseeable future for anticipated missions the Department may have to perform in the Asia-Pacific region? What is the Department doing well? What are the gaps?

Dr. CROPSEY. In many places, as with UAVs, UUVs, rail guns, lasers, cyber security, the Navy is on the right technological track. On funding platforms the widening gulf between plans and likely funding Navy is on the wrong track. On strategy Navy is on no track at all. N3/5 has been working on revisions to the '07 maritime strategy for years and had a publishable document over a year ago. Release has been postponed due to the revolving door of admirals responsible for the document, unaccountable delays, and what appears to be a lack of interest at the senior level of the department. The revised strategy was supposed to be published last summer. This was delayed until the autumn. Last I heard release has been resched-

uled to 'sometime soon.' "Doing well" would start with a strategy from which most of everything else would flow—at a minimum the justification for modernization, weapons, networks, and platforms.

Mr. FORBES. The challenges associated with fiscal resource constraints stemming from the Budget Control Act of August 2011 and subsequent sequestration will make it nearly impossible for the Department of the Navy to maintain a sufficient force structure required to meet all global power requirements in the maritime domain. In the context of the "rebalance to Asia" strategy, what maritime naval capabilities should decisionmakers consider high-priority to develop and/or maintain given limited fiscal resources to maximize flexibility and elasticity in meeting global force projection requirements in the maritime domain?

Dr. CROPSEY. The Air-Sea Battle (ASB) rests on the notion of neutralizing China's growing anti-access/area denial capability by degrading the C4ISR network on which it depends. This would require—among other actions—striking targets on China's mainland. China has the ability to retaliate against U.S. targets. Such retaliation would escalate a conflict where U.S. strategy should seek to contain and end it as quickly as possible. A strategy that sought to contain conflict could be accomplished by seizing the key nodes of both 1st and 2nd island chains as well as securing the land areas that surround the straits through which traffic between the Middle East and Asia moves. Holding these areas assisted by naval and air support would allow us and allies to enforce a blockade with unacceptable economic consequences to China. Alternatively, American seapower could destroy the PLAN's fleet as quickly as possible. This would have both economic and far-reaching military consequences that would encourage an end to hostilities. The second strategy would require more naval forces to command the seas that surround China. There are other possible strategic approaches. They were not the subject of this question. The point is that decision-makers' ability to prioritize naval capabilities should depend on strategy. The 'rebalance to Asia' lacks one. When this problem is addressed the question of priorities and fiscal resources can be better addressed.

Mr. FORBES. Although China's primary maritime focus remains regional, Beijing aspires to play a larger role in select global issues that will require a naval power projection capability. These ambitions are driving the development of PLA Navy capabilities to operate on a limited basis outside of the Western Pacific region. At what point in time, if ever, do you believe China will be able to project maritime global power similar to how the Department of the Navy projects naval power in the maritime domain?

Dr. CROPSEY. It is not clear that China will ever be able to project maritime power globally as does the U.S. The Chinese have many obstacles to overcome: the numerical disparity between the coming generation's genders, a population that as Nick Eberstadt has put it 'will grow old before it grows wealthy,' a brittle political system, and the likelihood that they cannot sustain the economic growth of the previous 30 years for the next three decades to name a few. Any one of these will put China's continued rise in jeopardy. Together, they would stop it. However, there can be no doubt that Chinese leadership aspires to return the nation to the position of global influence it once occupied. If it can maintain its double-digit increases in GDP and surmount the serious obstacles to continued single-party rule and if U.S. seapower maintains its current descending trajectory China will be a peer-competitor—or better—before the midpoint of this century. If both nations maintain their current seapower trajectories, the best chance that China will not equal or surpass us is if they adopt Harold Mackinder's idea of controlling the Eurasian landmass and succeed in doing so. Then their markets, productive power, strategic commodities, and wealth will depend very little on the seas, and we will have other much more serious problems than vanishing seapower.

Mr. FORBES. The U.S. Office of Naval Intelligence projects in an unclassified assessment that China will have between 313 and 342 submarines and surface combatants by 2020, including approximately 60 submarines that are able to employ submarine-launched intercontinental ballistic missiles or anti-ship cruise missiles. Do you believe the projected U.S. Navy attack submarine inventory will be able to sufficiently counter the submarine inventory of the PLA Navy?

Dr. CROPSEY. I agree with Navy's general assessment that by 2020 PLAN modernization will not have matured sufficiently to overcome our technology and experience with larger numbers of vessels. But China knows its technological weakness. It has a strategy of anti-access/area denial to compensate for their current technological inferiority. And the strategy is based importantly on countering our strength asymmetrically—for example, WU–14 hypersonic glide vehicle whose testing was reported in the 13 January edition of The Washington Free Beacon. (See http://freebeacon.com/china-conducts-first-test-of-new-ultra-high-speed-missile-vehicle/)
The trend line is what we should be watching to understand if the projected U.S.

submarine inventory will be able to counter the PLAN in the future. And the trend line does not favor us for many of the reasons already noted in these answers. It is based on an unsupportable U.S. Navy shipbuilding plan, China's increasing numbers of submarines, and its ever-expanding fleet. It would be worth the effort to analyze at what point China's submarine fleet will be a match for that which the U.S. is able to dedicate to the Western Pacific.

Mr. FORBES. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to assert regional influence, and if so, how should the United States respond?

Dr. CROPSEY. I am not convinced that Chinese leadership has decided yet what role the PLAN should play globally: I am convinced they believe that China was once a major world power and want to restore it to its proper place as one. China's interest in anti-access/area denial; its investment in systems that would disrupt and degrade U.S. forces' dependence on network-centricity; its development of such weapons as the DF–21 anti-ship ballistic missile; and its military and diplomatic focus on the South and East China Seas are convincing evidence that China aims first at asserting regional influence. Regional influence will advance the larger and longer-term aim of regional hegemony. U.S. policy aimed to prevent the hegemony of a continental power in Europe from WWI through the Cold War. We have at least as great an interest in preventing it in Asia. The U.S. should respond to China's efforts through more effective alliance management aimed at convincing regional allies and friends that we will remain the dominant Pacific power; by increasing our naval presence in the region; by securing our bases against potential Chinese threats; by encouraging China—where possible—to cooperate with the U.S. in such non-combatant operations as disaster relief and humanitarian assistance; by diverting China's attention to the seas through closer diplomatic, commercial, and security ties to India and Southeast Asia; and by substantial increases in public diplomacy efforts aimed at the Chinese audience as well as public diplomacy and other efforts aimed to support the Uighurs, Tibetans, and Mongolians. U.S. policy should aim to increase the range of problems that China faces on land as a means of diverting their attention from the seas. This should also include exploiting China's reflexive imitation of American military technology by investing in defense programs whose imitation will cost China heavily as it forces the PLA to increase its investments in land warfare.

Mr. FORBES. Key characteristics of international order in the Asia-Pacific region include, among other things, a rules- and norms-based system grounded in international law, the use of international law and other non-coercive mechanisms for resolving disputes, market-based economies and free trade, broadly defined global commons at sea and in the air, and freedom of operations in international waters and airspace. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to alter one or more elements of this international order, at least for the Asia-Pacific region, and if so, how should the United States respond?

Dr. CROPSEY. China's military buildup of which naval modernization is a part of, but does not fully express, Chinese leadership's unconventional view of international order. China's leaders do not share our view that international order depends significantly on balanced power. Peer competition in China's leaders' view eliminates the possibility of true sovereignty. The global instruments that Woodrow Wilson envisioned and which were created after WWII are as inimical to true sovereignty as the ideas of sovereignty and non-interference in other state's affairs that were codified in Europe at the midpoint of the 17th century. Naval and military forces are means to intimidate neighbors and gain psychological and defacto legal advantage. Decisive defeat of an enemy remains a possibility but is as likely to be achieved by—in the example of the Western Pacific—denying the U.S. access as by traditional naval engagements. As the utility of traditional military engagements recedes such non-kinetic means as declaring limited control over international waters and airspace; and such psychological/legal instruments as active pressure to assert claims in international waters which Chinese leadership has said represent core national interests are the evolving battlefield. China's respect for international norms, as their actions in the Senkakus show, is subordinate to its leaders' pre-modern view that sovereignty rests ultimately on an imbalance, rather than a balance, of great powers. The U.S. should not abandon its hope and efforts to convince China that it can benefit from a liberal international order but should add to these a serious and sustained attempt to loosen Beijing's central authority, assert the superiority of international order based on rules, and the fundamental principles of respect for sovereignty as the West has understood and practiced it for nearly 400 years. Such efforts should be complemented by the understanding that China's leaders are not likely soon to change either their views or behavior. Our answer should be to respond in terms that Chinese leadership respects. Naval power is necessary but in

China's view not sufficient to achieve the global power they seek. Besides countering their non-kinetic approach to accomplishing their grand strategic objectives, the U.S. should also emphasize forming and preserving effective allied coalitions, increasing our diplomatic and naval presence in the region, and building a fleet that maintains the superiority we currently enjoy over the PLAN.

Mr. FORBES. The United States has obligations to treaty allies in the Asia-Pacific region, particularly Japan, South Korea, and the Philippines, and certain obligations to Taiwan under the Taiwan Relations Act. As China continues to exert sovereignty claims in the Asia-Pacific region, such as its declared Economic Engagement Zones in the East and South China Seas and its recently declared Air Defense Identification Zone (ADIZ) in the East China Sea, how should the United States balance international obligations with China's desire to exert territorial influence in the Asia-Pacific?

Dr. CROPSEY. The U.S. should balance its current international obligations against China's territorial ambitions in WestPac on several fronts but not at the expense of U.S. core interests in the Persian Gulf, Eastern Mediterranean, and Caribbean. Diminished influence in the Persian Gulf not only increases risk to our allies' energy supplies. It risks allowing Iran to hold the whip hand with the Gulf States upon which we remain dependent for oil, regional friends, and a balance to a Shia-dominated Middle East. Adding to the large energy reserves which have already been discovered off the Israeli and southern Cypriot coasts are substantial natural gas discoveries off Greece's Ionian coast. The likelihood is that scheduled exploration will produce evidence of much more natural gas in the same region. Extracting, refining, and transporting these deposits will strengthen our friends in the region, address many of their financial problems, offer alternatives to the EU's dependence on Russian-supplied energy, and provide a bulwark against the radicalization that threatens the Eastern Mediterranean littoral from Turkey to Libya. The U.S. has a very small flotilla in the Med where once we had a robust Sixth Fleet. This should be increased, not diminished to augment WestPac forces. The U.S. has a core interest in limiting the flow of drugs from South and Central America and maintaining naval presence in the Western Hemisphere. This might be decreased by a very few ships but nowhere close to the number required to counter the territorial influence that China seeks in the Asia-Pacific. U.S. policy should increase naval shipbuilding and its associated costs by reallocation of funds within the DoD budget, by substantially devolving authority to the military services for important defense functions from the currently over-centralized and over-staffed agencies in OSD, by grandfathering some benefits to military personnel, and by streamlining the heavily bureaucratized, inefficient, and needlessly complex process of designing, contracting, building, and testing military equipment. At the same time the U.S. should adopt the measures needed to counter China's psychological pressures, its regional territorial claims, and efforts to establish legal support for its claims in the South and East China Seas all of which are aimed over time to achieve the same hegemony for which force has traditionally been the primary instrument.

Mr. FORBES. Do you assess that the United States currently possesses a relevant and tangible National Security Strategy, Defense Strategy, and Military Strategy for successfully addressing China's growing regional and global influence? If not, why not?

Mr. THOMAS. The United States lacks a particular, articulated strategy for China. The NSS, Defense Strategy, and NMS are all universal in their outlooks and do not provide specific strategies with meaningful levels of detail for any particular countries or threats. These documents are not very useful in marshaling all instruments of national power to deal with a specific challenge like a long-term strategic competition with China, because they deal with multiple problems ranging from terrorism to environmental change. They also tend to list objectives without necessarily explaining how their objectives might be achieved.

Mr. FORBES. Trends in China's defense spending, research and development, and shipbuilding industry suggest China will continue its naval modernization for the foreseeable future and may field the largest fleet of modern submarines and surface combatants in the Western Pacific by 2020. What factors do you recommend decisionmakers consider when determining the necessary and appropriate U.S. military force structure posture to maintain in the Asia-Pacific region?

Mr. THOMAS. There are any number of factors that U.S. decision-makers should weigh in determining the necessary U.S. military force structure and appropriate posture to preserve the security balance in the Asia-Pacific region. Four in particular stand out in my mind.

Perhaps most importantly, decision-makers should consider the potential of any change or investment to impose disproportionate costs on a competitor. Too often

we only look at the price tag of an option to ourselves rather than consider the costs it might impose on a rival.

Another factor in determining our posture is the degree to which it is distributed so that we can sustain combat operations under attack. We have a situation today where we are putting too many of our military "eggs" in to few "baskets" in terms of forward bases in the western Pacific. Diversifying our basing and access posture would enhance deterrence and crisis stability by reducing the opportunity for an adversary to deliver a single, no warning "knockout blow."

Third, decision-makers should question our investments in terms of whether or not they increase the striking power of our forward naval and air forces. Our current investment profile is skewed too much in favor of defensive systems to protect our forces rather than increasing their combat firepower.

Finally, it is important not to overlook logistics as a factor. Decision makers should ensure that our combat logistics fleet is adequate to support high-intensity combat operations in the region. This may require increasing the number of logistics ships. It should also prompt decision makers to prioritize R&D efforts to facilitate reloading weapons at sea rather than transiting long distances back to ports.

Mr. FORBES. The PLA Navy's expanding role in military missions other than war and new willingness to operate beyond China's immediate periphery creates opportunities to enhance maritime cooperation between the United States and China. How do you believe the United States military should leverage these opportunities for increased engagement with the PLA Navy?

Mr. THOMAS. PLA Navy operations in the Gulf of Aden and elsewhere expose Chinese naval personnel to multinational operations. Such operations could be further leveraged to impress upon the PLA (N) leadership the importance of standardized protocols and procedures such as those of NATO or of Coalition Maritime Forces in the Arabian Gulf and Arabian Sea. They could also help demonstrate the importance of non-commissioned officers, the need for further professionalizing the PLA (N), and the importance of adhering to shared norms and modes of conduct in international waters. In particular, such operations could provide an opportunity for engaging "next generation" PLA (N) officers, whose worldviews may differ considerably from older generations of officers.

Mr. FORBES. Regarding United States current and planned naval modernization and recapitalization programs, do you believe the Department of the Navy is on the right track to project global power in the foreseeable future for anticipated missions the Department may have to perform in the Asia-Pacific region? What is the Department doing well? What are the gaps?

Mr. THOMAS. The DoN has made considerable progress conceptually since the advent of AirSea Battle. There remains, however, a lack of alignment between the DoN's conceptual advances and its investments. There are five main shortfall areas that should be addressed as priorities:

The first shortfall is the carrier air wing's viability in the face of A2/AD threats, such as land-based anti-ship ballistic missiles and submarine and bomber launched anti-ship cruise missiles. The current manned strike aircraft the Navy is fielding lack sufficient endurance/range and all-aspect stealth to conduct carrier flight operations from beyond ASBM range and penetrate sophisticated air defense networks. Their limited payloads, moreover, limit the number of fixed or mobile targets that can be engaged per sortie. The Navy's UCLASS program as currently envisaged still falls short of Secretary Mabus' vision of a system that can perform in highly contested environments. It is not clear it would have all-aspect stealth and its limited payload potentially would relegate it to serving only as a spotter for the carrier—a role that already can be performed by BAMS—and to serve as a communications relay point or inefficient tanker for manned strike aircraft. The UCLASS program should be reevaluated to ensure it would enable the Navy to exploit the mobility of the aircraft carrier in the Asia-Pacific region and provide a credible penetrating strike option.

The second shortfall is in terms of the Navy's surface fleet as currently envisaged. Our cruisers and destroyers devote an increasing amount of their payload volume, sensor resources and training time to defensive missions. As A2/AD threats improve, this trend will only worsen if new capabilities are not fielded to improve their defenses and relieve them of some defensive missions. Lasers and electromagnetic rail gun will be fielded as demonstration capabilities on ships over the next two years. These capabilities should be accelerated and deployed on more ships to free VLS cells for offensive strike and surface and anti-submarine attack. Also, non-kinetic missile defenses will be improved with the fielding of systems such as the Surface Electronic Warfare Improvement Program (SEWIP) Blocks 2 and 3. This deployment should be accelerated to provide surface ships a non-kinetic option to defeat enemy C4ISR and missiles, as well as conduct a range of other cyber and electromagnetic

attacks. New weapons such as the Long Range Anti-Ship Missile (LRASM) should be protected for the long-term, while in the near-term the SM–6 surface-to-air missile should be made surface and land-attack capable to increase the offensive capacity of the ships' main battery. Cruisers and destroyers should be relieved of defensive escort missions they may be tasked with in a conflict by developing an escort frigate. By providing limited area air defense and ASW capability for convoys and logistics ships, a frigate will free cruisers and destroyers, with their greater weapon and sensor capacity, to focus more on offensive missions.

Undersea warfare represents a third shortfall. The DoN has greatly increased the capability and affordability of the Virginia class submarine, with the Virginia Payload Module being the most important upcoming improvement. But there are limits to a submarine-centric approach to undersea warfare. While few navies do ASW well, new sensors, the processing power of "big data," and improving long-range precision weapons will make ASW easier for more fleets. We should look past the submarine being the tactical-level unit in the undersea fight and further develop the family of undersea systems including UUVs, unmanned fixed and mobile sensors, and aircraft and surface ship sensors. With improvements in automation and energy storage, unmanned systems will become more practical as tactical units, while manned submarines will increasingly be operational-level platforms as the carrier or "big-deck" amphibious ship is today.

The fourth shortfall is in munitions. As precision defensive weapons systems become more common, successfully striking an enemy target will require an increasing number of attack weapons. This will put a premium on large magazines, reliable logistics, and at-sea reload systems. These capabilities will only be useful, however if the number and type of munitions is able to keep up with the demands of a high-tempo operation. Our current weapons need greater range and survivability to reduce the number of weapons needed to successfully attack a defended target. At the same time, overall munitions inventories need to be increased, at-sea reload capability developed, and more magazine space afforded to offense to enable the Navy to sustain operations in high-intensity combat.

The fifth change needed is in expeditionary warfare. The Marine Corps would be called on in future Asia-Pacific conflicts to conduct a wide range of amphibious operations that do not include a large, multi-brigade amphibious assault. While the Marine Corps has stated they see this emerging need, the DoN's investments and plans do not yet reflect the changing nature of amphibious operations. These new operations include establishing and sustaining austere rearming and refueling bases for F–35B aircraft or conducting raids to eliminate coastal anti-ship cruise missiles and ISR stations. At the lower end of warfare, Marines will be needed to stand by in a growing number of locations to evacuate Americans from unstable countries while continuing to be first responders to humanitarian disaster. These trends argue for changes in the makeup of the ARG/MEU, better expeditionary logistics and perhaps a larger and more diverse set of ships capable of conducting amphibious operations. While the DoN has talked about the intent to do this, no concrete action has yet been taken.

Mr. FORBES. The challenges associated with fiscal resource constraints stemming from the Budget Control Act of August 2011 and subsequent sequestration will make it nearly impossible for the Department of the Navy to maintain a sufficient force structure required to meet all global power requirements in the maritime domain. In the context of the "rebalance to Asia" strategy, what maritime naval capabilities should decisionmakers consider high-priority to develop and/or maintain given limited fiscal resources to maximize flexibility and elasticity in meeting global force projection requirements in the maritime domain?

Mr. THOMAS. The budget reductions of the BCA and subsequent Bipartisan Budget Agreement do not prevent DoN from making the most important investments for the future while accepting some reductions in near-term capacity. Large-scale conflict is unlikely in the next few years but the advance and proliferation of A2/AD capabilities will require the future fleet to be able to project power in the face of sophisticated defenses and while being attacked by long-range precision weapons. Four areas are especially important:

1. UCLASS: This aircraft will need to be a survivable long-range strike system with enough payload to destroy defended targets. If the aircraft is not long-range or survivable, the carrier will be unable to exploit its major advantage over land bases: mobility. Short-range tactical aircraft and UAVs will not be able to penetrate an adversary air defense envelope from far enough away for the carrier to be able to effectively conduct operations.

2. Submarines and UUVs: The DoN should accelerate development of a broader family of undersea systems including unmanned vehicles, weapons, sensors, communications and command and control systems.

3. Weapons: The Navy should accelerate defensive weapons that do not place demands on missile magazines such as lasers, railgun and high-powered microwave. On offense, long-range survivable weapons able to defeat defended targets are needed such as LRASM, SM–6 (for surface attack) and intermediate-range conventional ballistic missiles. With respect to the munitions inventory, DoD should sustain sufficient production capacity to enable increased procurement in the 2020s.

4. Logistics: Adversary A2/AD capabilities will threaten traditional "just-in-time" supply chains, while defended targets will require an increasing number of munitions to destroy. The Navy's current logistics approach will need to be more robust, with more CLF ships, dedicated (i.e., frigate) escorts, protected communications and an at-sea reload capability.

Mr. FORBES. Although China's primary maritime focus remains regional, Beijing aspires to play a larger role in select global issues that will require a naval power projection capability. These ambitions are driving the development of PLA Navy capabilities to operate on a limited basis outside of the Western Pacific region. At what point in time, if ever, do you believe China will be able to project maritime global power similar to how the Department of the Navy projects naval power in the maritime domain?

Mr. THOMAS. Extra-regional maritime power projection probably remains a generational challenge for the PLA. The PLA is unlikely to follow the U.S. military playbook and may adopt different approaches to power projection. It will require developing new training pipelines, establishing a professional cadre of non-commissioned officers, constructing a maintenance infrastructure that exceeds the PLA's current maintenance posture, creating a rotational base to support overseas deployments, and establishing a network of overseas bases and facilities to support a more global military presence. There are enormous challenges associated with each of these steps. Global naval force projection would require success in all of them, which may take several decades.

Mr. FORBES. The U.S. Office of Naval Intelligence projects in an unclassified assessment that China will have between 313 and 342 submarines and surface combatants by 2020, including approximately 60 submarines that are able to employ submarine-launched intercontinental ballistic missiles or anti-ship cruise missiles. Do you believe the projected U.S. Navy attack submarine inventory will be able to sufficiently counter the submarine inventory of the PLA Navy?

Mr. THOMAS. While the U.S. submarine inventory should not be allowed to shrink below the Navy's requirement and ideally should be expanded, our submarines are only a small part of countering adversary submarines. ASW is primarily conducted by aircraft such as the P–8A and MH–60R, surface ships such as the DDG–51 and LCS with the Multifunction Towed Array and SQQ–89 sonar processor, and an integrated system of manned and unmanned sensors operated from ships and on the ocean floor. The DoN continues to make robust investments in this family of ASW systems, but this "traditional" approach to ASW, developed through World War II and the Cold War, will need to change in light of the long reach of adversary submarine weapons. The Navy will need to exploit advances in sensors and processing to detect enemy submarines farther from U.S. forces and employ new approaches to prevent attacks that focus on denying enemy submarines an attack opportunity as much as trying to sink them outright.

Mr. FORBES. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to assert regional influence, and if so, how should the United States respond?

Mr. THOMAS. China's naval modernization effort buttresses its political aim to expand its regional influence in several ways. First, it confers capabilities that underwrite China's counter intervention strategy aimed at restricting U.S. access and denying it naval mastery in the western Pacific. Second, it provides options for China to gain local sea control and conduct limited regional force projection operations in its near seas.

The U.S. response should include efforts to preserve or expand its most viable power projection options, such as extending the reach and striking power of its carriers, expanding the strike capacity of its undersea forces, and pursuing game changing technologies such as electro-magnetic railgun and directed energy systems that could provide new defensive options for the surface fleet. The United States should also encourage its allies and regional partners to develop their own forms of A2/AD systems, such as land-based anti-ship missile batteries and mobile air defense systems to defend their sovereign territorial waters and airspace in the face of China's maritime expansion.

Mr. FORBES. Key characteristics of international order in the Asia-Pacific region include, among other things, a rules- and norms-based system grounded in international law, the use of international law and other non-coercive mechanisms for

resolving disputes, market-based economies and free trade, broadly defined global commons at sea and in the air, and freedom of operations in international waters and airspace. Do you assess that China's naval modernization effort forms part of a broader Chinese effort to alter one or more elements of this international order, at least for the Asia-Pacific region, and if so, how should the United States respond?

Mr. THOMAS. China's naval modernization provides a coercive backstop for its non-military efforts to gradually alter the rules and norms of the international system in ways that disproportionally favor China. An important part of the U.S. response should be bolstering frontline maritime states in Asia so that they are less susceptible to Chinese coercion. Ultimately, international rules and norms may continue to evolve as they have throughout history, but the United States has an interest in opposing unilateral efforts by any state to alter them.

Mr. FORBES. The United States has obligations to treaty allies in the Asia-Pacific region, particularly Japan, South Korea, and the Philippines, and certain obligations to Taiwan under the Taiwan Relations Act. As China continues to exert sovereignty claims in the Asia-Pacific region, such as its declared Economic Engagement Zones in the East and South China Seas and its recently declared Air Defense Identification Zone (ADIZ) in the East China Sea, how should the United States balance international obligations with China's desire to exert territorial influence in the Asia-Pacific?

Mr. THOMAS. The United States should make clear that it stands with its allies and regional partners in defending their sovereignty and that it opposes any unilateral moves to alter the geo-political status quo of the region. This entails bolstering the capabilities of allies and partners to defend themselves more effectively against acts of coercion or aggression. Increasingly, this requires helping allies and partners to deal with incremental paramilitary maritime encroachments. Allies and partners will need to respond in kind, by beefing up their own paramilitary surveillance forces and coast guards, as well as improving their military capabilities for air and sea denial if crises escalate.

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## QUESTIONS SUBMITTED BY MR. LANGEVIN

Mr. LANGEVIN. Given the renewed focus on PLA Navy submarine construction, do you believe that our current investments in undersea warfare and ASW capabilities and training is sufficient? If not, what shortfalls are most concerning?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. LANGEVIN. The United States has enjoyed a significant advantage in C4ISR capabilities, but China has made significant efforts to acquire those same capabilities. Can you please provide additional insight as to what this means as far as enabling their other modernization investments, as well as areas where Chinese C4ISR is still lacking?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. LANGEVIN. Foreign Military Sales (FMS) programs serve both as a boon to the domestic defense industry and our relationships with foreign partners. What additional opportunities exist for the enhancement of foreign military sales to other countries in the region who are wary of China's increasing activity?

Dr. ERICKSON. [The information was not available at the time of printing.]

Mr. LANGEVIN. In what ways can we encourage additional productive Chinese contributions to international security mechanisms?

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Mr. LANGEVIN. Given the renewed focus on PLA Navy submarine construction, do you believe that our current investments in undersea warfare and ASW capabilities and training is sufficient? If not, what shortfalls are most concerning?

Mr. O'ROURKE. Proficiency in ASW takes effort to develop and maintain, and can erode quickly in the absence of periodic training and exercises. Since the end of the Cold War, Navy officials from time to time have expressed concern over erosion of the fleet's ASW proficiency. The Navy in recent years has increased ASW exercises and training, particularly in the Pacific fleet, with the goal of improving the fleet's ASW proficiency. Sustaining a high state of ASW proficiency will require continued devotion of resources to ASW training and exercises.

ASW and undersea warfare are conducted by aircraft, surface ships, submarines, and unmanned vehicles, using various sensors and weapons. Consequently, ASW and undersea warfare encompass a large number of platform and equipment programs. Observers might focus on various programs as items that might deserve increased oversight attention. In my own work, I have called attention to the projected attack submarine shortfall (an issue I first identified in 1995 and have testified and reported on each year since) and to the value of fielding, sooner rather than later,

an anti-torpedo torpedo (ATT) that would give Navy surface ships a hard-kill option for countering wake-homing torpedoes, which are not very susceptible to soft-kill countermeasures such as decoys. The projected IOC date for the ATT has shifted back and forth from one budget submission to the next in recent years, partly due to changes in funding profiles. Another area of potential focus for the subcommittee are submarine-launched unmanned aerial vehicles (UAVs) and unmanned underwater vehicles (UUVs), which have the potential for extending the reach and mission capabilities of attack submarines. The Navy for the last several years has conducted numerous experiments and demonstrations with various submarine-launched UAVs and UUVs, but has not often transitioned these efforts into procurement programs of record.

Mr. LANGEVIN. The United States has enjoyed a significant advantage in C4ISR capabilities, but China has made significant efforts to acquire those same capabilities. Can you please provide additional insight as to what this means as far as enabling their other modernization investments, as well as areas where Chinese C4ISR is still lacking?

Mr. O'ROURKE. The fielding of improved C4ISR systems will improve China's ability to detect, identify, and track adversary ships and aircraft, and then target and attack them with anti-ship and anti-aircraft weapons, particularly longer range weapons such as the ASBM. More generally, the fielding of improved C4ISR systems will permit China to operate its ships and aircraft in a more networked fashion, and thereby improve their collective capability. In these ways, improved C4ISR capabilities will permit China to increase the utility of China's ships, aircraft, and weapons, and help complete and make more robust the kill chains that China needs to execute to employ its weapons, especially at longer ranges. Although China is fielding improved C4ISR capabilities, China's potential C4ISR weaknesses include a lack of operational experience in using these systems (particularly in joint operations and combat situations) and the susceptibility of these systems to countermeasures such as jamming, spoofing, computer network attack, and electromagnetic pulse.

Mr. LANGEVIN. Foreign Military Sales (FMS) programs serve both as a boon to the domestic defense industry and our relationships with foreign partners. What additional opportunities exist for the enhancement of foreign military sales to other countries in the region who are wary of China's increasing activity?

Mr. O'ROURKE. The United States could use FMS arrangements to sell frigates, corvettes, patrol craft, land- and sea-based manned aircraft, land- and sea-based UAVs, land-based radars, and command and control systems to countries in the region, particularly the Philippines and Vietnam, with the aim of improving their ability to maintain maritime domain awareness (MDA) and defend their territorial claims and operational rights in the South China Sea. The Philippines military, in particular, currently has relatively little capability for doing these things. In the eastern and southern portions of the South China Sea, operations by Chinese Coast Guard ships for asserting and defending China's maritime territorial claims and operational rights often go uncountered by equivalent Philippine forces. To the extent that gradual consolidation of Chinese control over parts of the Spratly Islands and other South China Sea features such as Scarborough Shoal would affect U.S. interests, policymakers may wish to consider the option of accelerating actions for expanding and modernizing the Philippines' maritime defense and law enforcement capabilities.

Potential FMS options for surface ships include but are not limited to variants of U.S. Navy Littoral Combat Ships (LCSs), variants of U.S. Coast Guard National Security Cutters (NSCs), Fast Response Cutters (FRCs) and (starting a few years from now) Offshore Patrol Cutters,[12] or variants of other ships that have been built in the United States for foreign navies, such as the SAAR 5-class corvettes that were built in the 1990s for Israel and the Ambassador IV-class fast attack craft that are currently being built for Egypt.

Mr. LANGEVIN. In what ways can we encourage additional productive Chinese contributions to international security mechanisms?

Mr. O'ROURKE. With regard to maritime operations, additional productive Chinese contributions to international security mechanisms can be encouraged through participation in anti-piracy operations, search-and-rescue operations, humanitarian assistance/disaster response (HA/DR) operations, multilateral exercises, international fora such as Western Pacific Naval Symposium (WPNS) and the North Pacific Coast Guard Forum (NPCGF), and bilateral military-to-military discussions. A Chinese

[12] For more on the NSC, FRC, and OPC programs, see CRS Report R42567, *Coast Guard Cutter Procurement: Background and Issues for Congress,* by Ronald O'Rourke.

navy frigate will reportedly help provide security for the U.S. government ship that will be used to destroy Syria's chemical weapons.

Mr. LANGEVIN. Given the renewed focus on PLA Navy submarine construction, do you believe that our current investments in undersea warfare and ASW capabilities and training is sufficient? If not, what shortfalls are most concerning?

Dr. CROPSEY. Even if the funds are available to build one or two Virginia-class SSNs annually from 2014 to 2043—and both the Congressional Research Service and Congressional Budget Office identify shortfalls between traditional funds available for SCN and what the Navy must spend to execute the current 30-year plan—the U.S. combat fleet will include fewer SSNs in FY43 than China's navy operates today. China is modernizing its submarine fleet and will not only increase its size but enjoy the advantage of being able to concentrate the overwhelming majority of its subsurface fleet in waters immediately adjacent to the mainland. Unless the U.S. ends or greatly diminishes its current distributed global presence it will still need submarines to patrol other parts of the world such as the Persian Gulf and the Mediterranean. This is likely to create a strategically significant difference between U.S. and Chinese attack sub capabilities in the South and East China Seas. Under current plans, this is the greatest shortfall. Changing the balance in favor of the U.S. might in part be accomplished by the ASW capability of surface ships except that many of those we are planning to build (LCS) lack sufficient protection from the threat of China's growing missile and naval air forces.

Mr. LANGEVIN. The United States has enjoyed a significant advantage in C4ISR capabilities, but China has made significant efforts to acquire those same capabilities. Can you please provide additional insight as to what this means as far as enabling their other modernization investments, as well as areas where Chinese C4ISR is still lacking?

Dr. CROPSEY. China's once inconsiderable amphibious capability has developed impressively along with its sheer number of missiles and other platforms that threaten Taiwan. China's military is being modernized. The modernization includes substantive improvements in Chinese C4ISR. Improvements in military hard- and software have diminished the security Taiwan once enjoyed as a result of its superior technology. The example demonstrates that China can narrow the gap between itself and those of its potential adversaries who are technically superior. C4ISR is also critical to China's DF–21 missile. The missile narrows the same gap between China and U.S. military technology. If someone had suggested 20 years ago that China would be able to field a weapons system that might be able to target U.S. aircraft carriers underway at sea at a distance of 1000 miles, most experts would have been amused. They are less so today. There is no reason to doubt that China's C4ISR capabilities will substantially improve in the future.

Mr. LANGEVIN. Foreign Military Sales (FMS) programs serve both as a boon to the domestic defense industry and our relationships with foreign partners. What additional opportunities exist for the enhancement of foreign military sales to other countries in the region who are wary of China's increasing activity?

Dr. CROPSEY. Had the F–22 production line not been closed, the planes should be sold to Japan through foreign military sales. But this is moot. More important than FMS is the defense industrial base integration with Japan that would allow, to name one example, Japan to manufacture the SM–3 missile and sell it to us and other allies thus incorporating Japan into the international defense base that helps supply the hardware on which democratic states depend for their defense. A parallel point applies to Taiwan whose geographic position in the middle of the first island chain offers the U.S. a salient in any conflict as did England's position relative to the continent in WWII. This is particularly important to U.S. and allied security because control of the first island chain in China's likely long-term plan precedes control of the second island chain (linking the Ogasawara island chain with Guam and Indonesia) and finally achieving dominant power status in the Pacific and Indian Oceans. The fall or effective Finlandization of Taiwan would be a giant stride in China's far-seeing strategy. Taiwan has respectable military force and wants submarines to protect against amphibious assault and blockade. Our nuclear boats are not a realistic option for the Taiwanese, although such air-independent propulsion boats as the German company's ThyssenKrupp Type 218SG are. No less important are the C4ISR systems which would allow the U.S. and Taiwan forces to conduct combined operations. Taiwan doesn't have these and should. The U.S. ought to encourage Taiwan to buy them through FMS and should use the FMS program aggressively to assure Taiwan's—and thus, our—security.

Mr. LANGEVIN. In what ways can we encourage additional productive Chinese contributions to international security mechanisms?

Dr. CROPSEY. The U.S. has invited China to participate in the naval exercise RIMPAC 2014. Chinese students attend the Asia-Pacific Center in Honolulu. Chi-

nese naval officers regularly join in various functions at the Naval War College in Newport. Chinese naval vessels have participated for years in multi-national anti-piracy operations off the Horn of Africa. At the same time, China has recently declared limited control over large portions of international waters in the South China Sea and airspace over the East China Sea. A Chinese vessel escorting their aircraft carrier, Liaoning, crossed the bow of the guided missile cruiser U.S.S. Cowpens which narrowly avoided a collision in December 2013. And China has been sending patrol ships and aircraft into the territorial space of the contested Senkaku Islands, whose sovereignty as Japanese territory the U.S. recognizes. Dismissing this as a regional spat of no significance compared to trade between the U.S. and China ignores what Beijing sees in the matter: an example of successful execution of its "Three Warfares" strategy which, based on the idea that nuclear/kinetic warfare is increasingly irrelevant to achieving large strategic objectives, seeks to use psychological pressure, the murky sphere of international law, and resource claims to accomplish such goals as control over the Senkaku Islands. China's success there would validate its Three Warfares strategy, invite more of the same, and demonstrate the shallowness of Washington's security commitment to Tokyo. Asking China to participate in additional international security mechanisms now would send a message that the U.S. has all but abandoned its long-standing policy of encouraging China to become a "stakeholder" in the international order that their aggressive behavior contradicts. Continued U.S. efforts to persuade China to become a stakeholder in the international order should be carefully examined as should competitive strategies that would exploit the PLA's historic imitation of U.S. technology by encouraging China's military to make costly investments in technologies that produce no strategic advantage over the U.S. or our allies. But China's aggressive actions of the past year suggest that this is the wrong time to reward China by including it in additional international security mechanisms.

Mr. LANGEVIN. Given the renewed focus on PLA Navy submarine construction, do you believe that our current investments in undersea warfare and ASW capabilities and training is sufficient? If not, what shortfalls are most concerning?

Mr. THOMAS. I am concerned about the programmed shrinking of our attack submarine fleet, as well as the impending retirement of our SSGNs without replacement. A larger submarine force could be an important element in a competitive strategy for competing with the PLA longer term. As one of the most effective means of penetrating hostile maritime A2/AD perimeters, it would make sense to reduce the reliance on submarines for ASW. Using SSNs for ASW incurs an opportunity cost in terms of foregone strike payloads and training time. Looking ahead, we should reduce our reliance on submarines to conduct ASW and rely more heavily on relatively more cost-effective surface and air systems, as well as unattended undersea surveillance networks. U.S. investment strategy should be informed by the potential challenge of having to detect, track and engage large numbers of submarines that might be flushed from their pens in crisis, as well as the opportunity to develop an undersea "family of systems" including manned and unmanned underwater systems, as well as new classes of submarine-launched weapons and undersea sensors.

Mr. LANGEVIN. The United States has enjoyed a significant advantage in C4ISR capabilities, but China has made significant efforts to acquire those same capabilities. Can you please provide additional insight as to what this means as far as enabling their other modernization investments, as well as areas where Chinese C4ISR is still lacking?

Mr. THOMAS. C4ISR systems represent a foundational capability to enable China's whole approach to A2/AD and a core component of China's "battle network" that enables the PLA's arsenal of precision-guided ballistic and cruise missiles, and other strike systems. They are critical to detect, locate and track targets, as well as to transmit such information to and from headquarters and to support battle management. The PLA has made great strides improving its ability to detect and monitor naval targets at long ranges (e.g., beyond 200 miles) with a variety of land-, sea-, air-, and space-based sensors. It is unclear, however, how mature the PLA's efforts are to integrate its ISR sensors to enable cross-cueing. Sensor integration is critical, in particular, for an effective "kill chain" to support anti-ship ballistic missile attacks.

Mr. LANGEVIN. Foreign Military Sales (FMS) programs serve both as a boon to the domestic defense industry and our relationships with foreign partners. What additional opportunities exist for the enhancement of foreign military sales to other countries in the region who are wary of China's increasing activity?

Mr. THOMAS. Two areas stand out thematically when it comes to future FMS. First, it is in the U.S. interest to encourage allies and partners to expand their surveillance and early warning coverage of their sovereign territorial waters and air-

space. Second, as the United States already done with the sale of JASSM to Finland and SM–3 to Japan, it should consider FMS to expand the missile defense and strike options available to allies and partners in the region so that they can more equitably share the risks and responsibilities of collective defense with the United States.

Mr. LANGEVIN. In what ways can we encourage additional productive Chinese contributions to international security mechanisms?

Mr. THOMAS. There are a number of areas where the United States and China would benefit from closer cooperation, and where China could make greater contributions. No country is better positioned to influence North Korea and move that country toward denuclearization and internal reform. China could also play a constructive role in helping to defuse Indo-Pakistani tensions and refocus Pakistan's military and intelligence service toward addressing jihadist threats internally.

In East Asia, there are two major steps China could take that would contribute significantly to international peace and security. First, China could join the United States and Russia in the Intermediate Nuclear Forces treaty and relinquish its stockpile of intermediate-range ballistic missiles, which are destabilizing the regional security balance. Second, China should sign codes of conduct with its maritime neighbors to govern maritime activities and reduce the potential for incidents at sea.

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