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**THE NAVY'S READINESS POSTURE**

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HEARING

BEFORE THE

SUBCOMMITTEE ON READINESS

OF THE

COMMITTEE ON ARMED SERVICES  
HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

SECOND SESSION

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HEARING HELD  
MARCH 22, 2012



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# CONTENTS

## CHRONOLOGICAL LIST OF HEARINGS

2012

	Page
HEARING:	
Thursday, March 22, 2012, The Navy's Readiness Posture .....	1
APPENDIX:	
Thursday, March 22, 2012 .....	25

### THURSDAY, MARCH 22, 2012

#### THE NAVY'S READINESS POSTURE

##### STATEMENTS PRESENTED BY MEMBERS OF CONGRESS

Bordallo, Hon. Madeleine Z., a Delegate from Guam, Ranking Member, Subcommittee on Readiness .....	3
Forbes, Hon. J. Randy, a Representative from Virginia, Chairman, Subcommittee on Readiness .....	1

##### WITNESSES

Architzel, VADM David, USN, Commander, Naval Air Systems Command, U.S. Navy .....	6
Burke, VADM William R., USN, Deputy Chief of Naval Operations, Fleet Readiness and Logistics (N4), U.S. Navy .....	5
McCoy, VADM Kevin, USN, Commander, Naval Sea Systems Command, U.S. Navy .....	7

##### APPENDIX

###### PREPARED STATEMENTS:

Burke, VADM William R., joint with VADM David Architzel and VADM Kevin McCoy .....	32
Forbes, Hon. J. Randy .....	29

###### DOCUMENTS SUBMITTED FOR THE RECORD:

[There were no Documents submitted.]

###### WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING:

Ms. Bordallo .....	53
Mr. Forbes .....	53
Mr. Scott .....	54

###### QUESTIONS SUBMITTED BY MEMBERS POST HEARING:

Ms. Bordallo .....	65
Mr. Forbes .....	57
Mr. Loeb sack .....	66



## THE NAVY'S READINESS POSTURE

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HOUSE OF REPRESENTATIVES,  
COMMITTEE ON ARMED SERVICES,  
SUBCOMMITTEE ON READINESS,  
*Washington, DC, Thursday, March 22, 2012.*

The subcommittee met, pursuant to call, at 10 a.m. in room 2212, 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 READINESS**

Mr. FORBES. I want to welcome all of our members and our distinguished panel of experts to today's hearing that will focus on the Navy's readiness posture in the context of the fiscal year 2013 budget request. I welcome this discussion and the opportunity to dive into the details of the fiscal year 2013 President's budget submission for the Navy readiness accounts.

First, and foremost, I commend the Navy for its sustained focus and improvements to surface ship maintenance led by the surface maintenance engineering planning and procurement activity. The rigor that has been introduced into the process facilitates a more comprehensive, standardized, and accurate assessment of fleet maintenance requirements, and requisite investments in the operation and maintenance accounts.

In the next few years we look forward to seeing the full impact of actions taken as a result of the Balisle report, but the indications are positive, and progress has been steady and measurable in that short period of time.

Meanwhile, naval aviation has remained relatively constant with a level aircraft inventory and steady maintenance requirements. However, in the fiscal year 2013 request, I am concerned that we decreased the funding in this account from fiscal year 2012 levels by \$36 million, resulting in a backlog of 74 airframes and 170 engines.

We recognize the challenge the Navy has in balancing the maintenance requirements for both new and aging systems in its inventory, and the logistics tail associated with parts availability. The readiness trends for full-mission capability rates suggests less than satisfactory performance, but I look forward to discussing that later in the context of this hearing to garner a greater insight into the rates reflected in the most recent quarterly readiness report.

Despite relatively level funding, I remain concerned that we often are robbing Peter to pay Paul. The Navy has been operating in a sustained surge for the past few years. We have been burning

out our ships more quickly because the demand has been high. The strategic pivot to the Pacific would result in continued, if not increased demand for these assets in a maritime environment. And the fiscal year 2013 budget request includes an increase in ship operations to 58 steaming days per quarter for deployed units, and 24 for nondeployed units with base and OCO [Overseas Contingency Operations] funding.

In my estimation, this situation does not lead one to logically conclude that it is an appropriate time to retire additional assets, particularly when the existing force structure only satisfies 53 percent of the total combatant commander demand in fiscal year 2012, if the Navy proposed a top line of 285 ships this year, and possibly through 2017. And Secretary Panetta said it is his hope to increase the fleet to 300 ships. The Navy already anticipated the retirement and deactivation of 16 ships over fiscal year 2013 to fiscal year 2014; however, with this budget the Navy announced its proposal to retire an additional 2 amphibious ships and 7 cruisers, 6 of which lacked ballistic missile defense capability, across fiscal year 2013 and fiscal year 2014.

Excluding the USS *Port Royal*, the committee has estimated that the approximate cost to upgrade the assets and sustain them in each respective fiscal year would be \$592 million in fiscal year 2013, plus an additional \$859 million in fiscal year 2014. By only an estimate the cost to retain those eight assets is significantly cheaper than the price for one new destroyer, for example, at more than \$2 billion.

Admiral McCoy, last year before this very subcommittee, you stated that the cheapest way to afford our Navy with the force structure that we need is to maintain the ships we already have, and the age of these ships is well before the 35 to 40 years expected service life. The cruisers proposed for retirement have approximately 13 to 15 years of expected service life remaining, and the amphibious ships have approximately 13 to 18 years remaining, so why would the Navy propose to reduce the fleet size at a time when all trends indicate the demand is increasing?

We do not expect the budget to get any better, and, in fact, reflecting on the unfunded requirements in fiscal year 2012, I know that the Navy is now forced to deal with an additional \$939 million shortfall due to the difference between the Department's projected fuel cost and actual cost. I look forward to hearing how you will deal with that bill. And I recognize that the Navy is a consumer of the fuel and does not dictate the prices; however, that amount is not inconsequential, and it wreaks havoc during the year of execution, regardless of your budget posture when presenting it to Congress for consideration. Put into perspective, the cost of that shortfall would cover approximately 65 percent of the amount required for upgrading the cruisers and retaining the amphibs [amphibious assault ships] proposed for early retirement in fiscal years 2013–2014.

In my estimation, the proposal to reduce force structure at a time when the demand for Navy assets is increasing creates a risk that I am not prepared to accept. It is a proposal that is fraught with danger and will not only degrade the readiness of our forces, but

will burn out the assets we have even quicker, while reducing availability to support combatant commander demands.

Let me also be clear on this: I will oppose any initiative that seeks to undermine the preeminence of our military. I will oppose any effort that breaks faith with our service members and veterans, and I will oppose any effort that seeks to diminish the capabilities of our naval forces. Speaking for myself and what I believe is the majority of Americans, our Nation cannot afford additional reductions in our military.

As to the request that is before our subcommittee this morning, I look forward to better understanding the reason the Administration believes that the Navy can do more with less. In my initial assessment of this issue, I believe that not only is our current force structure insufficient, but the future reductions of fleet assets with approximately 40 percent of their service life remaining compromises military readiness for the future.

Joining us today to discuss the Navy's readiness posture are three very distinguished gentlemen: Vice Admiral William Burke, the newly appointed Deputy Chief of Naval Operations and Warfare Systems; Vice Admiral Kevin McCoy, Commander, Naval Sea Systems Command; and Vice Admiral David Architzel, Commander, Naval Air Systems Command.

Ladies and gentlemen, we thank you for your service to our country. We thank you for being here with us today, and I particularly appreciate your patience in dealing with us if we have these votes that are called, which we hope that they won't be called until after the hearing, but we just don't know.

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

Mr. FORBES. I now would like to recognize the ranking member, my friend Ms. Bordallo, for any remarks she may have.

**STATEMENT OF HON. MADELEINE Z. BORDALLO, A DELEGATE FROM GUAM, RANKING MEMBER, SUBCOMMITTEE ON READINESS**

Ms. BORDALLO. Thank you very much, Mr. Chairman, and to all of our witnesses, good morning, and, again, thank you for your service to our great country.

Today we are going to take a more comprehensive look at the U.S. Navy's fleet readiness posture. The readiness of our Navy's surface fleet has been a topic addressed by this subcommittee over the last 3 years. In fact, we had a hearing on this matter just this past July before we truly understood the impacts of the Budget Control Act that Congress passed.

As our witnesses are well aware, this committee has raised serious questions over the last few years about neglect and assumption of too much risk in the Navy's readiness budget. Our witnesses testified last year about some of the progress that has been made to address these critical readiness issues on our surface fleet. But I do hope our witnesses can elaborate on what additional steps they have taken to address maintenance issues with the surface fleet over the last fiscal year.

Further, now that the Department has provided Congress with the fiscal year 2013 budget that cuts \$487 billion as mandated by

the Budget Control Act, members of this committee need to better understand the rationale behind the planned retirement of cruisers and LSDs [Landing Ship, Dock]. What does their retirement enable the Navy to do with the remainder of their fleet? And also, members of the committee need to understand what the total cost is for restoring those cruisers and LSDs into the fleet from our O&M [Operations and Maintenance] to personnel accounts. I would also like to understand what restoration could do to impact the maintenance of the remainder of the fleet.

The Defense Strategic Guidance that was released by DOD [Department of Defense] earlier this year outlined a very ambitious and significant increase in operational requirements for the U.S. Navy. Moreover, the strategic guidance pivots are focused to the Asia-Pacific area, which I strongly support. However, the tyranny of distance to cover a number of PACOM [United States Pacific Command] requirements will certainly increase the OPTEMPO [Operations Tempo] of our Navy's fleet over the coming years. Moreover, the emphasis on power projection in this strategic guidance will require our Navy to be agile, adaptable, and at the highest levels of readiness.

An important first step in addressing the Defense Strategic Guidance is the full funding of the ship maintenance account. I think it is important for the Navy to ensure that its current fleet remains as capable as possible, especially in these fiscally austere times. It is much more cost-effective to maintain a ship than to have to purchase new ones before the need or the requirement arises.

I also hope that our witnesses can discuss the impact that rising fuel costs will have on our operational budget over the coming year. In the commercial sector, we see airlines adding costly gas surcharges, but our Navy can't do that. What is the Navy doing to address the challenges posed by rising gas prices so that we do not overburden or restrict the flexibility of our operational fleet? How do we address this challenge through our operations and maintenance budget over the long haul, and what types of investments are needed?

It is critically important that we maintain our current fleet of 285 ships for the near term. With the end of the war in Iraq, and as we look at an initial drawdown of forces in Afghanistan, our Navy's role in projecting force across the globe will not decrease. In fact, given the recently released Defense Strategic Guidance, it is clear that the role of our Navy will increase, particularly in the Asia Pacific region, so maintaining our fleet is of utmost importance.

And again, I thank you, Mr. Chairman, and I look forward to our witnesses' testimony today.

Mr. FORBES. Madeleine, thank you for those remarks.

And as we discussed prior to the hearing, I ask unanimous consent that it be made in order to depart from regular order so that Members may ask questions that follow train of thought from the proceeding Member. I think this will provide a roundtable-type forum and will enhance the dialogue on these very important issues. Without objection, that is so ordered.

Gentlemen, as I started out, I want to thank you for your service to our country. You have done tremendous jobs throughout your ca-



reers. We know that you don't get to pick the crisis that we have, and we know you don't get to pick the budget oftentimes that you work with, but you do great jobs with what cards you are dealt. We appreciate you being here today and sharing that with us as we are trying to do our job and just trying to make sure we get you the resources that you need.

With that, Admiral Burke, I believe you are going to start off, but whatever order you guys want to go in. And just so everyone knows, we are going to put your written statements in, so feel free to either submit those, read those, or just talk however you would like to. But we appreciate the opportunity to hear from you.

Admiral Burke.

**STATEMENT OF VADM WILLIAM R. BURKE, USN, DEPUTY CHIEF OF NAVAL OPERATIONS, FLEET READINESS AND LOGISTICS (N4), U.S. NAVY**

Admiral BURKE. Yes, sir. Chairman Forbes, Ranking Member Bordallo and distinguished members of the Readiness Subcommittee, I testify today as the former DCNO [Deputy Chief of Naval Operations] for Fleet Readiness and Logistics. I just completed my turnover as N4 with Vice Admiral Phil Cullom. I thought it was my duty as the officer responsible for building the fiscal year 2013 budget to be here before you today.

Last week, as you mentioned, I became the DCNO for Warfare Systems. In this assignment, this new assignment, I bring together resources for platforms, ordinance, personnel, training, readiness, and sustainment of ships, subs, and aircraft, and I am happy to discuss that further as you desire.

It is my honor to represent 650,000 Navy men and women, Active Duty, Reserve, and civilian, who work to ensure our Navy is ready to defend the Nation every day. And on their behalf I want to express our great appreciation for the work of this committee in support of their service.

Admirals Architzel and McCoy and I have worked together to ensure our sailors have the capabilities and the tools they need to perform their work. And our CNO [Chief of Naval Operations] Admiral Greenert has made it clear he expects us to maintain a ready Navy. To that end the fiscal year 2013 budget submission improves on our fiscal year 2012 proposal by fully funding ship maintenance and continuing a high level of funding on aviation maintenance, allowing us to meet both operational and surge readiness requirements.

Our operations accounts meet the needs of the combatant commanders and provide the necessary operating time to train our nondeployed forces for future presence and surge operations. With the reduction in the top line for the Department, this proposed readiness funding is made possible by the hard choice to reduce our force structure by seven cruisers and place two amphibious ships in reduced operating status. Navy readiness remains under stress as a result of our efforts to push the maximum available force forward to support operations in the Central Command AOR [Area of Responsibility] and support the theater campaign plans of the other combatant commanders to the extent our total force will allow.

This continued high pace of operations exacts a toll on our equipment and our people that is reflected in overall Navy readiness. Our forward-deployed forces are ready; however, to meet immediate mission requirements, we continue to take some risk in our remaining surge capacity.

The fiscal year 2013 budget addresses important readiness concerns by continuing the recent initiatives to improve the material condition of our surface ships and the continued work to improve the overall efficiency of aviation readiness. Although many of the surface ship initiatives are just beginning in 2012, we have some early indicators of improvement and readiness. It is not time to declare a victory, but I am encouraged by what we see.

The fiscal year 2013 budget includes investments in both live and synthetic training, training targets, and enhanced simulators. We also continue to invest to reduce total ownership cost of our platforms and systems and to use energy more efficiently.

While we sustain some risk in our shore accounts, we are focusing on direct support of our operational forces and on meeting the needs of sailors and their families.

The fiscal year 2013 budget submission meets the CNO's challenge to maintain a ready Navy. I thank you for your continued work to sustain our Navy and, most importantly, our sailors, civilians, and families, and I ask for your support of our budget request. Thank you.

[The joint prepared statement of Admiral Burke, Admiral Arquitzel, and Admiral McCoy can be found in the Appendix on page 32.]

Mr. FORBES. Thank you, Admiral.

And, Admiral McCoy, I think you are up next. Is that the lineup, or was it going to be Admiral Architzel?

Admiral Architzel.

**STATEMENT OF VADM DAVID ARCHITZEL, USN, COMMANDER,  
NAVAL AIR SYSTEMS COMMAND, U.S. NAVY**

Admiral ARCHITZEL. Chairman Forbes, Ranking Member Bordallo, distinguished members of the House Armed Services Readiness Subcommittee, it is an honor for me to be here today. As Commander of the Naval Air Systems Command, I would like to emphasize how naval aviation is ensuring future readiness, force readiness, and preparing for the future through our forward maintenance and logistics posture and fleet readiness center alignment.

Because naval aviation forces operate forward around the world, we have designed our squadron, intermediate and depot-level maintenance activities to be mobile and expeditionary, bringing maintenance forward to our aircraft and our deploying ships and in our fleet concentration areas. This increases the speed of repair, maximizes readiness, and minimizes logistics costs by moving skill sets and parts rather than airframes.

Our metrics to measure readiness focus on providing the right aircraft at the right time with the right capability in the right place to ensure the required readiness is there to meet specific missions.

Our Navy fleet readiness centers bring tremendous value to this equation. They provide the structure and alignment to enable high-

er readiness both in CONUS [Continental United States] and overseas. In compliance with BRAC [Base Closure and Realignment] 1993 and in 2005, we drew down from 60 posts to 3, and then combined our depot and 22 intermediate maintenance activities to form 8 regional fleet readiness centers, or FRCs. Those FRCs and the marine aviation logistic squadrons are located close to the warfighter for faster and more agile maintenance, repair, and overhaul.

The efficiencies gained from our FRC alignment could not have come at a more crucial time. We are now in the largest transition of platforms and systems in the 100-year history of naval aviation. This transformation affects nearly every aircraft type model series, including such examples as the P-8, the E-2D, two variants of the F-35, the Yankee Zulus [UH-1Y; AH-1Z], 53 Kilos [CH-53K], all of which replace—will or are going to replace existing aircraft.

Some platforms are entirely new, including Fire Scout, Small Tactical Unmanned Air Systems, the Navy's Broad Area Maritime Surveillance System, and other unmanned vehicles. Collectively, these deliver a whole generation of improved platforms, weapons, and capability.

While we introduce these new capabilities, we must continue our legacy systems in our fleet today, many of which are past the planned service life for those platforms. Over the next decade of production, it is interesting to note that the average age of our aircraft will actually decrease from 18 years to 15.5 years. That is due to the production we have in place, as I mentioned. While this is an improvement, we must continue to rely on our aviation support system to provide the technical engineering, logistics and repair support to reduce the cost of the most significant maintenance issues and readiness degraders for our legacy aircraft.

NAVAIR [Naval Air Systems Command] will continue to pursue efficiencies and maintenance innovations through its organic maintenance activities and industrial business partnerships in order to ensure the right levels of maintenance and readiness in the future.

I thank you for your support, and I look forward to your questions. Thank you, Mr. Chairman.

[The joint prepared statement of Admiral Arquitzel, Admiral Burke, and Admiral McCoy can be found in the Appendix on page 32.]

Mr. FORBES. Thank you, Admiral.  
Admiral McCoy.

**STATEMENT OF VADM KEVIN MCCOY, USN, COMMANDER,  
NAVAL SEA SYSTEMS COMMAND, U.S. NAVY**

Admiral MCCOY. Chairman Forbes, Ranking Member Bordallo, distinguished members, it is a pleasure to be here with you this morning with Vice Admirals Architzel and Burke to discuss our Navy's readiness. As Commander of the Naval Sea Systems Command, I am accountable to the CNO and the fleet commanders for engineering support to our Navy and for executing maintenance on all of our ships to ensure the highest state of material readiness.

One of the biggest impacts that NAVSEA [Naval Sea Systems Command] has had over the last 4 years is in getting surface maintenance on track, to improve day-to-day readiness, and to ensure

that our ships achieve their full expected service lives. In 2009, we set aggressive goals to develop rigorous engineered class maintenance plans for all of our ships. We also wanted every ship to undergo a comprehensive inspection program and have since developed an assessment regimen for all of our surface ships.

We are increasing the uniformed and civilian staff of the intermediate maintenance activities of the regional maintenance centers to ensure that we have the right number of people to execute our mission, perform the required maintenance on our surface ships, and oversee the execution of work by the private sector.

We have developed rigorous class maintenance plans based on the same engineering fundamentals we use for ensuring that our submarines and aircraft carriers reach their full expected service lives. We have programmed the necessary funding to support the true requirements for maintenance, engineering, logistics, sparing, and modernization of our surface force to ensure each ship reaches its full expected service life. And consistent with the CNO's focus on readiness, the fiscal year 2013 budget with supplemental funding includes full funding for ship maintenance.

Additionally, we took a hard look at issues nagging the LPD-17 class [*San Antonio* class Landing Platform Dock] ships, both in new construction and in service. We now have the LPD-17 class on a solid footing with improved contractor and Government quality oversight in place during construction, as well as solid engineering and maintenance solutions for problems observed in service. As a result we are experiencing greatly improved performance on INSURV [Board of Inspection and Survey] acceptance trials and during operational deployments.

Of particular note, USS *Mesa Verde*, LPD-19, recently completed a highly successful 11-month deployment, and that was after a very short cycle from its previous deployment. In addition, USS *San Diego*, LPD-22, was just accepted into the fleet following our most rigorous and successful INSURV trial ever performed on this class.

We also took steps to shore up the reliability and sustainability of our Aegis weapon system on our cruisers and destroyers. And this included increasing our spare parts inventories, which have been a driver behind CASREP [Casualty Reporting] reports.

While we have rightly focused on putting a solid foundation in place in terms of engineering rigor for our surface ships, similar to what we do for submarines and carriers, our focus going forward has to be on execution of our engineered plan and on staying the course in terms of program funding to ensure we have the engineering, maintenance, and logistics support in place.

I want to specifically point out up front that while we have put in place a plan to improve surface force readiness, most of our initiatives have not yet come to full fruition due to the time lag from program development to POM [Program Objective Memorandum] funding. Many of our initiatives have already received a jumpstart with support from the fleets and OPNAV [Office of the Chief of Naval Operations]; however, full funding for many initiatives start in fiscal year 2012, 2013, and 2014, and the full effect of our efforts will take a few more years to be fully realized. However, we are

starting to see a positive impact of our increased focus on maintenance, engineering, sparing, and logistics.

I will give you some examples. Sixty-six of our surface ships have had an engineered class maintenance plan developed for their next major shipyard maintenance period, and the first 11 of these ships are now in shipyard execution on the waterfront or have recently completed execution.

Also, although the President of the Board of Inspection and Survey Report for 2011 has just been completed and not yet briefed to Congress, the report confirms that cruiser and destroyer scores are up across the board. And also, recent actions to improve Aegis software reliability, shore support training, and system sparing have already decreased both the number and the response time associated with clearing Aegis-related CASREPs.

We are looking harder, and as ships are being drydocked for our rigorous and thorough inspections, we are seeing the impact of the backlog of previous deferred maintenance, particularly with the condition of tanks, voids and other structures driving growth work. We are working through this, but I expect we will continue to see a rise in the growth of maintenance items to be worked for a few years until all of our ships complete their inspection protocols that we have put in place.

I am very happy to answer any questions you may have. Thank you.

[The joint prepared statement of Admiral McCoy, Admiral Burke, and Admiral Arquitzel can be found in the Appendix on page 32.]

Mr. FORBES. Thank you, and thank all of you for your comments and the great work you have done over this last year.

I am going to defer my questions until the end because some of our Members will have planes and flights that they will need to catch to get out of here. So I am going to go now to our Ranking Member Ms. Bordallo for any questions she might have.

Ms. BORDALLO. Thank you very much, Mr. Chairman. I do have a few questions.

Admiral Burke or Admiral McCoy, can you comment on what impact there would be if we were to restore the cruisers and LSDs that the President's budget recommends should be mothballed? And can you clearly outline for the total costs associated with restoring those ships, including operations and maintenance, sustainment and personnel costs? Further, what risks would we be taking with regards to the maintenance of the remainder of the fleet if Congress took this action?

Admiral BURKE. Let me start, and I will let Admiral McCoy jump in when I am finished.

First of all, the cruiser retirements were an extremely difficult choice for us to make, but if we—our goal was to balance readiness, procurement, and the personnel priorities within our budget controls to still meet the global force management and to avoid a hollow force. So essentially what we did is sacrificed a few ships for the good of the rest.

Now, you might say, why did we pick the cruisers, specifically? And the reason is because we had a significant backlog of maintenance and modernization. I shouldn't say backlog. We had a significant amount of maintenance and modernization to do. So we would

need to modify most of those cruisers for ballistic missile defense, and then we would also—we had pretty significant maintenance actions required on several of those ships. And several of those ships that we chose have the superstructure aluminum cracking. So rather than continue to deal with that problem, which sucks away a lot of resources from others, we decided those were the right ones to shed.

Now, the cost to retain those ships, you would have to look over the course of the FYDP [Future Years Defense Plan], and the number—the future years defense plan, 5 years, and the cost to retain those is a little over \$4 billion.

So I know the chairman mentioned some numbers in his opening statement, which I am sure are accurate, but there is additional—there is additional costs. There are people costs, you know. We would have to remain those platforms because we have taken credit for taking the people off. There are also helicopters associated with those platforms. And then there is also the maintenance I mentioned as well as the modernization. So the modernization is a little under \$2 billion. All of the rest, the helicopters, the people, the maintenance, and the operational funding, is a little over \$2 billion over that period. The inactivation costs are relatively small, a couple of million dollars, and then if you put them in mothballs, then you pay a couple hundred thousand dollars a year for dehumidification and mooring and such.

So as I mentioned at the beginning, a terribly difficult choice. We didn't want to make it, but I think the—in order to maintain the readiness of all of the forces, we chose to decrement our Navy by a couple to maintain that Navy. And as Admiral McCoy testified last year, the cheapest way to keep the Navy that you have is to maintain the ships you have. But if we didn't do this, if we kept too many ships, we would be undermaintaining all of them, and so we would end up down the road having a bigger problem than we have today.

Ms. BORDALLO. Admiral McCoy, did you want to add to that?

Admiral MCCOY. Yeah. When I meet with the fleet commanders and the platform-type commanders, their biggest issue is the platforms that we give them need to be whole in terms of maintenance, training, people, spares, that—you know, the full gamut of things it takes to send a ship forward and be ready. For example, for the cruisers it is a little over \$4 billion over that 5-year period. The two pots that you would look at taking that from would be the readiness accounts or the shipbuilding accounts, and none of those are very good—none of those are very good choices. And typically, because shipbuilding is already to the point where we are very concerned about the industrial base in terms of our quantities, the likelihood is it would come out of the readiness accounts.

And what this budget does is focuses on capability and ensures that the ships that we do send forward are whole in every way. And that was a very difficult choice that we had to make as a Navy.

Ms. BORDALLO. Thank you. Thank you, Admiral.

Admiral Architzel, can you discuss how you measure the risks of increasing the backlog of airframes and engines in the fiscal year 2013 budget? And further, can you work down the backlog if addi-

tional funding were provided? Do you have the people and the spare parts to reduce the backlog if such additional funding were provided?

Admiral ARCHITZEL. Congresswoman Bordallo, thank you. The way we compute the backlog is based on the dollars available, so today, with the—with our budget submit, we are forecasting a budget that would allow us to have—would really result in a backlog of 74 airframes and approximately 170 engines. Are we sized to work that backlog off? I would answer it this way: Our capacity within our depots would say that we can in a year's time be able to work down that backlog with the present capability and our capacity within our depots if we keep that number under 100 airframes and under approximately 340 engines.

In the past we have been able to do that. For example, in fiscal year 2012, we had a backlog. With some supplemental funding provided by Congress, we were able to then work that backlog back to essentially zero out the backlog in 2012.

As we go forward, though, the way we would—if able, the way we could meet that would be to additionally put in additional overtime, additional contract support within our depots, because we do have the capacity with that number. If that backlog continues to grow, however, above that number, then our ability to drive that backlog down within a year would be something we would then have to carry that over into future years.

So today I would answer it we are positioned to do that, and that is how we would go forward.

Ms. BORDALLO. All right.

Mr. Chairman, I have one quick question here. It has to do with fuel, and any one of our witnesses can answer it.

Can you outline what steps you are taking to incorporate alternative fuels or alternative energy as a way to enhance your operational readiness? We understand that there are certain initial start-up costs for these investments, but what is the potential long-term benefit? I know we will explore this specific issue in more detail next week, but I am wondering if any of our witnesses care to give their opinion on this matter with regards to its impact on our operational readiness both for surface fleet as well as with the Navy aircraft.

Admiral BURKE. Let me start, and the others can jump in if they so desire. But, you know, I went back and looked at the fuel price that we have paid over the last 10 years in our budgets, and it has increased four times.

Ms. BORDALLO. Substantially.

Admiral BURKE. And granted, we are shooting behind the duck it seems like every year because it is going up faster than what we planned, but I also looked at what we—what our indexes said. And our index has gone up every year as well. We just haven't caught up each year.

And as you know, a \$10-a-barrel increase costs us a little over \$300 million a year in the Navy. So what we have done, at least in the last couple of years, is we have tested all our ships and all our aircraft with a 50/50 blend—we are agnostic on the source of the other 50 percent, the alternative fuel—just to make sure that

should the fuel supply begin to incorporate those kinds of fuels, that we will be able to accept them in our aircraft and ships.

Our goal here is to have ships and aircraft stay the same and have the fuel modified as necessary to fit those, so we don't have significant costs in changing around our aircraft and ship engines.

So that is our philosophy on what we are doing. And we have a pretty large exercise coming up in the summer called RIMPAC [Rim of the Pacific Exercise] out of the mid-Pacific, out of Hawaii, where we bring together a bunch of nations, and we are going to continue to test those fuels in that environment. And so we will run our ships and planes for several weeks as opposed to a few hours, and so that will be more or less our final test on those fuels.

Ms. BORDALLO. Thank you, Admiral.

And I have time constraints here. Does anybody else have anything to add to that?

Admiral MCCOY. Ma'am, if I could, in addition to the fuel alternatives that we are looking at that Admiral Burke talked about—because in addition to cost, the need to refuel our ships becomes an energy security issue for us on deployment or at sea—we are focused on many engineering efforts shipboard to reduce our fuel consumption. Examples include later on this year or early next year we will take to sea a hybrid electric drive on one of our destroyers, a backfit that we think has got promise for reducing energy and letting us operate in a more efficient lineup with our gas turbines; everything from LED [Light-Emitting Diode] lighting on our ships that saves a small amount, but for the big fleet it adds up; voyage management systems for better planning around sea states and weather; more efficient motors and compressors, showing promise for reducing fuel; advanced coatings. We have got a couple of ships out there running around with a very slippery coating system on the hull. We have got on some of our amphibious ships the same system on propellers that are showing increased efficiency. We have got everything from stern flaps, kind of like some people have their outboard engine, on the big ships that we are installing that we are seeing efficiencies, and energy stowage devices that let us run with less of our fuel-consuming prime movers on line.

And so across the board, CNO and Secretary of the Navy have supported many engineering initiatives, and we haven't waited. We have got them out there, piloting them in the fleet right now, and they are showing promise.

Admiral ARCHITZEL. I would just like to add as well on the aviation side to Admiral Burke's point. Our position within NAVAIR was to ensure that should these fuels be available, we would want to make sure our engines are able to burn with those fuels and perform with them, and that is why we have taken a very aggressive movement to ensure we have certified all of our engines, and that is the responsible thing to do to make sure we are ready to take those fuels as whatever alternative source would come forward, the first piece.

To add onto Admiral McCoy's comments on the engineering side within aviation, we are looking at those abilities to improve our efficiencies of aircraft usage which makes a large part of the fuel burn. Those, I would say, are something that are longer term,



though, not to be confused we can get an immediate return on that in today's, or this year's or next year's budget.

And the final piece would be an engineering piece. In looking at it we do have the labs at China Lake that work under NAVAIR, which are looking at development of additional alternative fuel sources, but again, those are probably mid- to long-term ideas, but it is areas we are working on actively.

Ms. BORDALLO. Thank you very much.

Mr. Chairman, I would be very interested to know in the future just what the cost reductions are once these are all in place.

[The information referred to can be found in the Appendix on page 53.]

Mr. FORBES. I think that would be useful information, and thank you, Madeleine.

We are going to try to hold everyone to a 5-minute rule now just because votes are going to be coming up, and we want you to be able to get your questions in before you have to leave. So the gentleman from Georgia is recognized for 5 minutes.

Mr. SCOTT. Thank you, Mr. Chairman, and I, too, look forward to reviewing the information that Ms. Bordallo asked for.

I would also like to know how much the Navy is spending as a total on the light bulbs that you discussed and the other alternative sources of power. And I guess one of my questions is in today's day and time, with the budget challenges that we have, cash-flow challenges when you get right down to it, what is the timeline for a break-even point, if you will, on how much the Navy is putting into alternative sources of power? Has that been calculated?

Admiral BURKE. Well, Congressman, it is different for each thing we do. Most of what we have done early on in the areas that Admiral McCoy was talking about have very rapid break-even points in a few years. Now, some of the other ones that maybe don't get—the early funding will be later on have longer break-even points, but we can get you some representative numbers if you would like.

Mr. SCOTT. Absolutely. And if you have the breakdown of which ones are the most efficient use of taxpayer funds, I certainly think we should continue with those. But then those that have a 20-year payback, or 25- or a 30-year payback maybe need to be some things that we postpone.

Admiral BURKE. Sir, I don't think there is anything we are funding that has a 20- or 25-year payback, but we will get you the data, sir.

Mr. SCOTT. Thank you.

Admiral MCCOY. Sir, if I could just add in, many of the—most of the things that I talked about, the Navy is not on the leading edge of. These are things that industry is bringing to the table. So it is not like we are investing heavily in R&D, it is things that we think can be readily adapted from industry and put on our ships.

Mr. SCOTT. Thank you.

And, Admiral Architzel, I represent Robins Air Force Base. We have a wonderful, efficient depot. We have got a great general there in McMahan, and people there really have been able to turn things around.

But I wanted to get back to your backlog and talk about the effect that the cuts to the depots have had over the course of time.

You have gone from six to three. The Air Force has obviously had reductions as well. But the mission-capable goal for the Navy, if I am not mistaken, used to be in the low 70s percent, 73 percent for aircraft, and now it has been reduced to 60 percent of the aircraft that are deployed and 50 percent nondeployed. Are those numbers accurate, or was I given bad information?

Admiral ARCHITZEL. No, sir, we report quarterly to Congress on our MC [Mission-Capable] and FMC [Full-Mission-Capable] rates, and that has been a question that has been asked. And I would just say in taking those numbers into context, we do have goals of both mission-capable, and full-mission-capable aircraft. I would say without a context, though, it is hard to understand what those—really what that significant metric, that particular metric means.

Today we measure in naval aviation enterprise for having, as I mentioned, the right aircraft at the right time, at the right place, and the right capability. It is what goes off the front of the ship at 0800. Is it capable to do the mission, and we measure that every day, day in and day out. That does not mean that the FMC rates and MC rates are not something we looked at. Those are 24-hour metrics. By that I mean every hour of the day, you are looking at mission-critical systems, and if they are reported because we are doing maintenance, they are reported as against that FMC rater, that full-mission-capable rate. So it is in the context, to understand it, would tell you what that is showing you is to make our sustained rates forward, and as we are flying in those positions, we are actually having to do a lot of maintenance and a lot of effort to make sure we maintain those. That is part of what we are doing there to go forward with it.

Mr. SCOTT. I am getting short on time, but I was reading from your testimony. I thought that the goal was 60 percent. And then in prior documents it has actually been reduced from the low 70s, to 60, is that not correct, or have I gotten bad information?

Admiral ARCHITZEL. I would say the FM—if over the entire Navy, the document I could probably verify for you if it has been changed from that number.

Mr. SCOTT. Okay.

Admiral ARCHITZEL. But I will get back to you.

[The information referred to can be found in the Appendix on page 54.]

Mr. SCOTT. All right. Well, just very quickly, I mean, do you plan to deal with the backlogs, and the aircraft that are backlogged, and the engines that are backlogged?

Admiral ARCHITZEL. Yes. As I mentioned, in 2012, we had a planned backlog built based on where we were. We ended up, thanks to the work of supplemental, we were able to take and actually work down that backlog on engines and airframes to zero. And now in the 2013 budget, with where we are, we end up projecting a 74-airframe and 170-engine backlog. We have the capacity within the depots, should we get additional funding, to be able to then man up and actually work that backlog off as well. But today with budget, we have to make decisions on where we would go.

That backlog that is on airframe side or the engine side meets our entitlements for aircraft entitlements on our flight lines, and it also meets our ready-engine goals for the engine side. So we are

not in a position of affecting readiness with those particular numbers to date. The issue would be if we continue and don't—and build a higher backlog, we will start to impact our ability to meet flight-line entitlements and engine-ready goals. But today we can meet it, and we also have the ability, should additional funding be available, to work that backlog off in 2013.

Mr. FORBES. And I am sure if the gentleman would like to follow up with some additional written questions, that the Admiral would be happy to respond to those.

Mr. SCOTT. I might have to get a marine to translate it for me.

Mr. FORBES. The gentleman from Connecticut is recognized for 5 minutes.

Mr. COURTNEY. Thank you, Mr. Chairman, and I want to thank the witnesses. You are obviously engaged in a very difficult balancing act, and I really compliment you on the hard work that you are putting in to make sure, again, we are meeting the budget caps, but also balancing our national defense. And one of the balancing acts which I know Admiral McCoy has been deeply involved in is making sure that our industrial base, which faces those peaks and valleys, is protected.

I had the opportunity to visit the Norfolk Navy shipyard not too long ago, and was talking New England Patriots football with Connecticut welders and shipfitters who were part of that group of folks that, again, Admiral McCoy made sure were deployed to protect those positions when we are going to need them later back home in the Northeast. And again, I just want to compliment you on the hard work you put into that issue.

And I guess my simple question would be, you know, how do you foresee the private shipyards in terms of maintenance availabilities over the next year so with the budget that you have been given?

Admiral MCCOY. In terms of maintenance, the private sector will be fully employed. Now, there are always going to be in the business cycle, particularly with the yards like Electric Boat that does both maintenance as well as new construction, there are peaks and valleys in there. But in terms of maintenance, particularly as we are now fully funding service maintenance, certainly the surface repair yards are fully up, and the new construction yards at Electric Boat that does maintenance, we are putting PIRAs [Pre-Inactivation Restricted Availability] in there. The availability is right before the end of life on submarines. We are also putting selected restricted availabilities in there, as well as we are using the Electric Boat folks, on any given day 300–400 people, a peek of around the country to do the critical nuclear maintenance on our submarines. Newport News, which also does repair and maintenance work, is seeing a spike in work.

So I think we are in a position right now, certainly with our new construction yards that do maintenance, that there is a good balance of work over the next couple of years to keep them healthy.

Mr. COURTNEY. Well, thank you. And as you know, I will be continuing to check in with you every 6 or 7 weeks.

Admiral MCCOY. Yes, sir.

Mr. COURTNEY. So I really appreciate the input.

Admiral Burke, the shipbuilding plan which was submitted as part of the budget altered the Block 4 contracts for—or contract for

the *Virginia* class with a one-boat 2014 planned, and, you know, that clearly was something that was not contemplated last year. You know, everything that we have ever seen from Ron O'Rourke and others about the projected shortfall or dip in the submarine fleet in the 2020s, this is—it just seems that it is a simple math question in terms of aggregating that.

I was wondering if you could talk about that change in terms of its impact on repair and maintenance, which will, it seems, spill over, because there is going to be more demand on the existing lower number of submarines, and, again, just what you see as far as its impact on readiness.

Admiral BURKE. Yes, sir. Once again, a tough choice to move that ship from 14 to 18. And as you point out, it is a critical shortfall we see coming in the 2020s, when those ships from the 1980s and 1990s begin to retire in significant numbers. So we will be below our SSN requirement as a result.

I think, though, Congressman, there is not a—there is a marginal impact on the readiness. Certainly we will have to spread that—the operations over one fewer submarine, and that will have a minor impact. But it is sort of the same approach we took with the cruisers is we took a little pain here in order to be able to continue to take care of all of the rest of them. You know, it was a bill payer, and it is nothing more than that.

Mr. COURTNEY. Well, that certainly seems to be what we have heard from Mr. Hale, and Secretary Panetta, and others, and I know Admiral Greenert has really been pretty upfront about the fact that if there is a place he would like to see us, you know, try and make a change, that would be it. And I look forward to working with your team to see if we can figure out a way to smooth out that dip.

Admiral BURKE. There is no question that submarines are critical to our shift to the Pacific, and we have to get submarines right. Yes, sir.

Mr. FORBES. Thank you.

The gentleman from Mississippi is recognized for 5 minutes.

Mr. PALAZZO. Thank you. Thank you, Mr. Chairman, and thank our distinguished guests for being here today. I look forward to your expertise and your experience and all things Navy. I would like to say that Mississippi is extremely excited to be hosting the commission of the USS *Mississippi* on June 2nd. That is an open invitation to anybody that hears my voice. Hopefully, it is a lot. But it is good to have you all here today.

I have one question. You know, I have had two CODELs [Congressional Delegations] since I have been a Congressman that have really come up. One was, of course, visiting our troops in Afghanistan during Memorial Day, and the second one was a PACOM visit with Chairman Wittman. It was an extremely wonderful trip to not only go see what is happening in Hawaii with, I believe, the Seventh Command, talked to Admiral Willard and others, but the common denominator from that trip was—with the Philippines, the Republic of Korea, and Guam and others was, you know, China. What is China doing? You know, they are building, they are investing in military. Why? What are we going to do? What is our posture going forward?

But that is also China has become a common denominator in almost everything that I hear. We are talking about drilling in America, American energy independence, and the next thing, you know, we start talking about ice cutters, and the next thing you know, China is building ice cutters to get up into the Arctic, to lay claim to resources that we think are a little too far away from their area of operation.

So with that, and knowing that the emphasis and what we have heard from the administration and what we have heard from Secretary Panetta is emphasis on the Pacific, emphasis on China, possibility of North Korea, but then we are starting talking about reducing our shipbuilding targets and reducing or taking ships out of commission early like in 20 years out of a 35- to 40-year life expectation. What do you all see as, you know, the risk associated with that, with the growing threat in the Pacific?

Admiral BURKE. Well, certainly, Congressman, we would love to have as large a Navy as we possibly can, but the challenge we have is we have to meet the budget. So what we are trying to do is make sure we meet our personnel accounts, we meet our readiness requirements as well as procurement all in one, and get there.

I think we have a couple of ways that we are trying to deal with this, and one of the things that happens when you deploy rotational forces is they go over for a while and then come back. And so it takes several ships to keep one forward.

What we are doing, or what we are looking at doing, in Singapore and in some other places in the Pacific, as well as other places in the world, which will free up assets to go elsewhere, is some forward stationing. You know, for instance, we are going to put some LCS [Littoral Combat Ships] in Singapore. That will allow those ships to operate for several cycles as opposed to one cycle and then come back. So it is a more efficient way of using the platforms you have. We will do the same things with destroyers in Rota. We are adding additional ships to Bahrain to do the same sort of thing.

So you may say, well, what does the Rota or what does the Bahrain got to do with the Pacific? Well, if we can become more efficient in some of those places, then that frees up assets to go elsewhere.

So that is the way we are trying to address it from a—trying to address a growing challenge with a mostly stable Navy. We will be 285 now, 285 at the end of the FYDP. And so that is our approach.

Mr. PALAZZO. Are you confident the shipbuilding plans and the Navy's strategic plan in this current financial environment will be able to meet those emerging threats? Because we are cutting our budget, China is increasing their budget, and that is just what we see. That is what is on the surface.

Admiral BURKE. I am definitely concerned, so if sequestration or some form of sequestration occurs, we will be very challenged to maintain anywhere close to the force structure we have today.

Mr. PALAZZO. Thank you. Thank you for sharing that.

And the sequestration, I think everybody on the—not only just the subcommittee, but the entire House Armed Service Committee, many Members in Congress and the majority of the American people do not want to see sequestration hit our military either. So thank you.

I am out of time. I yield back.

Mr. FORBES. Thank the gentleman.

And once again, thank you all for being here today, and I have got a few questions that we would like to get on the record if you don't mind, if we could go through some of those.

First of all, Admiral Burke, one of the things that we know is that—or at least it is my understanding—we have now about 285 ships in our Navy. Is that an accurate, as best as we can—

Admiral BURKE. Yes, sir.

Mr. FORBES. We have a lot of requests for our combatant commanders. Of the validated requests that come from our combatant commanders, how many ships would it take in our Navy, based on your estimation, to meet all of the validated requests from our commanders, combatant commanders?

Admiral BURKE. Give me just a minute on that, sir.

Mr. FORBES. Please. And if you would like, on any of these questions, if you would rather take them for the record and get back, I am okay with that, too.

Admiral BURKE. No, I am happy to answer the question. I just want to make sure that I elaborate a little to make sure to get the point right.

The combatant commander requests come into the services, and then there—there is a very high number of requirements from the services, or from the combatant commanders, which are then prioritized and adjudicated by the Joint Staff; essentially a way to adjudicate supply—a lesser supply and a greater demand. So of those requests that come in, some are determined to be more valid than others, if you will.

But to get to your exact question, of those requests that come in from the combatant commanders—

Mr. FORBES. Admiral, could I just on the nomenclature just make sure I am right, too? As they come in, one of the first weed-out processes is we determine whether they are validated or not. In other words, we go through and make sure they are legal, they don't have the other assets somewhere, and then we stamp them as validated. And then, like you said, they go through a process where we then look at the resources we have and allocate what we can, and we adjudicate which ones we can give them, which ones we can't.

So I want the top number, the ones that we have validated and said, yes, this is legal, this is a proper request. Of those combatant commander requests, approximately how many ships would it take us to be able to meet those if we had them?

Admiral BURKE. It would take a Navy of over 500 ships to meet the combatant commander requests, and, of course, it would take a similar increase in the aircraft and other parts of the Navy as well to meet the combatant commander requests.

Mr. FORBES. And we talked about, and my friend from Mississippi correctly points out, on the sequestration how detrimental that would be. The fear I have is that most Americans don't even know what the term "sequestration" means, much less the catastrophic effect it would have. But if sequestration were to take effect as written, which would be an across-the-board cut, you know,

as it is now, what would the impact be to the resulting size of our fleet?

Admiral BURKE. Okay. Let me elaborate a little bit on that one, sir. First of all, sequestration, would have a significant and immediate impact. We are talking about \$600 billion roughly to the services, of which—or to DOD, of which about \$15 billion would come to the Navy. So that would be \$15 billion each year for 10 years, and on top of the \$487 billion that we are currently working on that is spread over 10 years.

So put the \$15 billion number in context. That is about the same as our SCN [Shipbuilding and Conversion, Navy] number, our shipbuilding number, per year; it is a little less than our aviation procurement number a year; and is it about twice the size of our combined aviation and ship maintenance annual budget.

And it is more than our ship and aviation operating budget annually. The big problem with sequestration is it is indiscriminately applied. So it hits every account equally. And I don't know what the percentage is, but let us just use three-quarters as a rough number. So every account would be decremented by three-quarters—or by a quarter, down to three-quarters. So you would be saying, okay, here is your paycheck; it is three-quarters of what you planned, let us go buy a ship. You can't do that with three-quarters of the amount of money it takes to buy a ship.

So that's the real challenge. And the number that we are talking about is I think in a couple of years we would be down to 230 ships.

Mr. FORBES. With that in mind—and let us take sequestration and put that aside for right now—what risk are you assuming today? I understand as we talk about your allocations, you guys do a tremendous job of picking and making your allocations given the pot that you have. But one of the questions that is tough for us to get our hands around is what risk are you assuming today, and what are your concerns about Navy readiness as things stand right now?

Admiral BURKE. Sir, I have two major concerns. The first one has to do with what Admiral McCoy suggested, and that is I think we have a good plan to recover surface ship readiness, and I think we are in pretty good shape on readiness in the rest of the Navy. But that new plan, which is just beginning to take effect, as Admiral McCoy mentioned, is costly, and as the budget becomes more challenging, I am concerned that we will not properly fund the maintenance in the future.

You know, I did some looking into this, and really the only variable in the amount of money we put into a particular type of ship is how much do we actually—how much of the maintenance do we actually do. And if you do all the maintenance, you will end up with a bigger, better, sustainable fleet than if you don't. You will do more procurement if you don't do the maintenance, but you won't end up with the same quality fleet or the same size fleet.

Now, my other concern has to do with, I think, the biggest challenge to that, to the readiness accounts, which I believe is supplemental funding. The supplemental funding is what is making our readiness accounts whole today. Without supplemental funding we would be a couple billion dollars a year in the hole. So that surface

ship maintenance in fiscal year 2013 is 100 percent funded with supplemental funding. Without supplemental funding it would be 80 percent funded.

And so what does that mean? Let me try to put that in terms that are useful to you. We preferentially repair carriers and submarines over surface ships simply because they have flight deck requirements, and the submarines dive, and if they can't dive, then they turn into surface ships, and they are not very effective submarines. So we preferentially take the risk when we take it in maintenance in the surface ships.

Now, of note, those surface ships are repaired in private yards as opposed to government yards. So to retire that \$1.3 billion risk that is being paid for in OCO today, we would essentially not fund any surface ship availabilities for 2013. And what does that mean? Well, it means that we would operate with a greater number of casualty reports. We would eventually get to a point where your ships weren't in a condition that they could deploy. Now, it wouldn't necessarily happen immediately. There is a little bit of a lag period, because those ships we are sending forward today rely on maintenance that we did yesterday or last year. So there is a little bit of a lag, but if you do this, and if we don't fund the maintenance in big numbers like we are talking about, we are going to have a significant challenge.

Mr. FORBES. We hear a lot from testimony and things we read about the new strategy presenting us with more risk that we are having to take. Based on this budget, not that you haven't made the right allocations, but just in the overall dollars and where we are now, what are the major risks that you see that the Navy is taking today?

Admiral BURKE. I would say that the biggest risk is capacity. You know, I think we are doing the right things, as you point out, with what we have. But the challenge is capacity. A ship can only be in one place; an airplane can only be in one place. So as we cut numbers, you know, we will look at ways to mitigate it, as I mentioned. We will forward station to try to be more efficient.

Now, let us be fair, that takes a toll in that you are operating those ships a little harder. Additionally, what it does is when the bell rings for a potential fight, we are all in. So we are going to send as much forward as we possibly can. If you are operating with ships rotational, operating with ships forward stationed, yes, they will get there because they are closer, but if in order to do that you have traded off capacity, then you don't have as much ability to surge as you did before. So that is my biggest concern is capacity.

Mr. FORBES. And with that in mind, and I know you addressed the retirement of the additional nine ships, the seven CGs and the two LSDs, but we do know that they did have approximately 20 years life expectancy left in them. And I am not saying your allocation wasn't right, again, given what you were given. And you don't have to do this today, but I would like to make sure we at least got those numbers correct. So if you could provide us an estimate of the cost per platform to upgrade the six CGs [*Ticonderoga* class Guided Cruisers], excluding the *Port Royal*, with the necessary BMD [Ballistic Missile Defense] capability and those budget lines. Also, if you could provide us with an estimate of the O&M cost per



year per platform. Then what is the full cost across the FYDP for retaining those assets? And then if you could provide us the cost that was requested as part of the budget submission to inactivate or retire these ships in fiscal 2013 and fiscal 2014. And I don't expect you to have to do that today. I know you are prepared probably to do it.

Admiral BURKE. I can give you a little bit of that now just to put it in context.

It is important to know that with any ship, that the cost to own it is the biggest cost, the cost to do the maintenance every year. It is about three-quarters of what it costs. The operating costs are relatively minor in comparison.

So the operating costs for the cruisers are about \$40 million a year. But we are talking big costs of several hundred million dollars a year to do the maintenance, repairs, and the modernization that would be needed. But we will get you the specifics on that, sir.

[The information referred to can be found in the Appendix on page 53.]

Mr. FORBES. And one other thing. You talked about earlier about mothballing and that not costing too much. But really the proposal, as I understand it, is not to mothball them, but it is to scrap them. Am I incorrect on that?

Admiral BURKE. We would put them in a mothball status while waiting to decommission or to dismantle.

Mr. FORBES. But the plan is ultimately to dismantle them as it sits right now?

Admiral BURKE. Dismantle them or sell them, yes, sir.

Mr. FORBES. And would you say that this decision is also a bill payer, the same as it was with the sub?

Admiral BURKE. I would say that this is a—given the budget situation we had, it was a choice we made to pay the bill, yes, sir. And I think it is a wise choice.

Mr. FORBES. The next question that I would have for Admiral McCoy and Admiral Architzel are these. If you could discuss the level of OCO funding, and Admiral Burke has talked a little bit about that, that is proposed as a proportion of the total requirement for both ship and aircraft depot maintenance, and what are risks associated with those investments and having that funding the way it is now?

Admiral MCCOY. Yes, sir. Admiral Burke, I think, laid it out pretty good. In my business it is essentially the OCO funding of about \$1.3 billion in this budget is for ship maintenance, and it is just 20 percent of the required ship maintenance. And as Admiral Burke said, because of the certification requirements on our aircraft carriers and our submarines, we maintain those first. If we did not get the OCO for that \$1.3 billion, it would essentially eliminate surface maintenance, which is done primarily in the private sector. And so that is where the risk lies, I think, in my side of the business here with this budget in terms of do we get that OCO or not.

Admiral ARCHITZEL. On the aviation side, sir, in the budget we call for approximately \$1.5 billion in our aviation depot maintenance combined with our logistics lines as well, and the OCO provides about \$250 million of that, or roughly 16 percent. Today with

OCO and with our base, as I mentioned, we have a backlog that we are projecting to be 74 and 170, aircraft and engines. If we didn't have that 16 percent, you would take away from the—today we plan on 734 aircraft into our depots and 2,343 engines. If you take 16 percent of those numbers, that would be the kind of impact you would see had we not had that funding.

The risk we have is that we have a capability within our depots to maintain our forces and our aircraft and engines. If we exceed a certain number, we will carry that forward, and that risk would grow.

Mr. FORBES. One of the other things, Admiral Burke, that we have looked at is in the fiscal year 2012 budget submission, the decision to place maritime prepositioning squadron forward deployed to EUCOM [U.S. European Command] and to reduce operating status in Jacksonville, Florida. And I know you have been actively involved in this planning. In the fiscal year 2013 budget submission, the Navy proposed going a step further and placing that squadron into a strategic reserve. Can you discuss the current COCOM [combatant command] requirements for maritime preposition stocks and the analysis behind that proposal in fiscal year 2013?

Admiral BURKE. Yes, sir, I can. We did this analysis jointly with the Marine Corps in the summer of 2010, and it was a proposal by my organization at the time in the N4 to put the one MPS [Maritime Prepositioning Ship] squadron into reduced operating status because we felt that it was in excess of the requirement. As I mentioned, we did the work with the Marine Corps and then briefed it to the Commandant, the CNO and the Secretary of the Navy, and they concurred. And as General Amos testified the other day in front of the SASC [Senate Armed Services Committee], he said he agreed with two squadrons, felt like that was the right answer, agreed with the analysis, and as long as we enhanced the other two. And we are enhancing the other two squadrons.

Additionally, you asked about the COCOMs. The affected COCOMs, EUCOM, PACOM, AFRICOM [U.S. Africa Command], have all recently testified that they agree with that number of two enhanced maritime preposition squadrons.

So I think that answers your question. Did I miss something, sir.

Mr. FORBES. No. But the only question I would have, TRANSCOM [U.S. Transportation Command] actually testified that they haven't done the assessment yet. At least that is what I understood.

Admiral BURKE. I don't know whether TRANSCOM has assessed it or not.

We will not get rid of any ships as a result of this. So the ships that are no longer required will go into the surge sealift, and so they will be available.

Mr. FORBES. I think the big concern they have, we are doing this at the same time we are having a reduction in our strategic lift as well, and they just haven't done that analysis yet to see if they can handle all that at the same time.

Admiral BURKE. And we are not reducing our ready reserve force or our sealift. The timelines for the plans allow the gear that would be transshipped to go via ship.

Mr. FORBES. Admiral Architzel, what are your concerns about naval aviation readiness, and how do we measure it?

Admiral ARCHITZEL. Mr. Chairman, my risks really are framed—

Mr. FORBES. I don't know if your microphone is on or not.

Admiral ARCHITZEL. Mr. Chairman, my risks are framed in my opening discussion when I talked about the transition to new platforms. As we go forward, we have historically seen new platforms come in and the maturity and understanding what it takes to sustain those aircraft as we come forward. So that is one aspect of understanding what will be in the future and what holds.

The second aspect of concern is in our—as we continue to operate at an increased OPTEMPO, we are taking service lives of our legacy platforms well beyond what was originally envisioned. For example, in our legacy Hornets we have a 6,000 service life on them. We are going to take them out towards 10,000 hours, through a very rigorous engineering analysis and studies go forward.

But there are risks with that as we continue to burn down and burn at a higher OPTEMPO. I think that is where we have to be mindful of that balance between what it takes to sustain our fleet out there.

We mentioned how do we measure it, and I will tell you that following the CNO's guidance we have looked at and everything we do to do first and foremost, are we taking warfighting aspects first, are we looking at operating forward, are we looking at being ready. And we do that through a series of metrics that we use for ready for tasking for our basic airplane and our mission-system-capable aircraft to go forward.

We have to balance that against what you can see in the very good question raised before about our MC, mission-capable, and FMC rates. So, that is telling you that in a day, in every hour of the day, we are working on our airplanes, and it is telling you we are having to have just a continual amount of work done to maintain those jets so that when that launch comes in the morning, it has the right capability with the right-trained aviator in the right capability with the right weapon system to go and do the mission which we are doing today day in and day out.

The risk that I see as we maintain this OPTEMPO going forward, we have to ensure we can sustain the funding to allow us to have this in place. You talked before, and this committee talked about, what are the risks across the board if you were to curtail funding. I will tell you, sir, that we have—in aviation we match to our rotational forces as we go forward in our readiness plans to have a tiered readiness. We have a certain readiness level when you are back from deployment, as you work your way through, and as you go on deployment, and it is important that we maintain that posture. And if it were to come down to reducing those funding levels, then we would also be stressed in terms of what our ability is to—we would not sacrifice our wholeness forward. What would happen is we would have more pressure on what is in the early stages of work-ups and deployments—work-ups to a deployment, for example, or additional pressure on what we put through our depots, because that would be an area we would take additional risks, but not at the expense of our wholeness forward.

Mr. FORBES. We only have a couple minutes before they are going to call a vote. You have been very patient. We don't want to hold you over after that vote. So I have a series of questions that I would like to just submit to you for the record to get in the transcript. If you don't mind, I will do that.

I just have one final question. We know there was a shortfall in terms of our projected fuel costs and what the actual fuel costs were of a fairly substantial number, about \$939 million. Admiral, you addressed this a little bit in one of your previous answers. But when we look at this kind of shortfall, what could be the potential impact of that on any of your operations or your budgets? And I know we don't know what that is going to be. But, Admiral McCoy, could we start with you? And I would just love any of your feedback on that.

Admiral MCCOY. It is particularly tough on us in an execution year, particularly midway through an execution year. There are only so many levers that have you to pull. And so primarily they would affect the readiness account. So you would see less steaming days for nondeployed ships; you would see us curtailing buying spare parts, which impacts readiness; and you would likely see some intermediate maintenance reduced due to material costs and things like that. So we would go through a series of things that do affect readiness to pay that midyear bill.

Admiral ARCHITZEL. The answer is similar on the aviation side, Mr. Chairman. The year of execution dollars, we would have to look to curtail flying hours for those not deployed forward, not warfighting first, with an emphasis on warfighting first, and we would also look where we could to available forces—or execution of sources, which would be in our depots, for example, and potentially take a higher backlog, accept that. Because we could take that risk because it is in execution dollars.

Mr. FORBES. Is there anything that you guys would like to add or clarify from anything up to this point before we close out the hearing?

Admiral ARCHITZEL. Mr. Chairman, if I could, I would like to just add that today as we go forward, you ask about risk, we have things that are in there for our legacy aircraft; for example, our AV-8Bs and our P-3s as we go forward, even our legacy Hornets, well past their service lives.

It is very critical that I maintain a robust aviation support account, because that is my engineering and logistic that allow me to take on things that I don't know what is going to happen with those aircraft as they get further and further past their service life. So I would just say if there is an area to look at would be as we submit our aviation support account, that we realize it is crucial to maintaining those legacy platforms as we go forward.

Thank you, sir.

Mr. FORBES. Admiral McCoy, anything else?

Admiral MCCOY. No, sir, but thank you for the support of the committee and the staff.

Mr. FORBES. Admiral Burke.

Admiral BURKE. Nothing from me, sir. Thank you.

Mr. FORBES. Well, gentlemen, thank you so much for your patience. And we made it so we didn't have to delay. And thank you very much for your service. We are adjourned.

[Whereupon, at 11:24 a.m., the subcommittee was adjourned.]



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**A P P E N D I X**

MARCH 22, 2012

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**PREPARED STATEMENTS SUBMITTED FOR THE RECORD**

MARCH 22, 2012

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**Statement of Hon. J. Randy Forbes**  
**Chairman, House Subcommittee on Readiness**  
**Hearing on**  
**The Navy's Readiness Posture**  
**March 22, 2012**

I want to welcome all of our members and our distinguished panel of experts to today's hearing that will focus on the "Navy's Readiness Posture" in the context of the fiscal year 2013 budget request.

I welcome this discussion and the opportunity to dive into the details of the Fiscal Year 2013 President's Budget submission for the Navy Readiness accounts. First and foremost, I commend the Navy for its sustained focus and improvements to surface ship maintenance led by the Surface Maintenance Engineering Planning and Procurement Activity. The rigor that has been introduced into the process facilitates a more comprehensive, standardized, and accurate assessment of fleet maintenance requirements and requisite investments in the operation and maintenance accounts.

In the next few years, we look forward to seeing the full impact of actions taken as a result of the Balisle report, but, the indications are positive and progress has been steady and measurable in that short period of time.

Meanwhile, naval aviation has remained relatively constant—with a level aircraft inventory and steady maintenance requirements. However, in the FY13 request, I am concerned that we decreased the funding in this account from FY12 levels by \$36 million—resulting in a backlog of 74 airframes and 170 engines. We recognize the challenge the Navy has in balancing the maintenance requirements for both new and aging systems in its inventory, and the logistics tail associated with parts availability. The Readiness trends for full mission capability rates suggest less-than-satisfactory performance, but, I look forward to discussing that later in the context of this hearing to garner a greater insight into the rates reflected in the most recent quarterly readiness report.

Despite relatively level funding, I remain concerned that we are robbing Peter to pay Paul. The Navy has been operating in a sustained surge for the past few years. We have been burning out our ships more quickly because the demand has been high. The strategic pivot to the Pacific would result in continued, if not increased demand for these assets in a maritime environment. And, the FY13 budget request includes an increase in ship operations to 58 steaming days per quarter for deployed units and 24 for nondeployed units with base and OCO funding.

In my estimation, this situation does not lead one to logically conclude that it is an appropriate time to retire additional assets, particularly when the existing force structure only satisfies 53% of the total Combatant Commander demand in FY12. Yet, the Navy proposed a top line of 285 ships this year, and possibly through 2017. And, Secretary Panetta said it is his “hope to increase the fleet to 300 ships.”

The Navy already anticipated the retirement and deactivation of 16 ships in FY13. However, with this budget, the Navy announced its proposal to retire an additional 2 amphibious ships and 7 cruisers, 6 of which lack ballistic missile defense capability, across FY13 and FY14. Excluding the USS *Port Royal*, the committee has estimated that the approximate cost to upgrade the assets and sustain them in each respective fiscal year would be \$592 million in FY13 plus an additional \$859 million in FY14. While only an estimate, the cost to retain those 8 assets is significantly cheaper than the price for one new destroyer, for example, at more than \$2 billion.

Admiral McCoy, last year before this very subcommittee, you stated that “the cheapest way to afford our Navy with the force structure that we need is to maintain the ships we already have.” And, the age of these ships is well before the 35- to 40-year expected service life. The cruisers proposed for retirement have approximately 13–15 years of expected service life remaining, and the amphibious ships have approximately 13–18 years remaining. So, why would the Navy propose to reduce the fleet size at a time when all trends indicate that demand is increasing?

We do not expect the budget to get any better, and in fact, reflecting on the unfunded requirements in FY12, I know that the Navy is now forced to deal with an additional \$939 million shortfall due to the difference between the Department’s projected fuel cost and actual costs. I look forward to hearing how you will deal with that bill. I recognize that the Navy is a consumer of the fuel and does not dictate the prices. However, that amount is not inconsequential, and it wreaks havoc during the year of execution—regardless of your budget posture when presenting it to Congress for consideration. Put into perspective, the cost of that shortfall would cover approximately 65% of the amount required for upgrading the cruisers and retaining the amphibs proposed for early retirement in FY13/14.

In my estimation, the proposal to reduce force structure at a time when the demand for naval assets is increasing creates a risk that I am not prepared to accept. It is a proposal that is fraught with danger and will not only degrade the readiness of our forces, but will burn out the assets we have even more quickly while reducing availability to support combatant commander demands.

Let me be very clear. I will oppose any initiative that seeks to undermine the preeminence of our military, I will oppose any effort that breaks faith with our service members and veterans, and I will oppose any effort that seeks to diminish the capabilities of our naval forces. Speaking for myself, and what I believe is the majority of Americans, our Nation cannot afford additional reductions in our military.

As to the request that is before our subcommittee this morning, I look forward to better understanding the reason the Administra-

tion believes that the Navy can do more with less. In my initial assessment of this issue, I believe that not only is our current force structure insufficient, but the future reductions of fleet assets with approximately 40% of their service life remaining compromises military readiness for the future.

Joining us today to discuss the Navy's readiness posture are three distinguished gentlemen:

- Vice Admiral William Burke, the newly appointed Deputy Chief of Naval Operations, Warfare Systems;
- Vice Admiral Kevin McCoy, Commander, Naval Sea Systems Command; and
- Vice Admiral David Architzel, Commander, Naval Air Systems Command.

Ladies and Gentlemen, thank you all for being here.

NOT FOR PUBLICATION UNTIL  
RELEASED BY THE HOUSE  
ARMED SERVICES COMMITTEE

**STATEMENT OF**

**VICE ADMIRAL WILLIAM R. BURKE  
DEPUTY CHIEF OF NAVAL OPERATIONS  
(FLEET READINESS & LOGISTICS)**

**VICE ADMIRAL DAVID ARCHITZEL  
COMMANDER, NAVAL AIR SYSTEMS COMMAND**

**AND**

**VICE ADMIRAL KEVIN MCCOY  
COMMANDER, NAVAL SEA SYSTEMS COMMAND**

**ON NAVY READINESS POSTURE**

**BEFORE THE**

**HOUSE ARMED SERVICES COMMITTEE**

**SUBCOMMITTEE ON READINESS**

**MARCH 22, 2012**

NOT FOR PUBLICATION UNTIL  
RELEASED BY THE HOUSE  
ARMED SERVICES COMMITTEE

Chairman Forbes, Ranking Member Bordallo, and distinguished members of the House Armed Services Readiness Subcommittee, it is an honor for us to be with you today representing the men and women of the United States Navy, active, reserve, and civilians, who work each day to ensure our nation's Navy is, and remains, ready. Their dedicated service delivers Navy capabilities for presence, deterrence and, if necessary, for combat power in our national defense – in the air, and on or under the sea. Although operations in Iraq have ended, our Navy remains deployed globally. Today over half the Fleet is at sea, and Navy forces, operating forward, provided critical humanitarian relief to the citizens of Japan following the Great East Japan Earthquake and Tsunami, while conducting nearly 170 exercises and training events with our partners in the Pacific Region last year. In support of NATO operations in Libya, Navy EA-18G Growlers redeployed from Iraq in less than 48 hours, and our ships and submarines fired 221 Tomahawk Land Attack Missiles to suppress and destroy the air defense network. More than 27,000 personnel continue to serve in the U.S. Central Command (CENTCOM) area of responsibility (AOR), while those in port, operating in home waters, or stationed ashore are training for their global missions, supporting our deployed warfighters, building the future Navy, or supporting our Sailors and their families.

In his recent testimony before the full Committee, the Chief of Naval Operations, Admiral Greenert, discussed the “Sailing Directions” he issued to guide the Navy as we plot our course into the future. He articulated three basic tenets – “Warfighting First, Operate Forward, and Be Ready” – to provide the planning information and guidance necessary to deliver a ready Navy now and in a future characterized by fiscal challenges for the nation and evolving threats to our security and prosperity. His first two tenets capture the Navy's role in deterring, and should deterrence fail, winning our nation's wars, as well as our key contribution to maintaining the maritime freedom that remains the basis of global prosperity. The global reach and persistent presence of our Navy, achieved through both forward stationed and rotational forces, enable these capabilities, and provide a significant contribution to fostering and sustaining the cooperative relationships with our global partners that underpin our freedom and prosperity. A ready Navy is fundamental to achieving these first two tenets, but Admiral Greenert went further in his guidance to specifically articulate the need to “Be Ready.” In order to maintain balance across all the Navy's portfolios and achieve the high levels of readiness described in this statement, in the current budget environment tough choices had to be made, including some reductions to Navy force structure.

It is the role of our organizations, working closely with the Fleet Commanders and through our Aviation, Surface, Undersea and Expeditionary Enterprises, to meet the CNO's challenge to harness the teamwork, talent, and imagination of our diverse force to be ready to fight – and to most

responsibly employ the resources the Congress provides us to achieve that goal. The Navy budget submission for Fiscal Year 2013 (FY13) is aligned to meet those challenges.

#### **A Ready Navy Today**

The Fleet Response Plan (FRP) remains the foundation of Navy force generation. Under FRP, units and task groups are trained and certified in defined, progressive levels of employability to meet deployed presence commitments, as well as surge requirements in support of major operation plan execution or other contingencies. For FY13, we are aligning the FRP cycle of cruiser-destroyer type surface combatants with the CVN cycle, and programming to support additional time in the FRP basic and integrated training phases for these ships. This will ensure the Navy is able to continue to provide the agile and adaptable forces required to meet current and future security challenges. The exact FRP Operational Availability (Ao) required for each type of combat power the Navy generates each year depends on the projected Global Force Management (GFM) plan for the year plus surge requirements. FRP Ao is stated in three terms (the number of units forward + the number of units ready to surge within 30 days, + the number of units ready to surge within 90 days). This provides a ready reference to measure Navy performance in achieving both presence and Major Combat Operations response in support of the Combatant Commanders.

The operations accounts provide the resources for the fuel, repair parts, and other support to ensure the Fleet we have today is ready to meet every task required. The FY13 budget, including Overseas Contingency Operations (OCO) funding, supports Navy operations across the broad spectrum of responsibilities that entails. Our readiness and operational support programs meet the anticipated needs of the Combatant Commanders (CCDRs) as adjudicated through the GFM process, and continue to provide surge forces in support of their major operational plans and other emergent needs, within an acceptable level of risk.

#### **Ship Operations**

The FY13 budget (baseline, plus OCO) provides the Ship Operations account with funding for an average ship's OPTEMPO of 58 steaming days per quarter (deployed) and 24 steaming days per quarter (non-deployed) at an FRP Ao of 3+2+1. This OPTEMPO enables the Navy to meet FRP training and certification requirements with manageable risk. Measures, such as increased use of simulators, concurrent training and certification events while underway, and the judicious use of fuel are used to mitigate risk. While the Navy met all GFM commitments in FY11, including operational requirements in support of Operation Iraqi Freedom (OIF)/Operation New Dawn (OND) and



Operation Enduring Freedom (OEF), we continue to experience high OPTEMPO globally. Sustaining this OPTEMPO remains dependent upon the receipt of OCO or similar supplemental appropriations.

**Air Operations (Flying Hour Program)**

The Flying Hour Program (FHP) provides for the operation, maintenance, and training of ten Navy carrier air wings, three Marine Corps air wings, Fleet Air Support (FAS) squadrons, training commands, Reserve forces, and various enabling activities. The FY13 budget (baseline, plus OCO) resources the FHP account to achieve an FRP Ao of 3+2+2 with subsequent Training-rating (T-rating) levels of T2.5 for Navy and T2.0 for the Marine Corps. T-Rating describes the average readiness of aircrews crews on a scale from 1 to 5. Navy air crew ratings are compared to operational standards in each Primary Mission Area. For the USMC, it describes the proficiency of aircrews in Core, Mission, and applicable Core-Plus skills and Combat Leadership categories. Both USN and USMC units must achieve T-2.0 to deploy or be surge ready.

With this funding, Tactical Aviation squadrons conduct strike operations, provide flexibility in dealing with a wide range of conventional and irregular threats, and provide long range and local protection against airborne, surface and sub-surface threats. FAS squadrons provide vital fleet logistics and intelligence. The Chief of Naval Air Training trains entry-level pilots and Naval Flight Officers, and Fleet Replacement Squadrons provide transition training in our highly capable, advanced Fleet aircraft. Reserve Component aviation provides adversary and logistics air support; makes central contributions to the counter-narcotics efforts; conducts mine warfare; and augments Maritime Patrol, Electronic Warfare, and Special Operations support.

Navy squadrons continued to meet all national tasking through FY11, while demonstrating operational agility in providing humanitarian assistance to the Japanese people during Operation Tomodachi, participating in multi-national air operations during Operation Odyssey Dawn to halt Gadhafi loyalist ground forces, and supporting anti-piracy operations in the western Indian Ocean.

The Navy and Marine Corps are increasing the use of simulation to reduce non-deployed flying hours and continue to invest in new simulators. We are also investing in improvements to existing simulators to further reduce aircraft flying hours while maintaining requisite training levels for deployed operations.

**Fleet Training and Training Ranges**

To support a ready Navy, we continue to invest in new or improved training capabilities in FY13. This budget submission continues funding for the overall upgrade of the Navy Continuous Training Environment (NCTE) network that supports our Fleet Synthetic Training program, and extends the NCTE to support the four ballistic missile defense-capable guided missile destroyers to be forward stationed in Rota, Spain, as well as providing for their other training requirements. Live training is enhanced by the accelerated procurement of high speed maneuverable surface targets and electronic warfare threat emitters, while we continue development of threat representative enhanced air targets. This budget also supports expanded live fire training on our ranges with surface-to-air missiles.

**A Ready Navy Tomorrow**

As he articulated the guiding principles that underlie the basic tenets of his "Sailing Directions," Admiral Greenert noted that ensuring a ready Navy requires maintaining our ships and aircraft to meet their expected service life (ESL). This not only provides ready platforms in the near term, but is an essential contribution to the future capacity of the Fleet. The FY13 Navy budget submission supports our proven sustainment models for CVNs and submarines, continues our investment in the readiness of our surface combatants that is beginning to be realized in the Fleet this year, and supports the transition and integration of new capabilities into Naval Aviation.

**Ship Maintenance**

Keeping our ships in acceptable operating condition is vital to their ability to accomplish assigned missions and reach their ESL, a key factor in the Navy's 30-Year Shipbuilding Plan. Surface ships, aircraft carriers and submarines currently in commission comprise approximately 70 percent of the ships that will be in service in 2020. Reaching ESL requires an integrated engineering approach to plan, fund, and execute the right maintenance. As a result of the progressive maintenance philosophy used to program surface ship maintenance from 1999 to 2010, the life cycle maintenance required for these ships to reach their expected service life was understated. Navy has made significant progress over the last two years to better define the maintenance requirement necessary to improve material readiness of surface ships and achieve their expected service lives.

The Surface Maintenance Engineering Planning Program (SURFMEPP) re-established surface ship maintenance requirements based on disciplined engineering processes, similar to those used by our carrier and submarine communities. Since its inception in 2010, SURFMEPP has

revised the Class Maintenance Plans (CMPs) for five of our seven major combatant ship classes; Mine Countermeasures and Littoral Combat Ship CMP revisions remain, and are scheduled for completion by FY14. SURFMEPP guides maintenance requirements through the production of Technical Foundation Papers (TFPs), which assess the ship's entire life cycle. TFPs are class-specific documents that provide a foundation for all maintenance requirements across an entire ship class. Adding to the previously developed TFPs for DDG 51 and LSD 41/49 Classes, TFPs have now been completed for CG, LPD-17 and LHD Classes to inform this FY13 budget submission. TFPs for MCMs are currently in progress to inform future budgets.

Based on this planning, SURFMEPP generates individual ship life cycle maintenance plans, from which Baseline Availability Work Packages (BAWP) are developed. BAWPs integrate all depot maintenance and modernization requirements, and identify and mandate the required lifecycle maintenance for each ship; 67 such BAWPs for DDG, CG, LHD, LSD and LPD-17 Class ships have been developed to date. BAWPs are then used to derive Availability Work Packages (AWPs) for each specific surface ship availability; ten AWP have been completed and are being used in availabilities executing in FY12, with 41 AWP in development. Under this new end-to-end process, availability planning, execution, and certification are codified, and all required maintenance actions identified in the BAWP are tracked to completion. If a maintenance action is proposed for deferral, SURFMEPP reviews the request and ensures formal adjudication by the appropriate technical authority. If approved, SURFMEPP ensures the action is rescheduled for a follow-on availability, or other appropriate windows of opportunity.

Based on the collection and analysis of ship availability extensions to date, SURFMEPP identified that understanding ship tank conditions is a priority. Growth work and many availability extensions have been related to newly discovered problems with tanks at the beginning of availability. SURFMEPP is now aggressively tracking tank conditions to counter this work growth, but reliable data only exists for approximately 69 percent of tanks. Our goal is to know the condition of 95 percent of all tanks by the end of FY14. As identified, tank corrosion prevention and correction are incorporated into individual ship life cycle maintenance plans and the BAWP as part of availability planning.

#### Corrosion Control Initiatives

Navy continues our partnership with the American Bureau of Shipping (ABS) in performing detailed surface ship structural surveys using commercially proven processes and procedures. Inspections are complete on over thirty surface combatant and amphibious ships, and over twenty

more are scheduled in FY12. During these inspections, between 3,000 and 5,000 thickness measurements are taken to determine the degree of localized corrosion and to look for critical areas with reduced fatigue life and marginal hull strength. Additionally, deployment histories are being analyzed for ship's position, weather condition, speed, etc., to determine the impact from these parameters on the ship's material condition. Through this documentation and analysis, the maintenance community is becoming better able to perform "condition based" planning to avoid serious material conditions that adversely impact a ship's operational availability.

#### Manning Initiatives

Navy began restoring some billets previously removed from optimally manned ships in FY12, with an increase of 1,105 Sailors aboard these ships. In FY13, an additional 1,107 Sailors will return to sea. This initiative provides these ships with the capacity and capability to maintain and improve their operational and material readiness. The increase in both Sailor and civilian manning at our Regional Maintenance Centers (RMCs) to restore intermediate level maintenance capacity and capability on the waterfront also continues under this budget submission. The increased staff provides the RMCs with appropriate skill-sets to execute Navy maintenance in accordance with the Joint Fleet Maintenance Manual; supports quality shore duty for Sea/Shore rotation; and provides I-Level capability/capacity in the Hull, Mechanical and Electrical, and Combat Systems, maintenance and repair shops. This increase also establishes a journeyman training continuum for Sailors that will increase a ship's capability to find, fix and document maintenance issues within the lifelines.

#### **Ship Maintenance Funding**

The FY13 budget (baseline, plus OCO) fully funds the ship maintenance requirement. More importantly, as previously discussed, the ship maintenance requirement this year includes updated Class Maintenance Plans (CMPs) for five of our seven major combatant ship classes, significantly enhancing requirement validity. Navy is also committed to the right level of ship maintenance at the most efficient cost. We continue efforts to reduce the total cost of ownership of the Fleet, as we have done with SSN 688 and SSN 774 class submarines, through continued analysis of engineered technical requirements and assessment of recently completed availabilities. However, Navy remains dependent upon the receipt of OCO, or similar supplemental appropriations, to fully fund our enduring baseline ship maintenance requirements.

The cyclic nature of ship and submarine depot availabilities from year to year continues to cause variations in budget requests and annual obligation levels. Surface ship availabilities are conducted almost exclusively in the private sector. Nuclear submarine and aircraft carrier availabilities are primarily conducted in the public sector, with selected availabilities completed by nuclear-capable private shipyards. Whenever practical, maintenance is performed in the ship's homeport to minimize the impact on our Sailors and their families. The Navy recognizes maintenance organizations need a stable and level workload to maximize efficient execution. We continue to level the workload to the maximum extent practicable within operational constraints.

#### **Aviation Maintenance**

Aviation maintenance is accomplished through a combination of organizational (unit) level, intermediate level, and depot level maintenance. Aviation Depot Maintenance (ADM) is performed by Navy organic Fleet Readiness Centers (FRCs), inter-service maintenance facilities, and commercial aviation depots that overhaul, repair, and modify Navy and Marine Corps aircraft, engines, components, and support equipment to meet Naval Aviation operational and training requirements at the best value. ADM invests today, for service life consumed yesterday, to provide readiness for tomorrow. The FRCs directly support all Navy and Marine Corps tactical and core logistical support aircraft. Navy and Marine Corps training and non-core logistical support aircraft are maintained mainly under commercial contract that includes required depot level maintenance.

Aircraft, engines, and systems have an established maintenance cycle documented in maintenance publications, which are based on flight hours, calendar days, or cycles (e.g. landings, catapult launches, carrier landings, operational hours, prognostics). These approved maintenance publications specify which level of maintenance organization can perform each task.

The Naval Aviation Enterprise applies industry-proven continuous process improvement (CPI) tools to deliver increased readiness with greater efficiency. CPI produces readiness by increasing the speed, reliability and predictability of processes associated with integrated maintenance and supply chain replenishment. The FY13 budget submission supports a key CPI effort called Quality Based Maintenance (QBM). QBM uses Aviation Rapid Action Teams (ARATs) to systematically root out components causing degraded readiness. To date, ARAT teams have developed repairs for high cost consumable items for the FA-18 and MV-22, providing significant operational savings. ARAT will continue to improve repair procedures, seek more cost effective repairs, and eliminate problematic components that contribute to increased cost and decreased readiness.

Additionally, the FY13 budget invests in long term enhancements to the overall material condition of Naval aircraft. In a cooperative venture between NAVAIR and the Fleet, corrosion prevention teams are systematically analyzing the material condition of fleet aircraft and providing feedback directly to operational units to improve corrosion prevention practices and close gaps in training. In addition to direct feedback, long term improvements to repair manuals, training curriculum, inspection requirements, and data documentation practices assist in reducing the impact of corrosion and degraded material condition.

Adequately addressing the maintenance issues encountered with our older aircraft, along with aggressively pursuing cost efficiencies and readiness degraders, also requires a robust Aviation Support program. Aviation Support consists of technical, engineering logistics and repair services administered by platform. This critical work enables aircraft to maintain safe and reliable operation, while ensuring expected service life is met at the lowest cost. It funds the air vehicle, engine, systems, support equipment technical data updates, calibration, and software maintenance activities that directly affect operational mission effectiveness and mission completion rates. It includes the foundational engineering and logistics processes, policies, and information technology programs essential to sustain fleet aircraft, engines and support systems.

#### **Aviation Maintenance Funding**

FY13 funding (baseline, plus OCO) for depot airframe and engine workload supports 94% of the aviation depot maintenance Fleet and Reserve requirement. This funding will result in 720 airframe and 2,070 engine depot inductions. There is a \$75M shortfall to fully fund the operational requirement of \$1.4B, resulting in a projected backlog of 14 airframes and 273 engine depot requirements.

To develop the Aviation Support requirement, Navy leverages both the Optimized Performance Model and the Support Equipment Depot Readiness Assessment Model to ensure credible traceability between requirements and affordable outcomes. Both models provide more transparent funding allocation and prioritization for safety and readiness issues. For FY13, Aviation Support is funded at \$715M FY13 (baseline, plus OCO).

#### **Navy Expeditionary Forces**

Although a smaller part of the overall Navy operations and maintenance budget, Navy expeditionary forces support global missions that expand and enhance CCDR capabilities by deploying security, construction, logistics and training units. These cost effective capabilities are

expected to remain in demand to support CENTCOM missions through the end of OEF, and will continue to be in demand supporting global maritime operations envisioned for Theater Security Cooperation, Security Force Assistance, Anti-Access/Area Denial, Mine Counter-Measures, and support to Special Operations Forces (SOF) in the new defense strategic approach.

Navy uses a capability costing model similar to the models used in other O&M programs to assist in the planning, programming and budgeting of the Navy Expeditionary Combat Enterprise (NECE). The model includes expeditionary components' FRP training schedules, inflation and pricing guidance, and historical costs to predict future costs at various performance levels. The model is able to make tradeoffs in performance from the notional FRP output, driving differences in cost.

The FY13 budget submission (baseline, plus OCO) funds 100% of the FY13 requirement for the full range of NECE capabilities, while the FY13 baseline budget funds 50% of the enduring requirement. The Navy continues to leverage OCO to fund enduring post-OEF baseline requirements, including Explosive Ordnance Disposal, Maritime Expeditionary Forces, and Naval Construction Forces, as well as additional capabilities highly desired by the CCDRs.

#### **Shore Operations**

The Navy's shore infrastructure – both in the United States and overseas – keeps our fleet ready to deter aggression, respond to crises, and win our nation's wars. In addition to supporting operational and combat readiness, it is also an essential element in the quality of life and quality of work for our Sailors, Navy civilians, and their families. The FY2013 budget submission emphasizes ship and air operations, and Sailor and family readiness.

We remain committed to current Fleet operations through a combination of Base Operating Support (BOS) and Facilities Sustainment, Restoration, and Modernization (FSRM) funding. Within BOS, our FY2013 budget submission funds port and flight line operations, safety and security, and family support programs. Meanwhile, we continue to target our FSRM funding toward facilities directly supporting operations, such as airfields, hangars, piers, and barracks. This includes our Naval Shipyards, which we continue to sustain and recapitalize within today's fiscally constrained environment, focusing on mission-critical facilities such as production shops, piers, wharves, and dry docks. We mitigate the level of deliberate risk we take in the sustainment of our infrastructure by prioritizing projects at facilities with the lowest quality rating first.

#### Family Readiness Programs and Child and Youth Programs

Our personnel programs deliver a high return on investment in the readiness of our Sailors and civilians. Navy's Family Readiness programs enhance mission readiness by assisting Commanding Officers, Sailors, and their families in managing the demands of the military lifestyle. Our Navy Child and Youth Programs provide high-quality educational and recreational programs for Navy children ages six weeks through eighteen years in multiple venues. All programs are operated in accordance with the Military Child Care Act, and are DoD-certified and nationally accredited. We recently expanded our childcare facilities by 7,000 spaces, and will meet the Secretary of Defense's goal of providing for at least 80 percent of the "potential need" by the end of this year.

#### Housing

Quality housing significantly impacts Sailor retention, productivity, and individual and mission readiness.

Our Bachelor Housing program is focused on providing Homeport Ashore housing for our junior sea-duty Sailors by 2016, and attaining the OSD goal of 90 percent "adequate" (Q1/Q2) bachelor housing. Our Homeport Ashore program is on track, and the PB-13 budget submission includes homeport ashore barracks construction at Naval Base Coronado. Navy is also requesting \$195M in FY13 to improve the condition of our existing barracks to continue progress toward OSD's quality goal.

Navy Family Housing supports Navy readiness by providing Sailors and their families the opportunity for suitable, affordable, and safe environments by first looking to the community, then to our private partners, and finally through Navy-owned housing. Due to our privatization and renovation efforts, Navy is on track to achieve OSD's goals of 90 percent "Adequate" family housing inventory by 2017. Our FY13 budget submission funds family housing improvements, planning, and design in addition to the operation and maintenance of our approximately 10,000 Navy-owned and 3,000 leased homes. We have privatized 97 percent of our CONUS and Hawaii family housing inventory and continue to perform oversight of our privatized housing to ensure Navy Sailors and their families benefit from quality housing and services.

#### **Energy and Environmental Readiness**

We continue our progress toward meeting Federal mandates for energy efficiency and alternative energy, as well as goals established by the Chief of Naval Operations and the Secretary of the Navy. Our energy initiatives are focused on enhancing combat capability, reducing total



ownership costs, and ensuring energy security. Protection of the marine environment in Navy training, testing, and research activities at sea continues to be the Navy's top environmental priority.

### **Energy**

The Navy's energy program is aimed first at energy efficiency to enhance combat effectiveness through greater endurance, and reducing operating costs over the lifecycle of our systems and facilities. On the operational energy front, testing and evaluation of numerous technologies that improve fuel economy and reduce maintenance requirements for existing ships is complete, and we continue to make targeted investments for the future. We are developing best practices for reducing fuel consumption by ships and aircraft, as well as investing in simulator upgrades.

The program's second focus is assuring mobility by diversifying our sources of energy. Navy's small investments in alternative fuel 'drop in replacement' testing provide an off ramp from conventional fuel sources, while providing a hedge against future price volatility. Use of advanced alternative fuels will require no modification to current inventory aircraft and ship engines or changes to fuel distribution or logistics resupply networks. Provided the alternative fuel life cycle pathway meets all legal requirements, the Navy has no process or feedstock preference.

Additionally, we are on track to conduct a test and evaluation of a "Green Strike Group" this summer, featuring ships and aircraft operating on biofuel blends, as well as technologies that enable energy efficiency. Incorporating use of these energy initiatives into the 2012 RIMPAC Exercise provides an opportunity to highlight our efforts to reduce fuel consumption through technology and best practices, and will serve as a capstone for the testing of hydrotreated renewable fuel blends.

The Navy has also made remarkable progress on shore energy initiatives to meet various legislative mandates. We are increasing the energy security of critical assets, improving the energy efficiency of our buildings, reducing petroleum consumption from non-tactical vehicles, and incorporating renewable and alternative energy technologies where economically viable. Advanced metering and microgrid technologies will enable better energy management and improve resiliency in emergencies. The Navy fully supports compatible renewable energy development and is working aggressively to identify ways to preserve our readiness where renewable energy may impact military missions.

The most energy efficient ship or building will not achieve our energy goals if we do not fundamentally alter the way we think about and consume energy. The Naval Postgraduate School has accepted the first students in its new masters programs in both energy technology and energy

policy, and we are driving energy awareness to ensure that every Sailor values energy as a critical part of our readiness, resulting in more frugal use of resources, greater agility and reduced vulnerability to adversaries. Finally, we are incorporating energy into the acquisition process, mandating that our future platforms and systems consider energy as a warfighting capability during the early stages of design.

#### **Environment**

Working closely with our principal environmental regulator, the National Marine Fisheries Service, Navy engages in a comprehensive and robust program of environmental planning, permitting and consultation regarding our at-sea activities. The Navy maintains the world's foremost marine mammal research program to ensure science-based protective measures for Navy activities at-sea. A concerted environmental compliance effort in these and other areas is absolutely essential, given the near certainty that non-governmental environmental interest groups will continue to seek restrictions on Navy activities at sea. Navy environmental protection efforts enable us to be a responsible environmental steward of the marine environment, and a mission-ready force able to engage and defeat potential enemies

#### **Optimizing Total Ownership Cost**

Building and sustaining a capable, yet affordable Fleet remains one of the CNO's highest priorities. Naval acquisition policy and processes continue to focus on program affordability, Total Ownership Cost optimization, and sustainment in the Navy's Weapon System Programs. Navy defines Total Ownership Cost as the total life cycle cost of a system from concept, research and development, production, and sustainment through disposal, including the total supporting infrastructure that plans, manages and executes that program over its life cycle.

In execution, we seek to maximize performance and retain flexibility while controlling total ownership cost. However, we must also balance required performance with sufficient flexibility to adequately respond to changes in our battle space. We employ a broad spectrum of contracting tools and procedures to craft, award, and administer contractual vehicles to incentivize Total Ownership Cost efficiencies in the sustainment arena, including:

- Performance based logistics contracts that transfer traditional sustainment functions to a contractor for a specified level of performance.


- Strategic sourcing and commonality approaches that lead to “buying smarter” (and more affordably) through consolidated purchasing, reductions in technical specification variability, and tailored performance work statements.

One common characteristic of these contracting strategies is the long term nature of their required funding. Navy is focused on developing sustainment strategies early in order to identify the proper contract type, clearly define performance requirements, and develop a clear understanding between government and industry regarding required performance standards.

In addition to contracting tools, the Navy also accomplishes reduced Total Ownership Cost through a set of initiatives that drive us to seek out cost reductions. Supported by policy, these initiatives focus on total ownership cost estimating and sustainment planning as highly weighted criteria to mitigate cost risk within defense system decision-making forums. The Navy refined an Enterprise-wide process for identifying and vetting cost reduction candidates for potential investment. Institutionalizing this process fosters a culture of continuous cost consciousness for optimizing cost in Navy’s major weapons system acquisition process and supporting governance forums. These efforts ensure equitable risk and performance measures, resulting in the right performance for the right price. For FY13, seven discrete initiatives were selected requiring an investment of \$327M to achieve projected life cycle savings of \$3.7B, with \$229M in savings programmed within the FYDP.

### **Conclusion**

As part of his recent testimony, Admiral Greenert reiterated the three budget priorities he shares with his recent predecessors: Remaining ready today; building a relevant and capable future force; and, enabling and supporting our Sailors, Navy civilians, and their families. This triad informs the difficult balancing act to which each CNO applies their considered judgment, developing a budget submission that best delivers the Navy the nation needs today, and in the future. In concert with the three tenets of his “Sailing Directions,” our common focus on readiness is clear. The Navy FY13 budget submission is constructed to sustain Navy readiness overall, but also to improve readiness in key areas requiring further enhancement. With the support of the Congress, our Navy is ready today, and will remain ready for the challenges of the future. We thank the Members of the subcommittee for your strong support of the Navy and the successful accomplishment of our mission, and particularly for your commitment to the welfare of our Sailors and their families. We request your favorable consideration of the Navy FY13 budget request.



# United States Navy Biography

## Vice Admiral William R. Burke Deputy Chief of Naval Operations for Fleet Readiness and Logistics (N4)

Vice Admiral Burke, a native of Hornell, N.Y., graduated from the United States Naval Academy in 1978 with a Bachelor of Science in Systems Engineering. In 1985, he completed an MBA at Marymount University. In 1999, he earned an MS in National Security Strategy at the National War College in Washington, D. C. He is a graduate of MIT Seminar 21 Program in International Politics.

His submarine assignments include USS *Lafayette* (SSBN 616), USS *Key West* (SSN 722), USS *Omaha* (SSN 692), USS *Cavalla* (SSN 684), and command of USS *Toledo* (SSN 769). He commanded Submarine Squadron 2 from July 2001 to July 2003.


His Washington D.C. shore assignments include a tour in chief of naval operations' Attack Submarine Division, assistant deputy for House Liaison in the Navy Office of Legislative Affairs, chief of Training, Doctrine, and Assessment and assistant deputy director for Combating Terrorism (JCS J34), and head of Warfighting Assessments Branch (N812) followed by a tour as the executive assistant to the vice chief of naval operations.

Promoted to rear admiral in September 2005, his flag assignments include commander, Logistics Group Western Pacific / commander, Task Force 73 / commander Navy Region Singapore; director, Assessment Division (N81/N00X) and the director, Quadrennial Defense Review (QDR/N00X).

In April 2010 he was promoted to vice admiral and reported for duty as deputy chief of naval operations for Fleet Readiness and Logistics (N4).

Burke wears the Defense Superior Service Medal, Legion of Merit (three awards), Meritorious Service Medals (three awards), the Navy Commendation Medal (four awards), and the Navy Achievement Medal (two awards). While on board *Cavalla*, he received the Admiral Chick Clarey Award for the 1992 Outstanding Navy Officer Afloat from the Honolulu Council of the Navy League.





# United States Navy Biography

## Vice Admiral David Architzel Commander, Naval Air Systems Command

Vice Admiral Architzel currently serves as commander, Naval Air Systems Command, headquartered in Patuxent River, Md. He assumed his duties in May 2010, after serving as the principal military deputy to the assistant secretary of the Navy (Research, Development, and Acquisition).

Previous flag assignments included program executive officer for Aircraft Carriers; commander of Operational Test and Evaluation Force, Norfolk; commander, Navy Region Mid-Atlantic; commander, Naval Safety Center, Norfolk; commander, Iceland Defense Force; and commander, Fleet Air Keflavik.

At sea, Architzel served as the executive officer, USS *Dwight D. Eisenhower* (CVN 69) and Pre-Commissioning Unit *John C. Stennis* (CVN 74). He served as the commanding officer, USS *Guam* (LPH 9); flagship for commander Amphibious Squadron (CPR) 2; and the sixth commanding officer of USS *Theodore Roosevelt* (CVN 71).

A career naval aviator, Architzel has accumulated more than 5,000 flight hours, 4,300 of those hours in the S-3, and the remainder in some 30 other aircraft types in his role as a test pilot at NAS Patuxent River. He served in Sea Control Squadron (VS) 30, deploying aboard USS *Forrestal* (CV 59), and as maintenance officer in VS-28, deploying aboard USS *Independence* (CV 62). He later returned to VS-30 as the executive officer and subsequently as commanding officer.

Architzel was born in Ogdensburg, N.Y., and raised in Merrick, Long Island. He earned a Bachelor of Science degree in mathematics at the U.S. Naval Academy in June 1973 and also holds a Master of Science degree in aeronautical systems from the University of West Florida. He enjoys major league baseball, model trains and is a really average golfer.

His decorations include two Navy Distinguished Service Medals, the Defense Superior Service Medal, four Legions of Merit, three Meritorious Service Medals, the Navy Achievement Medal



and various service related awards and campaign ribbons. He was also awarded the Spanish Naval Cross of Merit from His Majesty, King Juan Carlos of Spain, the Navy League's John Paul Jones Leadership Award for 1998, and the Commander's Cross with Star of the Icelandic Order of the Falcon presented by the president of Iceland.

*Updated: 1  
September 2010*

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## United States Navy Biography

### Vice Admiral Kevin M. McCoy Commander, Naval Sea Systems Command

A native of Long Island, N.Y., Vice Admiral McCoy graduated from the State University of New York at Stony Brook in 1978, with a Bachelor of Science Degree in Mechanical Engineering.

At sea, McCoy served aboard USS *Daniel Webster* (SSBN 626) and as repair officer aboard USS *L. Y. Spear* (AS 36). In these assignments he earned his submarine engineering duty qualification and his surface warfare qualification. He was also awarded the Claud A. Jones Award from the American Society of Naval Engineers as "Fleet Engineer of the Year" during his tour onboard *Ly Spear*.

Ashore, McCoy served in numerous assignments in the Naval Shipyards, including assignment to Mare Island, Charleston, Norfolk, Puget Sound and Portsmouth Naval Shipyards. From 2001-2004, he served as the 80th commander of Portsmouth Naval Shipyard. McCoy earned a master's degree in Mechanical Engineering and an engineer's degree in Naval Engineering from the Massachusetts Institute of Technology. He also earned a Masters in Business Administration Degree from Emory University.

Upon selection to flag rank, McCoy served as assistant deputy commander of Industrial Operations of the Naval Sea Systems Command from 2004-2005. From 2005-2008, he served as the Naval Sea Systems Command's chief engineer. In June 2008, he was confirmed by the U. S. Senate for promotion to the rank of vice admiral and was assigned as the 42nd commander, Naval Sea Systems Command.



*Updated: 14 April 2011*

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**WITNESS RESPONSES TO QUESTIONS ASKED DURING  
THE HEARING**

MARCH 22, 2012

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### RESPONSE TO QUESTION SUBMITTED BY MR. FORBES

Admiral BURKE. Navy priorities require realignment of funding to retain and modernize, maintain, man, and equip the seven CGs proposed for retirement. The original PB 12 modernization fielding plan included USS COWPENS (CG 63) and USS GETTYSBURG (CG 64) in FY13; USS CHOSIN (CG 65) and USS HUE CITY (CG 66) in FY14; USS VICKSBURG (CG 69) in FY15; and, USS ANZIO (CG 68) AND USS PORT ROYAL (CG 73) in FY16. Except for CG73, at the time the decommissioning decision was made, none of the six cruisers scheduled for decommissioning were scheduled for BMD installations. The department estimates the cost to modernize the six (6) Cruisers with BMD capability, excluding the USS PORT ROYAL, to be: \$306.9M for CG 63 and \$269.8M for CG 64 in FY14; \$383.5M for CG 65 in FY14 and \$275.1M for CG 66 in FY15; \$363.2M for CG 69 in FY15; and \$275.1M for CG 68 in FY16. The total modernization cost to upgrade the six (6) Cruisers with BMD capability is \$1.9B. Modernization is funded and executed via a four year phased approach for procurement, installation, and testing. Equipment is procured two years in advance of installation with testing completed the year following availability completion. The modernization costs provided are a consolidation of procurement, installation, and testing.

Additionally, the current Cruiser ACB12 configuration will not support BMD capability without significant RDT&E expenditure. There is currently no ACB Aegis baseline developed for CG BMD 5.0 capability. The R&D estimate to develop an Aegis baseline to enable the Cruisers with BMD capability is \$250M.

The ongoing recurring maintenance cost for the seven (7) Cruisers scheduled for decommissioning is estimated to be \$1.2B across the FYDP. The estimated cost per ship is as follows; \$168.9M for CG 63, \$116.3M for CG 64, \$147.3M for CG 65, \$142.6M for CG 66, \$186.2M for CG 68, \$194.7M for CG 69, and \$204.7M for CG 73.

The department estimates overall cost to retain and modernize, maintain, man and equip the seven CG's proposed for decommission as non-BMD assets is \$4.1B. Specifically, modernization (non-BMD) and superstructure cracking repair comprises \$1.7B. Additionally, ongoing recurring maintenance totals \$1.2B. Finally other costs for additional MH-60 helicopters, C4I standalone upgrades, and MILPERS totals \$1.2B.

To enable the CGs with BMD capability, \$250M RDT&E to develop an Aegis baseline and \$55M per ship for hardware procurement are required in addition to the \$4.1B.

\$3M per ship is programmed for the decommissioning and disposal of each vessel. To retain the 7 CGs as Out of Commission, In Reserve (OCIR) assets in maintenance category B would cost approximately \$150K per ship/yr. Maintenance category B vessels receive a standard inactivation (dehumidification and cathodic protection) to prepare them for long term storage and potential future reactivation. To maintain the vessels in a higher state of material readiness, and potentially a faster reactivation, a full inactivation, as defined in OPNAVINST 4770.5G, could be performed. A full inactivation includes the standard inactivation plus pre-inactivation ship overhaul and dry-docking. Full inactivation would cost approximately \$50-100M per ship depending on the material condition of the vessel at the time of decommissioning. [See page 21.]

### RESPONSE TO QUESTION SUBMITTED BY MS. BORDALLO

Admiral BURKE, Admiral ARCHITZEL, and Admiral MCCOY. The chart below describes the cost, efficiency gain, and simple payback period for Navy operational energy projects to be installed on platforms in FY13. Total Navy funding for these initiatives in FY13 is \$17.4M. Initiative Cost Per Ship Install (\$000s) Efficiency Gain (Bbls/ship/year) Simple Payback Period (years) Energy Dashboard 500 2,179 1,025 1.0 Solid State Lighting (LHD/LSD) 370 100-500 12.3/24.5 Combustion Trim Loop 850 >3,048 1.6 Intelligent HVAC&R (MSC) 2,400 >4,000 4.0

Aside from reduced fuel consumption, some initiatives also result in Total Owner-ship Cost (TOC) reductions from decreased maintenance requirements. For example,

solid state lighting (SSL) reduces energy draw and thus lowers fuel consumption, but the SSL bulbs also last much longer than conventional bulbs and decrease maintenance costs by reducing the number of light bulb replacements necessary from comparable usage.

Navy RDT&E efforts in FY13 include the following initiatives. Payback periods are estimated. Initiative Cost Per Ship Install (\$000s) Efficiency Gain (Bbls/ship/year) Simple Payback Period (years) DDG-51 Hybrid Electric Drive 11,000 5,491 12.5 Smart Voyage Planning Decision Aid 9,100 (fleet-wide) >250,000 bbls/year (fleet-wide)

With respect to alternative energy sources, the Navy is funding the Alternative Fuel Test & Certification program at \$11.1M in FY13. As a result of this program, the Navy will be able to use drop-in alternative fuels when they become price competitive with petroleum fuels. Alternative fuels have the potential to assure the Navy of a domestic supply of fuel and ease budgetary pressure from volatile petroleum markets. [See page 13.]

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**RESPONSE TO QUESTION SUBMITTED BY MR. SCOTT**

Admiral ARCHITZEL. The CNO goals for Full Mission Capable (FMC) and Mission Capable (MC) for deployed and non-deployed units are 61 percent (FMC deployed); 51 percent (FMC non-deployed) and 78 percent (MC deployed); 68 percent (MC non-deployed). These goals have not changed for the past 20 years. [See page 14.]

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**QUESTIONS SUBMITTED BY MEMBERS POST HEARING**

MARCH 22, 2012

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### QUESTIONS SUBMITTED BY MR. FORBES

Mr. FORBES. Last year before the Senate, you indicated that the Navy was on track to increase manning at its Regional Maintenance Centers by 400 additional sailors and 385 civilians across the FYDP. Is that plan still in place? If so, what do you expect will be the impact of that investment?

Admiral BURKE. To begin the restoration of intermediate level maintenance capacity and capability on the waterfront, Navy is implementing the approved FY12 budget increases to the Regional Maintenance Centers' (RMC) military and civilian manning. The FY12 budget approved 400 additional RMC Sailors: 285 in FY12, and 115 in FY13. In addition, the RMCs were approved to increase 385 civilian Full Time Equivalent (FTE) in FY12 over their FY10/FY11 levels.

Increased capacity and capability at our RMCs will ultimately result in improved readiness of the Fleet. Ships and submarines should experience a quicker turn-around to receiving intermediate level support, so equipment downtimes will be reduced. Additionally, Sailors attached to RMCs will learn valuable skills such as the ability to self-assess, identify, and even correct maintenance issues that are typically more complex, and require a higher level of experience than those routinely performed at the organizational level. When these Sailors return to the Fleet, they will bring this invaluable knowledge and skill-set with them, and the readiness of the ships and submarines to which they are attached will consequently increase.

Mr. FORBES. Currently, the Phalanx Close-In Weapons System (CIWS) is the primary system for almost all Navy surface combatants for terminal self-defense and is also used for countering multiple fast surface craft and slow moving aircraft. In 2010, then-CNO Admiral Gary Roughead stated that a "seven-year overhaul cycle provides the most efficient path to maintaining operational availability." He went on to say that the Navy's assessment was that 36 overhauls per year would be needed starting in FY12. Given the fact that the FY12 budget only included eight overhauls and the current FY13 President's budget request again only includes eight, how does the Navy intend to address this shortfall?

Admiral BURKE. The CIWS OM&N budget doesn't fund 36 overhauls per year because an alternate solution (CIWS 20 year RM&A roadmap) has been implemented since the Navy's assessment in 2010. This alternate solution reduces the requirement to 20 overhauls per year. Given competing priorities, the CIWS budget ramps up to 20 overhauls per year in FY16. The eight overhauls per year in FY12 and FY13 and the ramped approach to achieve 20 overhauls per year in FY16 provides an acceptable risk level to CIWS operational availability.

Mr. FORBES. With the decreasing fleet size and expanding requirements, particularly with the pivot to the Pacific, what share of COCOM requirements is the Navy unable to fulfill? What is the risk of not meeting these requirements? How is the risk of these shortfalls being mitigated? How does the Fleet Response Plan enable the Navy to plan and prioritize to meet these requirements? What risks is the Navy taking in core requirements in order to fulfill COCOM requirements?

Admiral BURKE. The Navy does not source every Geographic Combatant Commanders (COCOM) request for forces, but continues to source 100% of Global Force Management (GFM) adjudicated requirements. Navy sourced 59% of COCOM requests for FY11 and 58% of COCOM requests for FY12 as of 11 April 2012. COCOMs are encouraged to ask for any forces they feel would be beneficial to achieve their theater objectives. This demand signal is not constrained by force provider inventory, National Defense Strategy, or other COCOMs demands. With the request, the COCOMs also provide a risk assessment if the requested forces are not sourced.

The Joint Staff led GFM process balances competing COCOMs demand with the available resources and priority requirements. GFM allows the Secretary of Defense (SECDEF) to make risk-informed decisions to align U.S. military forces and capabilities against strategic objectives. The Fleet Response Plan (FRP) is the Navy's force generation model that balances the employability of the Fleet contrasted against meeting expected service life (maintenance and modernization) and training requirements. The FRP generates a trained and ready force available for SECDEF

allocation to the Combatant Commanders. The FRP does not enable the Navy to plan or prioritize the COCOM requirements.

Naval forces are rotational in nature and are trained in expectation of deploying to fulfill COCOM requirements. When naval forces are deployed at a sustainable rate, the core requirements of maintenance and training are balanced against the COCOM requirements. When naval forces are ordered to fulfill COCOM requirements at an unsustainable rate, maintenance and training are sacrificed to generate COCOM presence and there is an increased risk of not reaching expected service life.

Mr. FORBES. The Navy, in its FY12 budget submission, made the decision to place a Maritime Prepositioning Squadron (MPSRON) forward-deployed to EUCOM into a reduced operating status in Jacksonville, FL. In the FY13 budget submission the Navy has proposed going a step further and placing that squadron into a strategic reserve. Did the analysis underlying this decision take into account other strategic lift reductions being made by TRANSCOM and the possible cumulative effects on the combatant commanders' ability to successfully prosecute their missions?

Admiral BURKE. The affected COCOMs; PACOM, CENTCOM, EUCOM and AFRICOM recently testified that they could accept moving the five remaining MPSRON ONE ships from prepositioning to the surge sealift fleet in a five day readiness status on the U.S. East Coast. It should be noted that this transfer results in no sealift capacity being lost by this decision and in fact increases TRANSCOM's capability and capacity because surge sealift ships can often be loaded with more cargo than prepositioning ships (since the weather deck is not available for rolling stock on ships in afloat prepositioning).

Mr. FORBES. In FY12, the DOD programmed a \$131 per barrel rate for fuel and that rate has since increased to approximately \$165 per barrel. This creates a shortfall of \$687 million in the base budget and \$252 million in the OCO account for a total of \$939 million. What options are being considered to pay for this shortfall? And, how soon will the decision have to be made?

Admiral BURKE. This shortfall will be funded through reprogramming actions, below threshold realignments, or curtailment of operations. The Navy anticipates a reprogramming prior to the OMNIBUS to cover a portion of the shortfall.

Mr. FORBES. Given issues with the efficacy of current computer-based training raised by GAO, the Naval Inspector General, and the Balisle report, how has the Navy improved off-ship training for Navy personnel to ensure that sailors arrive at the ship with the necessary skills?

Admiral BURKE. The Navy is reinvigorating school house training through new/ revised courses, instructor manpower increases, and updated equipment to facilitate more hands-on training, all aimed at improving off-ship training for Navy personnel to ensure that Sailors arrive at the ship with the necessary skills.

Coincident with the publication of the Navy Inspector General (2009), Balisle (2010), and the GAO (2011) reports there was a paradigm shift in the way the Fleet trains Sailors. Dissatisfaction with surface Force training at multiple echelons throughout the Fleet prompted Commander, U.S. Fleet Forces (USFF) to initiate an internal review. In 2010, Commander, Naval Surface Forces Atlantic (CNSL), under USFF direction conducted the Surface Force Readiness Review which resulted in a fundamental shift in training emphasis and methods. Whereas the previous emphasis was placed on self-training methods with tools like Computer Based Training (CBT), the Fleet's revised approach stresses instructor based training.

This new focus produced a series of training initiatives to ensure our Sailors are provided with the tools, training and time needed to prepare them to deploy with confidence in their ability to accomplish the mission assigned. Achievements include:

- Moved from individual self paced CBT to group paced IMI (Interactive Multimedia Instruction) which blends instructor led training with interactive supporting technology curriculum
- Increased A School length, improved course content and allowed for follow-on C School remediation as required
- Improved the quality of Advanced Warfare Training (AWT) on the waterfront by providing technicians and operators in-depth, hands-on training of weapon employment and system maintenance through additional instructor billets and high fidelity shore based trainers
- Modernized and implemented a new instructor training pipeline to provide instructors with the skills and techniques to successfully teach in the computerized classroom learning environment
- Instituted surface division officer introduction course in Fleet concentration areas and renewed the Senior Officer Ship Material Readiness Course (SOSMRC)



- Conducted front end analysis of 26 separate “A” schools to determine the best methods of training delivery for Sailors
- Reviewed the Navy System Training Plans (NTSP) process to document Fleet technical training requirements ensuring updated technical training equipment matches current Fleet systems and is available at off-ship training centers for hands-on instruction

In conclusion, after an extensive internal review, the Navy has refocused its efforts toward achieving a more balanced approach to off-ship training for Navy personnel to ensure that Sailors not only arrive at the ship with the necessary skills but more importantly to ensure the Fleet maintains, refreshes and builds on those skills throughout the Fleet Training Continuum.

Mr. FORBES. Based on the findings of the Balisle report, the Navy plans to take a number of actions in many interrelated areas, such as training, maintenance, command and control, manning, etc. What’s not clear, however, is who will be responsible for making sure the actions are coordinated and implemented. To avoid the problems of the past where the Navy wasn’t looking at things holistically to see whether the changes it was making were compatible and did not have unintended consequences, the Navy will need to make accountability clear and have some kind of integration mechanism across the areas, whether it be one senior-level official who is the focal point supported by an interdisciplinary group or another approach.

How does the Navy intend to proceed from here in taking corrective actions, including establishing leadership and organizational accountability? Will the new N9 position play a role in streamlining that organizational accountability?

Admiral BURKE. The Deputy Chief of Naval Operations for Warfare Systems (N9) is responsible for the integration of manpower, training, sustainment, modernization, procurement and readiness of the Navy’s warfare systems. The establishment of the new N9 position will improve coordination and the decision-making processes associated with planning, programming, budgeting, and execution with a particular focus on warfighting capability and total ownership cost thereby, enhancing the Navy’s ability to navigate its fiscal challenges and deliver fleet and platform readiness, while aligning responsibility and accountability to develop and sustain the Navy’s warfare capability and capacity.

Mr. FORBES. What are your concerns about Navy Readiness?

Admiral BURKE. To sustain the higher demand to the extent feasible, Navy remains dependent upon the receipt of Overseas Contingency Operations (OCO) funding or similar supplemental appropriations to include continuing requirements beyond the end of Operation Enduring Freedom. I am concerned how we will stay the course on depot maintenance, especially of surface ships, should we lose OCO funding.

One significant concern over the last several years has been the readiness of our surface ships. The FY13 Navy budget request funds ship maintenance at an adequate level and reduces surface ship maintenance backlog during mid-life availabilities. Reaching expected service life requires an integrated engineering approach to plan, fund, and execute the right maintenance. Navy has taken significant steps to better define the maintenance requirement necessary to improve surface ships material readiness and achieve expected service life. We have also increased the number of technically skilled sailors at sea, and both military and civilian staffing in our Regional Maintenance Centers. These steps will have a positive impact on surface ship readiness over the next several years.

In the near term, we have taken risk in the time available for maintenance and training to deploy the maximum number of units forward. While overall readiness remains at acceptable levels, this stress on the force has been reflected in negative readiness trends in personnel, material and training readiness metrics. It also impacts our capacity to surge for emergent requirements.

Over the long term, continued operations at this pace will impact the service life of our platforms, placing future force structure and readiness at risk. We are working within the Department to re-establish a sustainable level of operations as circumstances permit, while also taking steps to enhance our forward operations in support of the Combatant Commanders, such as the forward stationing of four BMD-capable DDGs in EUCOM.

Mr. FORBES. Can you please comment on the Navy Aircraft Full Mission Capability Rates. The most recent Quarterly Readiness Report reflects a full mission capable rate of 35 percent mission capable rates (60 percent target rate) for deployed units, and approximately 30 percent for non-deployed units (50 percent target). Why has that trend not improved over the past 2 years?

Admiral ARCHITZEL. Fully Mission Capable (FMC)/Mission Capable (MC) rates for deployed units have declined by 7% and 3%, respectively over the past two years,

and these rates are generally below the CNO-stated goal of 61 percent for deployed units. This level of FMC readiness, while not optimum, is currently manageable considering that our deployed aircraft have been operating at more than 150 percent of normal deployed flying hours in support of Combatant Commanders' mission requirements.

Naval Aviation has successfully generated sufficient sorties to meet those mission needs, and these aircraft must be maintained continuously throughout deployment to maintain mission systems and for safety of flight. Two major factors that drive the amount of maintenance are operating cycles—launches and recoveries—and flight hours. It is important to recognize that in order for FMC rates to meet goal, a full suite of aircraft weapons systems needs to be installed and maintained to remain functional for a higher percentage of the time. FMC, as well as Mission Capable (MC) rates, are carefully and precisely measured through aircraft equipment operational codes (EOC Codes); in order to be FMC, an aircraft must have a full suite of functional systems installed. In many cases, aviation units can fulfill their assigned mission without having FMC aircraft. Because of high aircraft demand and resulting limited maintenance time, the choice is sometimes made to defer repair of a mission capability that is not needed for current tasking, reducing the availability of airframes and/or mission systems. This drives down the FMC rates, even though the deployed unit is fully meeting the Combatant Commanders' specific mission requirement at a much higher demand signal than normal.

Mr. FORBES. What flexibility do you have at the Fleet Readiness Centers to deal with obtaining obsolete parts? Specifically, are there instances where obsolete parts preclude assets from getting back into the fleet due to lack of availability and the amount of time required to procure? Does FRC have any ability to be the first source of supply to organically design and produce items in small batch quantities at cost-effective prices to improve the readiness? And, what are examples of such parts that particularly challenge the system?

Admiral ARCHITZEL. The Fleet Readiness Centers (FRCs) routinely contend with parts issues that are the result of obsolescence in the logistics system as a whole. Legacy aircraft, engines, and components have parts that for various reasons may no longer exist in the supply system and the Original Equipment Manufacturer (OEM) for those parts is either out of business or out of that line of manufacturing. If the part in question is seldom needed, a process exists for the FRCs to manufacture one for that instance alone, referred to as a "one time manufacture." Each of these parts is assessed and approved by engineering as safe for flight. These parts may even be built from the sample alone. It is a rigorous process that guarantees a sound part. If the part is one that is needed in quantity, the FRCs can follow their "alternate source" process to validate a sound process for producing a safe for flight part. The FRC may then manufacture the item in quantity for the Defense Logistics Agency (DLA) or Navy Supply Weapons Systems Support (NAVSUP WSS). Both of these processes take time, but are the fastest way to get parts to process the end items.

Repairs to aircraft, engines, and components are delayed due to non-availability of these parts in the supply system. Typically, the trigger for an FRC to be established as an alternate source is after we have learned the part is non-existent in the normal logistics system, i.e. an aircraft, engine, or component is already waiting for a part.

The FRCs have a full range of capabilities for the manufacture of parts. Engineering, logistics and a robust manufacturing capability exist on-site. If DLA/NAVSUP WSS can find no vendors, and if the Department of Defense owns the data rights, the FRC's can build the full range of parts or components they are asked to build. Drawings can be created from samples (damaged parts) when the drawings do not otherwise exist. Note: the data rights to a part are often an issue. While the FRC's have the capability of designing parts, they usually do not do that for existing aircraft, engine, or components that the OEMs own the data rights and designs. However, for program-sponsored aircraft modifications, the FRCs routinely design parts and build them for kits when no other OEM or vendor is involved. In these cases NAVAIR owns the data rights.

Mr. FORBES. How will the projected backlog of airframe and engine maintenance across both FY12 and FY13 impact aviation readiness and training?

Admiral ARCHITZEL. In PB13, there is a \$75 million shortfall to fully fund the operational requirement of \$1.4 billion, resulting in a projected backlog of 14 airframes and 273 engine depot requirements. It is expected that this backlog will still allow us to meet our flight-line entitlements for aircraft and will allow us to meet our engine readiness goals. Therefore, it is not expected that there will be a direct impact on readiness.

Our Navy Fleet Readiness Centers have the ability to reconstitute the projected PB13 backlog within one year, should additional funding be available. However, if we do not reconstitute the backlog and continue to build a higher backlog, we will begin to impact our flight-line entitlements and engine readiness goals. Unfunded airframes and engines become unusable assets until the maintenance can be performed. Larger deficits of airframes and engines can negatively impact readiness and training. Specifically:

- Aircraft not worked in FY13 reduce the available assets in FY14 and beyond. Combining these aircraft with those that will come due for maintenance in the future will strain the available inventory of aircraft to meet flight line requirements, will cause above average utilization of remaining assets and increase risk of lost training opportunities and readiness.
- Unavailable equipment puts added risk on inventories to meet future year deployment schedules and reduces the Fleet's ability to surge until equipment is repaired.
- Unworked assets create a cost burden to preserve and store.
- A cost premium is incurred for backlogged items completed in future years.
- Continued reductions in funding will have to be offset through reductions in skilled personnel and capacity putting risk on our maintenance industrial base to support existing force structure and to surge when needed.

Mr. FORBES. What are your concerns about Naval Aviation readiness?

Admiral ARCHITZEL. At present, Naval Aviation is precariously sustained in terms of equipment readiness through the selective use of Overseas Contingency Operations (OCO) funding. However, our Fleet Readiness Centers and our sustaining engineering and logistics efforts have transformed over the past seven years to provide the right level of readiness at the right time in the right location at the right cost. This emphasis has enabled us to manage the budgetary pressures over the past few years and positions us well in the near future to provide aircraft and mission systems required to safely and efficiently execute Combatant Commander requirements and necessary fleet training. We must continue to maintain our legacy systems in the fleet today—many of which are long past their programmed fatigue life cycles—and rely on our Aviation Depot Maintenance funds to resource aircraft, engine and component repair, as well as Aviation Support Program funding to provide technical, engineering logistics, and repair support to reduce the cost of our most significant maintenance issues and readiness degraders. Future reductions in the Aviation Depot Maintenance and Aviation System Support accounts will likely begin to impair our ability to sustain safe and ready aircraft in the Fleet.

Mr. FORBES. How are Naval Aviation Depots prepared to deal with aircraft and engine depot maintenance backlog in light of tightening budgets?

Admiral ARCHITZEL. As required, Navy Fleet Readiness Centers have the ability to surge civilian overtime, increase contract touch-labor employees, and increase shifts as required to respond to surge requirements. It is expected that the backlog planned for in FY13 could be reconstituted in less than 12 months, with additional funding. Without additional funding, the backlog will carry over into the following years until funding is made available to reconstitute these aircraft and engines.

Mr. FORBES. How do you measure Naval Aviation readiness?

Admiral ARCHITZEL. Navy and Marine Corps aircraft are capable of performing a variety of missions. A Ready Basic Aircraft (RBA) is the minimum day/night, all weather flyable aircraft configuration common across all its primary mission areas. Ready for Tasking (RFT) aircraft are the required number of RBA aircraft, coupled with specific mission systems, which enable squadron aircraft to accomplish the distinct mission requirements. These requirements are defined across all phases of the Fleet Response Training Plan (FRTP), including deployed operations. Due to the wide variety and varying degrees of mission complexity, aircraft require different degrees of systems capabilities to be mission ready during different phases.

DOD Instruction 3110.5 dated Sept 2006 requires the Services to report the material condition of aircraft using the categories of Full Mission Capable (FMC), Partial Mission Capable (PMC), Not-Mission Capable (NMC), and Not-Mission Capable—Maintenance or Supply (NMCN/NMCS). Naval Aviation's automated logistics systems fulfill this reporting requirement to ensure the Department has the proper insights into material condition. However, unlike FMC/PMC rates, RFT provides a more informative aviation readiness metric that supports Naval Aviation's FRTP-phased resourcing approach. Because of the different training and readiness requirements, and aircraft entitlement required to support FRTP when building up for and scaling down from deployment, not all aircraft are required to be in a FMC/PMC status at all times (i.e., in the early FRTP stages, or Maintenance Phase, aircraft and mission systems are 'groomed' for deployment and must go through various stages of repair and upkeep, thus allowing more aircraft to be in a NMC sta-

tus). In addition, RFT is a more comprehensive metric for operational commanders as it is defined for each Type/Model/Series aircraft in a manner that is focused on the primary mission areas of the aircraft and includes critical factors omitted by FMC/MC such as equipment mission sets (ex: FLIR or EW pods). Simply stated, RFT is a demand based metric that focuses Naval Aviation on “the right aircraft in the right configuration in the right place at the right time to support expected readiness.” If additional explanation of the RFT framework is desired, a face-to-face discussion can be provided by Aviation Readiness and Resource Analysis subject matter experts.

Mr. FORBES. Last year before this Subcommittee, you testified that “the cheapest way to afford our Navy with the force structure that we need is to maintain the ships that we already have.” Given the shift in focus to the Asia/Pacific region in the new National Defense Strategy, it would clearly seem that the demands on our Fleet will increase. If that is the case, why did the Navy propose to retire seven CGs and two LSDs across FY13 and FY14? Given the fact that these assets are approximately 20 years into their 35-year expected service life, can you please provide an estimate of the cost to retain those ships in the fleet and to make the necessary upgrades in each FY13, FY14, and a total cost across the FYDP?

Admiral MCCOY. Higher Navy priorities require realignment of funding to retain and modernize, maintain, man, and equip the seven CGs proposed for retirement. The original PB 12 modernization fielding plan included USS COWPENS (CG 63) and USS GETTYSBURG (CG 64) in FY13; USS CHOSIN (CG 65) and USS HUE CITY (CG 66) in FY14; USS VICKSBURG (CG 69) IN FY15; and, USS ANZIO (CG 68) AND USS PORT ROYAL (CG 73) in FY16.

The department estimates overall cost to be \$769.5M in FY 13, \$1.0B in FY 14, and \$4.1B across the FYDP.

The department estimates overall cost to retain and modernize, maintain, man and equip the two LSDs proposed for decommission is \$293M across the FYDP. The FY13 cost for modernization of LSD 46 is \$50M. The FY14 cost for maintenance and MILPERS is \$4.6M. The FYDP total for ongoing recurring maintenance totals \$73.5M. Finally, the FYDP other costs to include MILPERS totals \$169M.

Mr. FORBES. What major initiatives does NAVSEA have that help the Fleet remain ready to meet current challenges?

Admiral MCCOY. Numerous initiatives are currently underway to reverse the identified negative trends in Surface Force readiness, and to ensure our ships achieve their Expected Service Life (ESL). Most importantly, Navy has established:

- A surface ship life cycle manager—Naval Sea Systems Command (NAVSEA), Deputy Commander for Surface Warfare (SEA 21);
- A Regional Maintenance Center (RMC) Command for waterfront maintenance oversight—Commander, Navy Regional Maintenance Center (CNRMC); and
- A surface ship life cycle engineering agent—Surface Maintenance Engineering Planning Program (SURFMEPP).

With the establishment of SEA 21 and CNRMC, the Surface Force now has organizations in place to manage fleet maintenance and modernization. CNRMC leads the development and execution of standardized processes, policies, and training at the RMCs, and is improving the management of Multi-Ship/Multi-Option private industry maintenance contracts. Under NAVSEA’s guidance, the maintenance philosophy for surface ships now parallels the engineering and life cycle processes currently in place for carriers and submarines, which traditionally meet or exceed their design service life.

SURFMEPP reports directly to SEA 21, and will re-establish the engineered requirements and Class Maintenance Plans (CMP) necessary for surface ships to reach their ESL. Additionally, they are creating life cycle maintenance plans for each ship, based on the CMP and actual ship condition. As a result, the Navy now has a better understanding of the impacts from, and the ability to accurately track, deferred maintenance that must be accomplished in the future.

The Navy is incorporating best practices into how we evaluate and improve material condition. We partnered with the American Bureau of Shipping (ABS) to help assess the material condition of our surface ships. We established the Total Ship Readiness Assessment (TSRA), supported by technical experts from the RMCs, to conduct ship material condition assessments, and are focusing on development and demonstration of new corrosion control technology, materials, and processes. Corrosion control assistance teams have also been established in each Fleet concentration area.

The Navy is implementing the approved FY12 budget increases to the Regional Maintenance Centers military and civilian manning. To date, 400 additional Sailors

were approved in the FY12 budget: 285 in FY12 and 115 in FY13. In addition, the RMCs were approved to increase 385 civilian FTE in FY12 over FY10/FY11 levels.

These initial investments start to restore capability and capacity to the IMAs and support the recent initiatives to improve surface ship maintenance. The focus of these initiatives is to bring the surface ship maintenance process more in line with the carrier and submarine communities, emphasizing adherence to a technically rigorous process, early detection and assessment of material issues, and quality service.

Our goal is to improve the responsiveness and readiness of the Fleet to fix and deploy ships on time and on budget. In addition, the Navy will benefit by enhancing our Sailors' long-term maintenance knowledge and skills.

Mr. FORBES. Can you describe the actions NAVSEA has taken to improve surface ship maintenance?

Admiral MCCOY. Key organizations to manage fleet maintenance and modernization have been established:

- Surface Ship Life Cycle Manager—Naval Sea Systems Command (NAVSEA), Deputy Commander for Surface Warfare (SEA 21)
- Surface Ship Life Cycle Engineering Agent—Surface Maintenance Engineering Planning Program (SURFMEPP)
- Regional Maintenance Center (RMC) Command for Waterfront Maintenance Oversight—Commander, Navy Regional Maintenance Center (CNRMC)

NAVSEA and Fleet stakeholders have undertaken multiple initiatives within these organizations to improve maintenance practices across ship classes.

SURFMEPP has been established to reinvigorate surface ship maintenance requirements based on disciplined engineering processes similar to those used by our carrier and submarine communities. SURFMEPP is revising Class Maintenance Plans (CMPs) and guiding maintenance requirements through the production of Technical Foundation Papers (TFPs) to provide a technical foundation for all maintenance requirements across an entire ship class. Further, SURFMEPP is generating individual ship life cycle maintenance plans in order to deliver Baseline Availability Work Packages (BAWP) that provide an integrated package of maintenance and modernization requirements that are tracked through execution or technically adjudicated for deferral.

CNRMC is developing and executing standardized processes, policies and training at the Regional Maintenance Centers and has improved the management and governance of industry maintenance contracts. Additionally, Intermediate level maintenance capacity and capability is being restored on the waterfront with appropriate skill-sets to execute maintenance in accordance with the Joint Fleet Maintenance Manual and provide a journeyman training continuum for Sailors that will improve a ships capability to find, fix and document maintenance issues within the lifelines.

CNRMC, NAVSEA and all stakeholders are partnering with the American Bureau of Shipping in performing ship material condition assessments with commercially proven processes and procedures and are focusing on the development and demonstration of new corrosion control technology, materials and processes. Further, NAVSEA is establishing executive oversight of the Maintenance End-to-End process to provide advanced planning, limit growth and new work and manage availabilities within allocated funding controls.

Mr. FORBES. What specific changes have occurred in Submarine maintenance?

Admiral MCCOY. In addition to yielding steady improvements in the safety, reliability, and material readiness of the existing submarine fleet, the Submarine Force continues to pursue reductions in maintenance and modernization costs. This is accomplished thru a combination of cost-conscious policies and disciplined but aggressive engineering studies and analyses. These initiatives are incorporated in the 2013 President's Budget (PB13) submarine maintenance budget. Some highlights of recent maintenance reductions: The USS LOS ANGELES (SSN 688) Class 48-month Operating Interval was extended to 72-months thereby eliminating one Dry-docking Selected Restricted Availability (DSRA) per Operating Cycle for 35 submarines. Additionally, maintenance requirements were reduced for 16 other submarine DSRA's in this class. The result of the SSN 688 Class engineering study was leveraged for the USS VIRGINIA (SSN 774) Class maintenance cycle and permitted an extension from a 48-month to a 72-month Operating Cycle.

These actions have not only reduced maintenance costs; they have resulted in increased operational availability of the LOS ANGELES and VIRGINIA Class submarines. In addition, the SEAWOLF Class (SSN 21) submarine lifecycle maintenance plan was revised to reduce depot time. This produced a revised lifecycle maintenance strategy permitting an increase of deployments from 12 to 13 for SEAWOLF class submarines.

Additional maintenance actions have been enhanced including improvement to material forecasting, additions to rotatable equipment pools to reduce repair turnaround time, implementation of Risk Management Policy across all depot maintenance availability projects, and improvements to Pre-Availability Testing processes to better define work scope.

The submarine maintenance community continues to aggressively pursue opportunities to produce more efficient, lower-cost ways to perform maintenance and modernization without compromising safety and reliability, and is the model program and process guide for developing and generating improvements in the surface ship maintenance area.

Mr. FORBES. Are the problems that have plagued early fleet introduction of the LPD 17 class ships now behind us?

Admiral MCCOY. The quality issues identified during operational evaluation, deployments of the initial ships of the class, and the Wholeness Task Force are being addressed on all ships across the class. The most critical repairs, such as new lube oil filters and engine alignment, are being completed on the in-service ships; and further repairs/corrections are planned on those ships. Likewise, the critical repairs have been implemented on the ships in construction and further repairs/corrections will be implemented. Lessons learned include:

The shipbuilder has revamped its Quality Assurance (QA) processes, conducted extensive training, and re-certified appropriate personnel to address shortfalls within the QA process.

SUPSHIP Gulf Coast has increased overall manning by 21 percent since 2005, focusing on critical waterfront billets. Quality Assurance weld inspectors were required to undergo re-training and re-certification in critical process areas. "Critical process pulse audits" were implemented to ensure the shipbuilder maintains production quality across the areas of structure, pipe, electrical and coatings.

New lube oil filters were installed and pipe flushing procedures were updated to resolve quality issues associated with debris in shipboard piping systems.

Pipe hanger design and engine alignment controls have been improved.

Protection of piping "in process" and enforcement of a clean environment while engines are open have prevented introduction of contaminants.

Original philosophy of self-paced computer-based shipboard training is transitioning to a combination of computer-based and more traditional instructor-led life cycle training.

Shipboard manning level has been increased to permit more time for sailors to train on and maintain their systems.

These improvements in system design and processes are showing positive results as demonstrated during the most recent INSURV inspections. LPD 21's Final Contract Trials (FCT) in February 2011 was the first FCT where INSURV assessed an LPD 17 class ship as ready for sustained combat operations. LPD 22, the sixth LPD 17 Class ship, successfully completed acceptance trials in November 2011 receiving some of the highest grades in the Class and satisfactorily completed all in-port and at-sea demonstrations. LPD 22 was the first ship delivered using the new Class Build Plan, underwent the most extensive pre-delivery test program of the Class to date, conducted three underway trials with scope well beyond previous ships, and received zero starred cards at delivery.

Mr. FORBES. What has NAVSEA done to improve first-time quality at both industry and in the Government?

Admiral MCCOY. NAVSEA focus for improving quality with our industry partners included reshaping the Multi-Ship Multi-Option (MSMO) to address fundamental Quality at the deck-plate, utilizing the Award Fee Process to incentivize the MSMO to improve first time quality and the construct of the MSMO Contract.

To improve the quality of Government Oversight of our industry partners, NAVSEA has released guidance that defines NAVSEA Policy for Quality Management of work on non-nuclear surface ship critical systems. Specific critical systems for each class of ships are identified and include the Main Reduction Gear and associated lube oil systems, coupling and clutches as well as Shafting and bearing systems and steering systems. Additional propulsion equipment is identified as critical systems for each ship class. This guidance requires following additional controls:

- (i) Controlled work package (CWP) or Expanded Process Control Procedures (EPCP) be used for work on critical systems.
- (ii) Before conducting work on a surface ship critical system, validation by Naval Supervising Authority (NSA) of wholeness of the Quality Management Programs of the Organization responsible and accountable for performing quality maintenance.
- (iii) Conduct of Readiness to Start Reviews, jointly conducted by NSA with Engineering Field representatives (EFR), Lead Maintenance Activity, Repair

Activity, Commander Navy Regional Maintenance Center (CNRMC) and Forces Afloat (Notification is required, participation is optional), prior to work starting on a Surface Ship Critical System.

- (iv) NSA review of maintenance plans and results with NAVSEA 05 and CNRMC prior to starting work and upon completion of work (to include separate notification upon completion of pier-side and at-sea testing) on Main Propulsion Systems on all classes of ships and Surface Ship Critical Systems.
- (v) NSA formal certification (post work completion) by closeout review.

Additionally, CNRMC provided interim guidance to Regional Maintenance Centers for avail certification and key event management. This certification requirement includes the following:

- (i) TYCOM certification via letter/memo that all authorized CNO Avail/CMAV work identified in the Work Package has been tasked for accomplishment.
- (ii) Project Management validation (via signature) that all work specifications and test procedures issued by the prime contractor have received a government review.
- (iii) Project Support Engineer verification (Via Signature) that all Contractor Furnished Reports (CFRs) have been reviewed and answered. All deferred maintenance action and/or test result CFRs have been technically adjudicated.

NAVSEA efforts to improve first time quality in Naval Shipyards include training, work teams, supervision, and budgeting for reduced overtime.

The Continuous Training Development (CTD) Program focuses on building the knowledge, skills, and proficiency of the production workforce by transitioning from a classroom based system to emphasis on practical demonstrations of mechanics skills as a means to drive continuous improvement and proficiency. This training is accomplished through on-the-job, hands-on instruction on mock-ups, on the deck-plate, or in shop work environments. It also enables mechanics to practice skills on mock-ups to improve proficiency prior to accomplishing work on ships or ship components.

Work teams of production and support (engineering, quality assurance, etc.) personnel are being established to foster team learning, problem solving and continuous process improvement. These teams called Value Streams, Communities of Practice or Product Line Management are working together to partner, build relationships and improve communication resulting in increased workforce knowledge sharing and improved quality.

Improving supervision is important to achieving first time quality. Supervision is being emphasized through supervisory training, leadership development, deck plate coaching to bridge supervisory training to actual execution for new supervisors, and stressing accountability.

High overtime levels contribute to quality issues. As average direct worker overtime approaches 20% across a shipyard, some individuals in critical skills will be working 30 to 40% overtime. High overtime may be perceived as efficient, but throughput and quality actually suffers at this excessive overtime level, therefore lower overtime levels have been budgeted to increase the workforce available to accomplish the workload.

Mr. FORBES. What is the impact of not fully funding maintenance on the Navy's force structure in the future?

Admiral McCoy. The FY13 budget submission (baseline, plus OCO) fully funds the ship maintenance requirement. The ship maintenance requirement is based on class maintenance plans and known deferred maintenance. Funding less than the full ship maintenance requirement results in deferral of maintenance to future years. Deferred maintenance costs more to execute due to the impact of increased corrosion and wear, further exasperating future budget shortfalls. If not accomplished, repeated deferral of maintenance will result in reduced Fleet readiness and shortened service life, ultimately reducing force structure.

#### **QUESTIONS SUBMITTED BY MS. BORDALLO**

Ms. BORDALLO. Can you comment on how your new role in the N9 position helps to address some of the serious concerns raised in the Balisle report? What are some of the immediate impacts or benefits of the creation of the N9 position from your vantage point? Also, what additional steps or organizational changes are needed to institutionalize some of the recommendations in the Balisle report?

Admiral BURKE. Improved fleet readiness is one of the many intended outcomes resulting from the creation of N9, answering the primary concerns of the Balisle re-

port. By realigning fleet maintenance, operations, training, targets and ranges under N9, total ownership costs (TOC) will be consolidated and efficiencies can be garnered, as appropriate, to ensure the end to end support required to sustain our ships and airplanes are properly addressed. By restoring platform-specific manpower and readiness programming authority to the appropriate platform sponsors, the ability to address wholeness issues; issues directly affecting the manpower, training, readiness, maintenance, and logistics, will reside within a single organization that owns that platform. I am confident that the CNO's vision to consolidate these function under the N9 are a positive step in institutionalizing the recommendations of the Balisle report.

Ms. BORDALLO. I would note that a significant portion of the depot maintenance is the OCO accounts. What risk are we assuming by putting such a significant portion of this budget in the OCO accounts? As I stated in my opening statement, the war in Iraq is over and we are going to begin a drawdown of forces in Afghanistan which will eventually lead to the OCO account ending. How is the Navy planning to fund these critical maintenance requirements in the out-years?

Admiral BURKE, Admiral ARCHITZEL, and Admiral MCCOY. If Congress approves the Navy FY13 baseline and OCO request, the Navy is assuming minimal risk in FY13 depot maintenance. The PB13 request provides funding for 94 percent of the projected aircraft depot maintenance requirements and 100 percent of the projected ship depot maintenance requirements. The Navy is working to develop a transition plan to address the amount of depot maintenance funded by OCO. The risk in OCO funding reliance is that when OCO funding is reduced, there will be a need to find maintenance funding elsewhere or reduce the amount of maintenance done.

#### QUESTIONS SUBMITTED BY MR. LOEBSACK

Mr. LOEBSACK. The new strategic guidance places greater emphasis on the Navy and its current and next-generation aluminum-intensive ships (CG-47 Class, LHD-1/LHA-6 Class, FFG-7 Class, LCS Class, LHA-8 Class, DDG-51 Flight III, and JHSV). Continued budgetary pressures make the affordability of next-generation Navy platforms all the more important. Is the Navy embracing or leveraging materials and manufacturing technologies to help reduce acquisition costs and ship life cycle costs? What partners is the Navy working with to adapt commercial technologies to reduce both weight and cost for vessels? Given the rise of aluminum-intensive naval platforms, is the Navy seeking to work with the domestic aluminum industry to optimize material/product form selection, component manufacturing, and ship integration processes?

Admiral BURKE. The Navy is investigating the use of new materials to reduce both acquisition and life cycle costs. New materials include new tempers of aluminum, aluminum extrusions, and innovative aluminum plate materials. For example, proprietary aluminum plates have been installed on a cruiser for performance testing. The plates are designed to provide better corrosion resistance at the surface while retaining the required material properties in the bulk of the material. The use of aluminum alloy, 6082, has been used in LCS 2 variant as hollow extrusions to replace flat plate with welded stiffeners, for both cost and weight advantages.

Additionally, the Navy has approved cost effective manufacturing technologies such as friction stir welding and advanced welding power supplies. Friction Stir Welding (FSW) of aluminum has been used on LHA 6, LCS 1 and LCS 2 variants, JHSV and may be used on Ship-to-Shore Connector (SSC). This fabrication technique is used for butt-welding flat plate or shaped extrusions in a shop environment. It is a high productivity process that results in reduced panel distortion. One shipyard doing USN repair work has qualified weld procedures using advanced welding power supplies for aluminum ship repair welding. These power supplies reduce defects in the welding, and the associated rework as well as reduce the training time for aluminum welders to become proficient.

Working with Austal and the Navy, ALCOA has provided aluminum tie downs for JHSV. Additionally, the Navy researches and evaluates materials to use on ships based on combinations of their performance, cost, and weight. Aluminum may be chosen for deckhouses because a structure designed with aluminum is often lighter in weight than a similar structure designed using steel. Aluminum is susceptible to cracking if not properly designed and maintained. Ship repairs and maintenance are a significant element of the life cycle cost of a Navy ship. The Navy has undertaken initiatives to reduce the cost of inspecting and repairing ships. Sensitization describes a metallurgical change in alloys resulting in susceptibility to accelerated corrosion and stress corrosion cracking. The sensitization level of aluminum on a ship is often tested by cutting a test sample and then destructively testing it. This is



both costly and time intensive. The Navy is sponsoring the development of a non-destructive probe by Electrowatch, Inc which tests aluminum surfaces for the effects of sensitization using an electrochemical process. Additionally, the Navy is developing a procedure to inspect metal surfaces in-situ using surface processing and high magnification to check material condition. This was made possible by the use of an innovative digital microscope manufactured by Keyence Corporation. These technologies enable the ships to be nondestructively surveyed before work packages are locked, avoiding excessive growth on Surface Ship availabilities due to unknown areas of sensitized aluminum and support getting our ships to their Expected Service Lives. Another manufacturing technology implemented to improve repair cost of aluminum is Ultrasonic Impact Treatment (UIT) from Applied Ultrasonics, which is a form of peening. Peening adds compressive stress to the material. Compressive stress must be overcome before cracking can occur. UIT is used to pre-treat moderately sensitized aluminum structures before repair. Without this treatment these structures would re-crack after repair, and the only repair option would be ripout and replacement of the sensitized plate, a much more expensive process. This technology is also being investigated for integration into new construction processes to reduce weld touch-up work and improve the fatigue strength of welds, which may reduce cost and improve performance. The Navy develops and issues crack repair manuals specific to ship classes to standardize ship repairs. The Navy is beginning to develop fracture control plans to help expedite identification of cracks and to help evaluate the risk associated with them. All of the above efforts are focused on constraining or reducing costs. The Navy has recently begun a collaborative effort with Alcoa, the American Bureau of Shipping, the Center for Naval Shipbuilding Technology, Austal, Marinette Marine, and ONR to develop high deposition gas metal arc welding procedures to increase productivity and drive down cost of aluminum shipbuilding..

The Navy is working with the American Society for Testing & Materials (ASTM) International to add test requirements to the commercial marine aluminum standard to improve aluminum performance. These requirements have been included in recently developed ship specifications such as for the SSC.

The Navy is working with industry partners to develop aluminum to meet these standards and to develop aluminum alloys which have better resistance to sensitization and stress corrosion cracking. One developmental effort is focused on qualifying a commercially available product for naval use. This product, from Novelis Inc, uses a proprietary production method to produce aluminum plates where the bulk of the material is the same high strength aluminum used in ship structure today, with the surface comprised of a different alloy which cannot sensitize and will protect the interior from corrosion. This effort is funded by the Office of Naval Research (ONR) and is expected to be complete by the end of 2013. The Navy is also working with aluminum producers, Alcoa, and Constellium Rolled Products, to qualify new aluminum alloys and tempers which are able to resist sensitization much more effectively than today's tempers.

Recent activity with industry including ship designers, involves Navy evaluation of new aluminum components both for weight and cost savings. Flight deck tie-downs that were installed on JHSV and side hull tips that were installed on LCS 4 are two designs transitioned from this effort to the fleet. Other design details reviewed included bolted splices to replace welded joints, extruded stiffener design to replace manufactured stiffener, and an improved corrugated plate design.

The Navy is also working with shipbuilders to improve design of aluminum structures to provide for improved manufacturability, performance, and reduced cost. For example, modifications have been made to the design of the second and third of the FREEDOM Variant LCS to improve their structural designs. Ship Alterations (ShipAlts), or modifications to existing ships, are also being implemented at ship availabilities to reinforce the ship structure and reduce the occurrence cracking and mitigate repair costs.

Mr. LOEBSACK. The Surface Warfare Enterprise has designated condition based maintenance (CBM) as one of their top ten initiatives for FY 2012. However, it does not appear that funding has been budgeted for CBM demonstrations on amphibious ships or other large combatants. What CBM demonstrations on amphibious ships or large surface combatants are being funded this year?

Admiral BURKE. The Navy uses both the Integrated Condition Assessment System (ICAS) and Diesel Readiness System (DRS) to inform operators and maintainers, both afloat and ashore, of ship system operational parameters, including when condition based maintenance is recommended. ICAS and DRS (where applicable) are being installed on DDG-51, LPD-17, LHD-8, & LHA-6 Class ships during new construction and are being back fit to older ship classes.

ICAS and DRS back-fit installations are accomplished during CNO or TYCOM availabilities. Budgeted FY12 installations, and proposed FY13 installations, are in accordance with Table 1 below. By FY18, all amphibious ships and large surface combatants will have ICAS and DRS installed, as applicable.

ICAS DRS

Ship Class	Class Size	Installed FY12	Installs FY13	Installs FY14	Installs FY15	Installs FY16	Installs FY17	Installs FY18	Installs FY19	Installs FY20	Installs FY21	Installs FY22	Installs FY23	Installs FY24	Installs FY25	Installs FY26	Installs FY27	Installs FY28	Installs FY29	Installs FY30
CG-47	22	17	0	0	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
DDG-51	60	46	5	3	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
LSD-41/49	12	5	3	2	12	0	0	LHD-1	7	0	2	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Table 1. ICAS/DRS Installation Plan

