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Before the

Subcommittee on Seapower

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON NAVY AND MARINE CORPS AVIATION PROGRAMS IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR FISCAL YEAR 2017 AND THE FUTURE YEARS DEFENSE PROGRAM

Wednesday, April 20, 2016

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U.S. Senate
Subcommittee on Seapower
Committee on Armed Services
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The subcommittee met, pursuant to notice, at 2:02 p.m. in Room SR-232A, Russell Senate Office Building, Hon. Roger F. Wicker, chairman of the subcommittee, presiding.

Committee Members Present: Senators Wicker [presiding], Ayotte, Rounds, Tillis, Sullivan, Shaheen, Blumenthal, Hirono, Kaine, and King.

OPENING STATEMENT OF HON. ROGER F. WICKER, U.S. SENATOR FROM MISSISSIPPI

Senator Wicker: This hearing will come to order.

The Senate Armed Services Subcommittee on Seapower convenes this afternoon to examine Navy and Marine Corps aviation programs.

This afternoon our subcommittee welcomes three distinguished witnesses: Vice Admiral Paul A. Grosklags, Commander, Naval Air Systems Command; Lieutenant General Jon M. Davis, Deputy Commandant for Marine Corps Aviation; and Rear Admiral Michael C. Manazir, Director of Air Warfare for the Department of the Navy. Our subcommittee is grateful to these gentlemen for their presence today and decades of service to our Nation.

Over the course of the past year, a wide variety of witnesses from both inside and outside the Department have testified before the Senate Armed Services Committee that our Nation faces the most diverse, complex, and potentially dangerous threats to national security in recent history. There is a need to strengthen our military and ensure that our men and women in uniform have comprehensive training and world-class equipment.

Instead, our reduced military budgets have damaged our military's force structures, modernization, and readiness amid years of sustained operations.

The stakes are high during these challenging times. Extremists of the Islamic State in Iraq and Syria are increasingly spreading terror to North Africa, Europe, and beyond. Vladimir Putin's belligerence has dashed our hopes for cooperating to benefit the people of Russia and the United States. Instead he continues to test our resolve in eastern Europe and Syria. And the Peoples Republic of China continues to expand and modernize its military and engage in destabilizing behavior in the Asia-Pacific region.

Given this global environment, I hope our witnesses today will collaborate on the current readiness of our naval and marine aviation forces, the efforts to modernize our forces to pace growing threats and the vitality of our aviation industrial base.

This afternoon our subcommittee will examine five key areas related to the Navy and Marine Corps aviation programs.

First, the subcommittee is concerned with the current state of readiness of our naval and marine aviation forces. Delays in the development of new aircraft, intense budgetary pressures, and years of high levels of ongoing operations have created a situation where the Navy and Marine Corps do not have enough ready basic aircraft for our aviators to fly the hours they need to remain qualified, proficient, and motivated. Our airframes are wearing out faster than

anticipated, further stressing the fleet, although improving the throughput in our depots remains challenged to meet demands.

General Davis, in the Marine aviation plan, you state I am concerned with our current readiness rates both in equipment and personnel. We have seen a decrease in flight hours per month per aircrew and an up-tick in our mishap rates. Unquote. Perhaps we will expound on that testimony.

The subcommittee shares your concerns and looks forward to hearing from you and Admiral Manazir on the path out of this critical situation for the Navy and Marine Corps.

Secondly, the strike fighter shortfall. Our subcommittee would like to learn more about the gaps in the Navy fighter fleet. The Navy has estimated the shortfall at two to three squadrons of strike fighter aircraft. The CNO and Commandant both included strike fighters in their unfunded priority lists, ranking them as the number one and number three priorities for the Navy. I hope our witnesses today will be able to provide more details on the unfunded requirements for multi-role fighter aircraft.

Third, Joint Strike Fighter operations. We would like to know more about the development and operations of the F-35B and F-35C Joint Strike Fighter. Last August, the Marines declared initial operation capability of the first F-35B squadron, the Green Knights of VMFA-121. The

subcommittee looks forward to hearing an update on F-35 operations and preparations for the Green Knights' move to Japan in 2017 and shipboard deployment in 2018.

Fourth, we would like to learn more about the F-35 follow-on modernization program. The Joint Program Office is beginning the development of block 4, the next increment of capabilities for the F-35. The Department is expected to spend nearly $3 billion on this program over the next 6 years alone, and both the GAO and the Director of Test and Evaluation have recommended the program be managed as a separate major defense acquisition program. The subcommittee looks forward to hearing the witnesses' views on follow-on modernization and the recommendations of these two agencies.

And then finally, munitions shortfall. Our subcommittee would like an update on the status of the Navy and Marine Corps air-launched munitions inventories. Years of budgetary neglect and high operational tempo have left munitions inventories depleted, some critically so. The subcommittee needs to understand where the Department is taking risk, what is being done to mitigate that risk, and the ability of the industrial base to produce the required munitions.

So we welcome our witnesses. We thank you for your service.

And I am delighted at this point to recognize my ranking member, Senator Hirono.

STATEMENT OF HON. MAZIE K. HIRONO, U.S. SENATOR FROM HAWAII

Senator Hirono: Thank you, Mr. Chairman.

I too want to welcome our witnesses to the hearing this afternoon. And we are grateful to each of you for your service to our country and, of course, that of your families and the truly professional way that you serve our country. We also pay tribute to, as I mentioned, all of the workers and the people who are under your command, men and women of our armed services.

Today our witnesses face huge challenges as you strive to balance the need to support ongoing operations and sustain readiness with the need to modernize and keep the technological advantage that is so critical to military success. These challenges have been made particularly difficult by the spending caps imposed in the Budget Control Act, caps that were modestly relieved for fiscal year 2016 in the Bipartisan Budget Act. However, these caps are scheduled to resume in fiscal year 2018 and beyond. These caps already seriously challenge our ability to meet our national security needs and have already forced all of the military departments to make painful tradeoffs. Unless modified for the years after fiscal year 2018 and later, I believe that they will threaten our long-term national security interests.

With that in mind, a continuing focus of the subcommittee has been to see that we improve our acquisition stewardship and thereby ensure that we are getting good value for every single dollar that we are spending. And this year I believe we have three pivotal issues in naval aviation.

Since last year, the Marine Corps declared initial operating capability, or IOC, for the F-35B, the short takeoff, vertical landing, STOVL. That is all well and good, but we need to hear how the testing is proceeding and how other parts of the program are supporting the Navy's IOC declaration plans for 2018. Continuing the F-35 program on schedule is important for maintaining force structure. The chairman has already also noted that concern.

Second, the Navy is facing a major shortfall in its strike fighter inventory, again already mentioned by the chairman. But I want to echo his concerns. The Navy responded to forecasts of a shortage of almost 200 aircraft several years ago by better managing the remaining life of the existing aircraft by redistributing aircraft within the force, designing a series of modernization and rehabilitation measures, including a service life extension program, or a SLEP, for older aircraft and buying new F-18 aircraft.

After several years of predicting significant

improvements in the Navy's ability to support operating forces, including aircraft carrier squadrons and Marine Corps squadrons with strike fighter aircraft, the Navy last year was predicting a major erosion in that ability. This year, the Navy has not provided a specific estimate of the strike fighter shortfall. So we would like to hear from you as to what that number is.

The committee received previous testimony from Navy witnesses that a shortfall of roughly 65 strike fighters was manageable. We need to understand what the estimate of the shortfall is this year, as I mentioned, and whether that estimate is up or down from last year and what actions the Navy can or should take to reduce or mitigate that shortfall.

Finally, fiscal year 2017 is the last year of the second V-22 multiyear contract. The Navy plans to buy as many as 72 more aircraft after the current multiyear contract is finished, including 48 aircraft to replace the Navy's C-2 fixed wing aircraft in the carrier onboard delivery mission. However, under the terms of the current multiyear 2 contract, the Department of the Navy is required to purchase 18 aircraft in fiscal year 2017. The fiscal year 2017 budget request includes only 16 V-22 aircraft. We need to understand why the Department of the Navy has made this proposal, because if we are supposed to be buying 18

and we are buying only 16, I think that abrogates the contract, and what the implications of this action are.

And in the interest of time, Mr. Chairman, I will stop there so we can hear more about the concerns that both of us have expressed on other issues from our witnesses this afternoon. Thank you.

Senator Wicker: Thank you, Senator Hirono.

Gentlemen, you have submitted a very extensive statement, jointly submitted consisting of some 44 pages. That statement will be included in the record. Without objection, so ordered. And Vice Admiral Grosklags, we will start with you.

STATEMENT OF VICE ADMIRAL PAUL A. GROSKLAGS, USN, COMMANDER, NAVAL AIR SYSTEMS, DEPARTMENT OF THE NAVY

Admiral Grosklags: Thank you, Mr. Chairman, Ranking Member Hirono, distinguished members of the subcommittee.

I have just got a brief opening statement, and then we will look forward to your questions.

First, thanks for the opportunity to appear before you today to talk about our naval aviation programs. I am, obviously, pleased to be here with General Davis and Admiral Manazir.

On behalf of the Navy and Marine Corps, I would like to start by thanking the Seapower Subcommittee for your strong support of the Department of the Navy in previous years, as well as, more particularly, your support of naval aviation.

As you have noted, the current fiscal environment drives some tough choices, and we are clearly balancing between capabilities, capacity, and readiness. But independent of that fiscal environment, the demand for our naval presence and in particular naval aviation remains very high.

As Secretary of Defense Carter recently testified, there are five evolving strategic challenges that are driving our planning and budgeting: Russia, China, Iran, North Korea, and terrorism. Planning scenarios for each one of these strategic challenges involve in key aspects naval

aviation.

So consistent with those demands, we have placed priority on two specific aspects of naval aviation that you have already talked about. The first is recovery of our near-term readiness, and the second is investment in those future capabilities critical to our long-term technical superiority while ensuring that we have got the capacity to win our Nation's battles.

Our current readiness, particularly in some of our Marine Corps communities, is well below the required levels. We are addressing this readiness problem through a number of lines of effort, but sufficient and stable funding is a key component of our "get well" plan.

Specifically, we ask for your help in maintaining the funding requested by the Department to sustain the aircraft we have on the flight lines today. Stability in all of the multiple lines, funding lines in PB-17 that drive our current readiness and sustainment, must be maintained so that we can ensure the proper balance and harmonization across our flying hours, our depot maintenance, our air systems support, aviation spares, and the rest of the accounts that make up our sustainment effort for aviation.

In parallel, continued investment in the procurement of F-35's and F-18's is critical to ensuring we can successfully manage our strike fighter inventory through the

decade of the 2020s.

So while our focus in naval aviation leadership is clearly on those two priorities, I do want to take just a few seconds to highlight some significant milestones since last year's hearing.

Both the chairman and the ranking member have already touched on the IOC for the F-35B. The Marines have two full squadrons operating and a third one ready to stand up early this summer. Gaining that capability and confidence that they are getting through their daily use of this aircraft in a tactical environment is really building momentum for the entire F-35 program, and the Marine Corps in this case is truly in the vanguard of the F-35.

On the Navy side of the house, last October we completed our second carrier-based test period abroad the USS Dwight D. Eisenhower. We conducted 66 launches and successful arrestments.

The CH-53K King Stallion program conducted its first flight last October. To date, they have got two aircraft flying. They have got two more planned to fly in early June. They have flown about 60 hours, reached air speeds up to 140 knots, 30 degrees angle of bank. The airplane is performing very well. And they are on track for an LRIP decision in fiscal year 2017 and a critical initial operating capability in 2019.

Our transition from P-3's to P-8's, a very, very capable aircraft, is about 50 percent complete. Our planned mission capability, the incremental upgrades that you all have heard about in the past, are on track. Last year, we implemented the broad area ASW search capability. And to date, we have seen about a 98 percent mission completion rate out of our forward-deployed P-8's.

And last the presidential helicopter program completed their preliminary design review last August. They are on track for a 2020 initial operational capability. The program is doing extremely well. They are executing to schedule, and more importantly, they are executing to a budget. And in fact, we were able to pull a couple hundred million dollars out of their program due to their outstanding execution.

So, Mr. Chairman, we believe the Department's 2017 budget request has properly balanced the capacity, capability, and readiness that I talked about. We ask for your continued support for that budget submission.

And thank you for the opportunity to appear before you today. I look forward to your questions.

[The prepared statement of Admiral Grosklags, General Davis, and Admiral Manazir follows:]

Senator Wicker: Thank you very much, sir.

Lieutenant General Davis?

General Davis: Sir, I have got no statement.

Senator Wicker: Admiral Manazir.

Admiral Manazir: The same with me, sir. I stick by Admiral's Grosklags' statement. Thank you, sir.

Senator Wicker: Very good.

And let us just make sure, Admiral Manazir, that I am pronouncing your name correct.

Admiral Manazir: Sir, perfectly. Thank you very much.

Senator Wicker: Thank you very, very much. We are having a little debate back here.

Well, let us see. General Davis, let us talk about aviation readiness, spare parts, things like that. Aviation readiness is said to be in a crisis. How did we get there? What are you doing to improve readiness? And what are the biggest challenges to overcome?

General Davis: I thank you for the question, Senator.

The Marine Corps is the Nation's force in readiness. The aviation component is a big part of how we fight and how we project power. So the Marine Corps is designed as a relatively small force, but a high state of readiness.

So I will tell you that we are getting our forces out the door for our scheduled deployments that we call T2.0 readiness. It is the bench. It is the next-to-deploy guys

and units that do not have the airplanes they need to fly those airplanes.

Just a case in point, if you look at F-18's in the Marine Corps, I have got 12 gun squadrons of F-18's and trained squadrons. So design for the Marine Corps F-18 squadron is 12 flying squadrons and 30 training airplanes. So it should be about 174 airplanes. 18 months ago, because we did not have the inventory, we were worried that the bench was not going to be able to train. We degraded the F-18 squadrons to 10-plane squadrons from 12. So that will be 156 airplanes we need to go run state operations on a degraded front.

I pulled up our readiness data just yesterday. We had 87 aircraft that are mission-capable in the F-18's. Out of those 87 airplanes, I put 30 airplanes in the training squadron and 40 airplanes forward deployed. There is not a lot left for the units to train with during the day, and that leads to low flight time and short training progression. And more importantly, that bench that is on a schedule to deploy is not as ready as it should be. We get them airplanes at the very last bit right before they deploy, and then they work up to readiness. But the bench is not ready to go.

How did we get here? There are multiple ways we got here, sir. I would say 15 years of solid service and heavy

fighting. We have got a very high OPTEMPO. Before 9/11, we were 1-to-3 deployment-to-dwell ratio in the Marine Corps. Now we are operating on 1-to-2. And the numbers of aircraft have reduced as well.

The aircraft, while they were overseas, have been over-utilized. We have flown them a lot, a lot more than they were originally designed to fly. While we had them overseas, we kept some airplanes overseas maybe longer than we should have. We reset them in theater. We rolled new units in on top of those airplanes vice bringing them home because we needed those airplanes over there.

At the same time, our overseas contingency operations funding was decreasing and our O&M budgets were decreasing as well. So from 2011 to 2013, the numbers of airplanes I had on the bench reduced by 35, and from 2013 to 2015, reduced by a further 76. So for a small force, it is dwindling the number of airplanes we have to make our readiness goals, and that is what is impacting us in the Marine Corps.

What are we doing about it? That is the problem, sir. So not enough inventory, not enough airplanes up on the flight line to go train. We are fixing -- basically we attacked that problem. We are trying to fix our readiness. Ran a couple of independent readiness reviews starting 18 months ago, and with your help, we are funding those

readiness recovery efforts. Harrier was the first one. We are actually tracking back about 75 percent of the actions have completed that you have helped us fund is bringing Harrier back to full life.

We saw CH-53 echo. I know of concern to everybody here. A very low rate. It is probably the worst readiness in the Marine Corps with a heavy lift helicopter. With your help, we did a full reset for the first aircraft. Got there. That is complete and flying. We are going to do that with another 140 airplanes, about 48 per year. It takes about 100 days to do that, but a major effort to bring CH-53 numbers back to full readiness.

And then outside of that, sir, what we are doing to do the range recovery for the legacy platforms is the new procurement. These are old airplanes. We have got an F-18 on the line that flew in the Libya strike. Our oldest F-18 was purchased on the 9th of March 1985. It is 31 years old. And if we ran that airplane all the way in, it would be 45 years old by the time we retired it.

There is a recapitalization effort out there that is imperative, and the F-35 is the key for us on the TACAIR side. Both F-18's and Harriers and EA-6B Prowlers will go to the F-35, and we are very excited about that.

I want to say thank you to your committee for the support, making sure we got the range recovery money we have

got, but we got a big hole to dig out of. As you know, I am concerned about that, sir.

Senator Wicker: Well, thank you very much.

I think we are just going to stick to our 5-minute rounds.

Before I recognize Senator Hirono, I would simply observe that I think it is actually very positive that she and I have expressed concerns about the same things not only today but in our previous hearings, that we are very much into the idea of lessons learned from experts at the other end of this table and doing what we can to make sure that we are fully ready while we are trying to modernize. So I want to congratulate my ranking member for being such a great teammate and recognize her for 5 minutes.

Senator Hirono: Thank you very much. Does that mean I can get everything I want?

[Laughter.]

Senator Hirono: Thank you very much.

I want to talk about the C-40's which is on your unfunded priority list. So this is for General Davis and Admiral Manazir. I understand that the Navy has a requirement for 17 C-40's, and the Marine Corps needs two C-40's. And each service is two aircraft short of that objective. And the Chief of Naval Operations unfunded priority list includes buying two C-40 aircraft, and the

Marine Corps Commandant's unfunded priority list includes buying two C-40 aircraft.

So could each of you describe how you use the C-40 aircraft and what having them contributes to supporting your forces, especially in the Asia-Pacific AOR?

Admiral Manazir: Ma'am, thanks for the question.

The C-40 is a derivative of the 737, as you know, a very, very capable airplane. And we have 14 delivered already of the 17 aircraft requirement and an additional one is coming, a total of 15. That is why the request for two.

The Navy C-40 provides what is called Navy unique fleet airlift, and those numbers of C-40's are tied to the major contingency operation plan, particularly in the Pacific. We move great amounts of cargo and gear with the C-40 and move that in between the areas and those long distances of the Pacific to be able for us to operate.

During non-wartime, they are used to move logistics around. A good vignette is when we change crews out on our SSBN force or our LCS, we can take an entire crew and all their gear on the C-40 and move them out, and it is very efficient.

The C-40 is the only airplane that you can simultaneously carry HAZMAT, hazardous material, and passengers inside the same fuselage. That allows us to have only one airplane for the full complement.

The Navy has already replaced the aging C-9 aircraft with C-40's, and we look to replace the C-20G's that are getting old. The C-40 is less than half the cost per hour of the C-20G and can carry eight times more cargo, hence the request for the C-40 to fill out the wartime requirement.

General Davis: Ma'am, we use the aircraft the same way.

Right now, we have no C-40's. So we have two C-9's. I think we are the only military service that operates the C-9. And right now, that airplane's cost per flight hour is skyrocketing. It is almost prohibitively expensive to operate it. One of my Intrepid aviators landed one pretty hard, and it is going to cost me a lot more to fix that airplane than it would be to replace it with something else.

So bottom line, we use the C-40 for logistics sustainment throughout the United States and throughout overseas, and also in times of war, for moving logistics.

The other airplane we have is a C-130, and those will be tankers, to include gunships out there with the Harvest Hawk model. So those are in high demand. One of our highest OPTEMPO aircraft is the C-130J right now. So the C-40's reduce the burden on moving logistics around inside the continental United States and gets out of a very old airplane, the C-9.

Senator Hirono: Speaking of aging C-20's, we have two

of them at Kaneohe Bay. They are already beyond their expected life expectancy of 20,000 flight hours. And I am wondering what the Navy plans to do with the need that is going to arise at Kaneohe Bay. Our reservists fly these planes, and I am wondering whether if we provide the funding for the C-40's to you, that maybe they could be part of the replacement for the C-20's at Kaneohe Bay.

Admiral Manazir: Yes, ma'am. That is exactly the objective. We are operating under a flight extension for the C-20G right now. It is being maintained. As discussed, it has a very, very high cost per hour. So we are paying a premium to do that. So if these C-40's are delivered to the United States Navy, we would place them in Hawaii to replace the C-20G's. That is exactly where they will go.

Senator Hirono: That is music to my ears.

I will have a second round of questions, but for now, I will stop with that. Thank you.

Senator Wicker: Senator Rounds?

Senator Rounds: Thank you, Mr. Chairman.

Gentlemen, thank you for your service.

The recent Fox News story on the U.S. Marine Corps' aviation readiness was very disturbing, and I note also I would suspect that some of the same challenges are found not just in the Marine Corps but also in the Navy. Let me just read a couple of items out of this just to highlight what

the concerns are here, and then I would like if you could both respond to this in terms of what the challenges are that you are finding.

This was published on April 17th of this year. It was identified as Budget Cuts Leaving Marine Corps Aircraft Grounded. Out of 276 F/A-18 Hornet strike fighters in the Marine Corps inventory, only about 30 percent are ready to fly. Similarly, only 42 out of 147 heavy lift CH-53 echo Super Stallion helicopters are airworthy.

It goes on to say that in one case to get a Hornet flying again, Marines stripped a landing gear door off of a mothballed museum jet. The door was found on the flight deck of the World War II era USS Yorktown, was manufactured over a decade ago. I suspect that is one of the reasons why you need a C-40 is to get that where it has got to go.

Maintaining the high performance of Hornets challenge it with over 30,000 fewer marines now than what we had before.

Sometimes it takes marines 18 months to get parts for early model F/A-18 jets, whose production was halted in 2001.

I noticed also that there was a note on here that the average flight time per pilot -- and I think this is very disturbing. In the last 30 days, our average flight time per pilot was just over 4 hours, according to one of the

individuals quoted. Compare that with what the Chinese and Russian pilots are doing right now. We are falling behind. But not only that, you are finding that your aviators are also -- they want to fly. If they cannot fly when they are not being deployed, they are going to go someplace else and get the flying in even if it means leaving and going to the airlines, which is what I suspect you are probably having some problems with.

As I looked this over, I would suspect that we are going to hear from both of you the same thing.

I think the chairman hit it on the head when he indicated earlier, and what are we going to do about. I think we also have to point to the fact that you did not do it, but Congress did and that is, that in 2010, U.S. military spending was $691 billion. In 2015, it was $560 billion, $131 billion less. And I know that you are not here to tell us that. We should know that already, but gentlemen, if I could, would you please expand? To either one of you two, to begin and perhaps you would like to confirm or add to what this particular message is sending to us.

General Davis: I think it kind of dovetails with what Admiral Manazir said about the strike fighter shortfall in the Department of the Navy, the Buford, Miramar, and Japan for the Marine Corps in our forward-deployed locations.

We do have about 276 F-18's assigned, and our requirement on the flight line, like I said earlier, sir, is 174. That is what we should have to have the full-up fighting Marine Corps that you are supposed to have. About 100 of those airplanes, which are pipe and attrition airplanes. So I am more focused on -- I talked to Paul about those, how they are working through the rework. But the issue is we do not have the ones we are supposed to have on the flight line.

And that young -- I think it was a squadron commander talking about 4 hours a month. I track that very closely and I do have some units out there, because they do not have the number of airplanes they are supposed to have, that they are somewhere, 4 to 5 to 6 hours a month in some of those type model series that have a depleted bench right now. We are getting squadrons going out the door -- their airplanes -- and getting them trained at the very last minute, but the bench does not have what they need.

So there is frustration out there on the part of the young guys and gals that joined the Marine Corps. They joined the Marine Corps to fly and fight. They joined the Marine Corps to be marines. I will tell you we have got the very best young enlisted marines and officers out there, phenomenal talents, phenomenal human capital. They work themselves to the bone to try to get the airplanes up and

make their operational commitments to make as much training as they can. But it is getting harder and harder as they do that, especially for those next-to-deploy forces. So that is where the risk is for the United States Marine Corps.

The key for the fewer marines is maintaining the best quality of marines and giving our marines the best training and education we can. We are working on that, sir.

I would have to come back to you and talk about components that take 18 months to find. We do occasionally look for parts on older airplanes to scavenge a part out there. And in this case here, we actually made that part -- we found it was not scavengeable. So we made it with a 3-D printer. Some of the airplanes are down not because they are stuck in depot, but because they do not have the spare parts they need to go fly. And it is not as much of a problem in an F-18 as it is in, say, CH-53 and in some cases the V-22 airplanes we have overflown our supply support and in 15 years of hard fighting. So it is a complicated problem, but the three of us are working very hard to solve that problem with the resources we have available to us.

Admiral Manazir: Sir, have to echo what General Davis said about the readiness challenges. They are similar in the United States Navy. Each type model series has specific challenges. You referenced the F-18A-D, which we fly with the Marine Corps, and the CH-53, which we fly an MH-53. So

you go into each type model series and you see different challenges.

From the strike fighter perspective, it is evident that we were running hard. So the United States Navy in the 15 years of war that we have been in -- we have had 8- to 10-month cruises, sometimes 11-month cruises. We came back in 2013 from those cruises, and sequestration hit us. So we got behind on -- in a hole on repairing those airplanes.

We are getting out of that hole now. And I will talk more about strike fighter inventory management later on. But the path from --

Senator Wicker: Why do not go ahead and do that?

Admiral Manazir: All right, sir. Thank you.

What the Congress has given us in money between President's budget 2016 and President's budget 2017 actually decreases the shortfall now to below that manageable number of 65. And I know we will reach that unmanageable number of 65 until 2024 now. So it has pushed it to the right.

That increase is a combination of three levers. And we briefed this last year to this committee. These witnesses briefed to this committee three things.

One was to improve the depot throughput down in our fleet readiness squadrons, and that has improved over fiscal year 2015 by 44 percent. It takes a long time to dig out of this. So we are not going to get out until the end of

fiscal year 2018, which is what we have been briefing. But the depot is coming back up on step.

The second lever is to get our service life extension program for the F-18 Super Hornet in good shape as we approach the 2020s. And right now, we have funded the assessment to do that, and we have a good idea that that airplane, through engineering analysis with Boeing, is going to do better than the F-18A and C did. So we have confidence that we can limit the shortfall through the 2020s.

And then the third lever is buying F-18's and F-35C's. Congress was very good to us in PB-17. We bought F-35C's in the base budget. We bought a couple of F-18's. Those new procurements, coupled with the mitigation strategies we have in the Super Hornet, coupled with the improvement in the depot throughput, has taken our projected shortfall now with the assumptions we have and moved it up to within the manageable level in the rest of this decade.

That still does not exacerbate the current flight line challenges that we have in both the United States Navy and United States Marine Corps. And that is literally getting those airplanes, mostly the A's to D's, out of the depot. The Marine Corps is more exposed on legacy Hornets than the Navy is. That is why the Marine Corps has deeper problem with the F-18C's than we do. We have less squadrons. We

have more Super Hornets than we do legacy. When we get those airplanes out of the depot, then we will able to improve that readiness.

There is a good news story, by the way, to that museum piece. Sometimes some of those parts literally exist on airplanes that we have on sticks somewhere. But as General Davis mentioned, we found a 3-D printer capability to be able to go manufacture a part that, because of obsolescence, is not manufactured anymore. So a lot of the parts for the older lot Hornets -- the companies went out of business because there is no business for them. So the good news part of that is the troops went out and found a way to manufacture the part.

Sir, to the other point that you made, the morale on a Navy ship and a Navy flight line is very good right now. If you go out to one of the carriers, the USS Dwight D. Eisenhower is right now conducting the COMPTUEX exercise off the coast of Florida, and they are operating hard. We fund that advanced training and our deployers to the maximum level of readiness. So we are able to tier our readiness, right readiness, right cost at the right time. So those deployers are operating with the resources we need to.

Regrettably, if you go to a squadron way down in the training phase, you are going to see pilots that are not flying very much. Right now, for the United States Navy,

the minimum number of hours a pilot can fly per month is 11. We call that the tactical hard deck. Studies have been done by the safety center that says if pilots fly less than 11 on a regular basis, the chance of mishap will go higher. And so down on either side, the lower levels of training, we do not have enough resources to keep those flying at the right level. The Marine Corps generates their readiness at a top level all the time as the force in readiness, the 9/11 force. That is why he has to stay highest, and the United States Navy can tier our readiness down so that 65 is a manageable number because we put the right airplanes in the right place at the right time.

We see the same challenges, and we are very concerned. That is why I have to underline what Admiral Grosklags said about stable funding in all of the readiness lines. We cannot come off of that. We have to keep that going so that our recovery plan, which right now is very fragile, has got to continue.

Senator Rounds: Thank you, Mr. Chairman.

Senator Wicker: Thank you, Senator Rounds.

Let me just say with regard to the news stories that you mentioned in recent days, I read them and listened to them with interest. I hope there is no one listening or watching that is upset that that somehow got out and was told to our public. I think it actually is helpful for the

American public to hear the truth. I celebrate a system where there is an open press that is willing to go and dig and find out some information and ask the right questions and get the public informed. So I for one salute whoever worked with the press and answered their questions in an unclassified manner to get the public informed.

Senator Shaheen?

Senator Shaheen: Thank you, Senator Wicker. I share your view that transparency is important for the public, especially when we are talking about such critical security issues for the country.

Thank you all very much for your service and for being here today.

Admiral Manazir, I want to pursue a little bit more of the conversation that you and Senator Rounds were engaged in because what is the long-term impact of our continued inability to provide more training hours, and what does that do long-term to the readiness of those pilots, to our capabilities to defend this country, and do what we need to do around the world?

Admiral Manazir: Ma'am, we have a system of training in both the Navy and the Marine Corps that relies on what we call a training and readiness matrix. And the matrix has a number of missions in there that a strike fighter pilot, any pilot of our airplanes in the Navy and the Marine Corps, has

to fly to maintain the currency and the proficiency to conduct any mission we send that person out to do.

The training and readiness matrix is actually graded in a 4.0 scale, and we call them C1, C2, C3, or C4. And so, for instance, an F-18 training and readiness matrix -- the full set of missions flown per month might encompass about 25 to 27 flight hours for one pilot per month. And those flight hours are indexed against specific missions.

When we send our pilots, our squadrons out on deployment, they are resourced and flown to a C2 readiness level. That is full 80 percent proficiency an currency for the missions that they are supposed to be trained in. On an exercise like the Dwight D. Eisenhower is conducting right now, there is oversight and certification processes that make sure that our squadrons are able to perform at that level.

In the United States Navy, if squadrons are not performing that that 80 percent level, they will not be sent on deployment. And so we resource the deployers to do that so the people in deployment on Truman right now are at a C2 readiness level are able to execute any mission we call on whether it is against ISIS or China or Russia, air-to-air, air-to-surface, or anti-submarine warfare, full capability complement on our aircraft carriers, carrier strike groups, and from the shore.

The lower tiered squadrons that are waiting to go to advanced training and deploy are not as ready. So they would be down around the C4 level. When you get that squadron ready to go, you have to work them up to the C2 level. So the impact of the lower readiness down here is actually fiscal, and it requires us to spend a lot more money to bring that pilot back up in proficiency.

But I will guarantee to you, as the CNO has directed and our fleet commander, Admiral Davidson and Admiral Swift, we will not send a unit on deployment without being fully tasked. So it is actually a fiscal challenge and we need money to do that.

General Davis: Ma'am, if I could, could I add a little bit to that?

Senator Shaheen: Please.

General Davis: Some of the same challenges, a little bit different since we do not do a tiered marines construct. We really need to be ready all the time as a force in readiness as mandated by Congress. And we do not have the inventory to do that with the bench squadrons. We get our units ready to go right at the last minute and get them out the door trained to a T2.0 readiness, which is a C2 or better.

And I will tell you the morale and the folks that are trained and overseas doing great work for us right now makes

everybody proud. They are doing phenomenal work.

But I worry about the ones that are getting ready to deploy. And with the dep-to-dwell of 1-to-2, that means you are home for a year and you are gone for 6 months. So that year, if you do not have the airplanes to train and you are on the tape to deploy, what is going to happen is you are not going to have the qualifications and experience you need to get out the door trained like you need to be.

I worry about -- not right now, but I also worry about the years to come where these young pilots do not get the experience and they do not get the qualifications they need. They come in. Now they are the supervisors, the trainers, and they do not have the experience that I had as a junior officer. I think that is a critical delta for us right now that we need to be very concerned about and work on. And the only way to do that is to basically get new metal on the line, new flying machines for these marines to fly and fight with.

Admiral Manazir talked about improving depot throughput. That helps in F-18, but for me I am flying F-18's, Harriers, and F-35's. So I worry very much about spare parts accounts in Harriers and F-35's. That is the critical delta. We got these brand new, great airplanes, but sometimes we do not have the parts we need to get full readiness and marines will find parts, but they will find

them in another airplane and cannibalize. We do not want them doing that.

And then bottom line is taking best care of the airplanes we do have. You should expect us to get every airplane that we got in the depot or do not have a spare part on in the air and fighting and flying as quickly as we can. But is very difficult to do that right now.

Admiral Manazir: Senator, there is a deeper, larger challenge to this that is implicit in your question. The CNO and the Commandant have both testified that we can resource the fighting force. What is lacking is the surge behind it. The United States Navy will not recover the surge force behind it until about 2020.

Senator Shaheen: Thank you.

Thank you, Mr. Chairman.

Senator Wicker: Let me ask both of our admirals about the next generation jammer. I will start with you, Admiral Manazir. The Navy is currently developing an advanced electronic warfare system, the NGJ, currently planned to be carried only by the EA-18G Growler. How does the Navy envision operating these jammers? Is the currently planned number of Growlers sufficient to effectively employ the next generation jammer?

Admiral Manazir: Senator, the United States Navy has procured 160 EA-18G Growlers. We feel that sources the Navy

requirement for airborne electronic attack. When the Marine Corps retires the EA-6B in 2019, the Growler will be the only DOD airborne electronic attack platform that will be flying. We are still conducting the study that determines whether the number of Growlers is sufficient to cover all of the missions across the joint force.

The next generation jammer will be flown on the EA-18G Growler, just like the current ALQ-99 podded system, which has been flying now for about 40 years, is being flown on the 18G.

The reason we are purchasing the next generation jammer, which its first increment will initial operational capability around 2021, is that the threat is getting more and more advanced. And that threat is in the electromagnetic spectrum. The next war is going to be fought in the electromagnetic spectrum. And ability to use RF energy by us to assure our systems and to deny the use of enemy systems is going to be the predominant measure by which we will succeed.

The next generation jammer podded system is designed to go after those advanced threats, and it is designed to continue to track and outmatch the threat as we go forward. We have evolved from a system of just barrage type of electromagnetic energy that just would saturate a system now to very, very smart digital systems that we can put in the

next generation jammer to fight against any of the high-end threats that are out there.

We are currently purchasing enough next generation jammers to source the number of Growlers that we have. We tightly couple the number of next generation pods that we buy with the number of Growlers that we buy. And right now, it is sufficient to address the threat that we know. But we continue to do the study on the joint missions.

Senator Wicker: And when do you think you are going to have the results of the study as to the appropriate number?

Admiral Manazir: Sir, there are two things in play with the Office of the Secretary of Defense. The first one is a study, along with the Joint Staff, on specifically the Growler. And the second is overall in the Department of Defense an examination of airborne electronic attack. There are different ways to do it. And so we continue to talk to OSD and the Joint Staff about how much information we need to determine how many Growlers that we need to go forward. So we are still in discussions about that, sir. I would say in the next year, in the next portion of a year that we would have enough information to be able to go forward with a definable number as to whether 160 is enough.

Senator Wicker: Admiral Grosklags, let us talk about acquisition process. The NGJ has been designated the first program in the Skunk Works pilot program that seeks to

streamline the process. Can you describe the elements of this pilot program and how the NGJ will benefit?

Admiral Grosklags: Certainly, sir. When we sat down and finally made the decision that NGJ was going to be the pilot project, the first thing we did was sit down between the Navy secretariat's staff and AT&L staff and identified a very limited core group of individuals who are going to have oversight over that program and the ability to participate in decision meetings.

So typically what we see with a major defense acquisition program is it is kind of all-comers get together around the soccer ball and get their input into the decision process. What we identified was a very select group of individuals starting with Secretary Kendall who have all the right skill sets, all the right knowledge, all the right subject-matter expertise in order to make the right decisions for that program, but it is a very select group of individuals.

That very narrow focused group enables the program manager to not have to deal with repetitive briefing cycles to work his way through a myriad of staff reviews for every decision that he or she has to get. As an example, they just had their milestone B decision about a month ago. So they moved into the engineering, manufacturing, and development phase, a big step for the program. Instead of

going through literally months of staff work and briefings for that milestone decision, what they ended up doing was a single-day meeting with that small core group of individuals representing OSD folks, representing the Navy staff, representing the Navy secretariat. They went to the contractor facility. They had a 1-day meeting. The program manager led that discussion. He did not have to do pre-briefs. At the end of that day, he got a decision. That is the way we need to operate all of our programs, and we need to make this pilot program the standard vice the exception.

On the Navy side, what we are trying to do with the MQXX program is to take that a step farther and take that streamlining not only from the acquisition oversight perspective but also drilling it down into the engineering requirements and the test and evaluation requirements and streamlining those activities as well so that we can truly get new capabilities out to the fleet in a much quicker fashion. It is still getting them the capability they need but getting it to them in a timely manner.

So we think the Skunk Works is a great initiative. We need to do more of it.

Senator Wicker: Any resistance, naysayers?

Admiral Grosklags: The only naysayers that I saw were people that potentially had their feelings hurt because they were not included as principal members in that core group of

decision-makers.

Senator Wicker: Senator Blumenthal?

Senator Blumenthal: Thanks, Mr. Chairman. Thank you for having this hearing -- to you and the ranking member.

And thank you, gentlemen, for your extraordinary service to our Nation.

I have a few questions about the F-35B and F-35C. I note from your joint testimony that you feel that basically things are going pretty well. The F-35 program, to quote you, is executing relatively well. Some problems in software and in cost, problems meaning continuing challenges that are surmountable.

I wonder if you could tell me how the software aspect of the aircraft is going at this point. I know there have been some issues along the way.

Admiral Grosklags: Sir, I will start with that.

First of all, the Marine Corps is flying the 2B software, and they have one additional release for the 2B coming that gives them some additional capabilities. They also, as the General just noted, have some 3I aircraft, and that is what is coming off the production line today.

One of the challenges that we are seeing with the 3I is a software stability concern. That software stability has primarily to do with the radar system onboard the aircraft, but as things are very intertwined on this platform, it

affects the overall system. So we were seeing system resets, system anomalies much more often than we could accept.

So General Bogdan, the program executive, took a step back. He chartered a red team to take a deep dive at some of these issues because he wanted to make sure that we nailed down the problems on 3I and not wait till 3F, which is the final fleet release for the Navy and for all the services once we get through operational test.

We believe, based on information and testing that has just been completed very recently and is continuing through the end of the month, that the majority of those software stability issues have been resolved. We still have a few flights to verify that to ourselves, but we seem to be on a good path.

The implication for 3F is now that we took a bit of a pause in the development of 3F. So the timeline for 3F to actually get to the fleet has probably been delayed by another couple of months based on making sure we get it right in 3I. So we think that was a prudent step on his behalf, General Bogdan's behalf, but we seem to be on a good path at this point.

General Davis: Sir --

Senator Blumenthal: Sorry. Go ahead.

General Davis: We are flying that software now, 2B,

some 3I. What we did not do -- I think that was later at the last iteration of the 3I software that we have had stability problems with. We did not load that. So we are not having those problems in the Marine Corps right now. So we are operating 2B, 3I, and we are not having the radar resets and problems that they have seen with the latest software load. So we are tracking, doing very well with that software load, and flying the airplane really well.

Right now, the VMFA-121 is out there in Yuma. They are flying a lot. So is the training squadron 501, and we are going to stand up VMFA-211 here this June. It is tracking very well.

The popularity of the program -- we have got a lot of captains and majors and lieutenants that are signing up to fly the airplane. And right now, of all the Marine Corps flying assets that we have out there, the guys who are making their flight hours is the F-35 program. So they are tracking. They are getting good training. In fact, the first three students are going through the WTI class in Yuma, Arizona right now and bringing that fifth generation capability to the Marine Air Ground Task Force in a big way.

So we are not seeing the problems with software right now for what we are doing. We are very pleased with what we got and every day learning a little bit more about how to operate this airplane and bring additional capabilities to

the fight.

You asked about cost, sir. I think we are actually seeing the total cost going down a little bit, but then they looked at their lifecycle cost going up by 2 percent. That is a bad news story but I think also a good news story. I think they actually said we are going to fly the airplane another couple decades. So they rolled in additional time there.

The good news about the F-35 -- it is an 8,000-hour airplane. I would love to have that with some of my legacy airplanes right now because that is 2,000 hours additional life that I do not have to do a reset or a depot event on. That is a great capability out there. So we are very pleased with what we are seeing from the airplane.

Everything costs too much. We would like it be cheaper. I think one of the ways to make it cheaper is to get more of these airplanes and put more on the flight line. The Marines are very happy, not satisfied. We are happy. We always want better and always want more, but this has been a great program for us and a very exciting time.

Senator Blumenthal: That is a great answer to a couple of the next questions that I was going to ask. So I want to thank you.

I notice in, again, your joint testimony you talk about the incentives to the manufacturers, all of the contractors

for this airplane to reduce their costs to $85 million a copy. And you alluded to the point that I was going to raise. To what extent will the cost come down if we accelerate production? I assume that would be one way of bringing down costs in this program.

Admiral Grosklags: Yes, Senator. I will touch on that.

Just very quickly, what General Davis alluded to in terms of sustainment costs, in the selected acquisition report that they just submitted this year to the Congress, the sustainment costs on a cost-per-hour basis, the cost per aircraft per hour actually came down anywhere from 2.2 percent for the Air Force to I think 4.2 percent for the Navy and the Marine Corps. The F-35B was in the middle of that.

The total sustainment cost lifecycle went up because primarily the Air Force added 2 years to the lifecycle of the aircraft. So that kind of overrode the fact that the actual cost-per-hour is coming down. In my view, that is not a bad news story.

In the same report, what they show is that the procurement costs were reduced by a total of $7.5 billion over the life of the program. So the cost of buying the aircraft.

One of the initiatives that all the services, as well

as our partner nations, are looking at to further reduce the cost of the aircraft is the potential for starting a block buy concept where we would request permission from the Congress to procure some of our long lead materials via an economic order quantity, do that in advance of several lots of aircraft. Different from a multiyear in that we are not committing to a certain number of aircraft each year. We would still have an annual appropriation that would guide that decision, but it would allow industry to invest a little bit more upfront and get some of those cost savings.

Eventually we would love to get a multiyear program for the F-35, which we think would really drive costs down. Obviously, we have to get through IOT&E and a full-rate production decision before we can do that.

Senator Blumenthal: Well, I would encourage you to think along those lines. I am speaking only for myself. But multiyear production and contracting, obviously, are a way to bring down costs, and this aircraft is our future. It is transformational. It is going to be, as General Davis remarked, for decades to come what maintains and secures our air superiority around the world. So the quicker -- I do not want to use the word "cheaper" but less expensively, more cost-effectively we can produce it, the better.

So thank you very much. Your testimony has been very instructive and valuable. Thank you.

Senator Wicker: Thank you, Senator Blumenthal.

Senator Sullivan?

Senator Sullivan: Thank you, Mr. Chairman.

Gentlemen, thank you for being here.

I apologize for not being here at the beginning, and I fear I am going to tread a little ground that you have already covered about readiness.

You know, there was a Fox News article -- I am sure you saw it, General Davis, recently. And to be honest, I think in the eyes of Americans, the terms "low readiness" and "the United States Marine Corps" is kind of an oxymoron. It is not normally what we equate when we think about the Marines. Actually "high readiness" is usually the description I think that most people would equate with the Marine Corps.

So I know you have already talked about it, but if we have not asked the question, is there anything we can do?

And I know the Commandant talked about this in his confirmation hearing, but I mean, how did this come about? And you have talked about how it came about, but was this kind of a gradual thing that the Marine Corps has been talking about for years, or was this something kind of a little bit more abrupt? Becoming a low readiness designation is a pretty significant thing. I know I am not being very articulate here, but did the come about very quickly or slowly? I am just trying to think through how to

make sure it does not happen again.

General Davis: Sir, that is for me. That is my job and General Neller's job to make sure it does not happen again.

I would say it happened over a period of time. I think in many ways, we are making our operational commitments. We are making our deployments to go fight in Afghanistan and Iraq and around the world, but the Marine Corps is designed for the big fight as well, the force in readiness for the low-end fight, the high-end fight. And I think while we are making our operational commitments, making our deployments, what was not being done and gradually over time is our inventory was driving down the number of airplanes we had available to train to get our bench trained that General Dunford talked, General Neller talked about it. The number of airplanes out there to train the bench was not there and was decreasing in numbers to the point now where it is -- you know, marines will always get the job done. They do not complain. They go out there. And if you were down in Buford or forward-deployed anywhere, marines are always getting the job done out there, as the rest of our naval service brothers and sisters.

But the number of resources over time was getting lower and lower and lower. And our dep-to-dwell went from 1-to-3 because of reduced inventory and also increased tasking to

1-to-2. So lower inventory, high DEPTEMPO. You know, you got a 1-to-2 dep-to-dwell, and you got that period to train out there and you do not have the assets to do it. So I think it happened over a period of time. I testified to it last year because we have been talking about this.

But I think we have been involved now in this range recovery model and we also know how to fix some of this. And with your help, we have been doing that funding. Making sure the funding stays whole is the biggest thing that you can do to help us, making sure that the President's budget gets executed and also, too, that we keep our recapitalization projects on track. There is only a certain amount of life we can get out of these old airplanes, and we are doing that. We are extracting every ounce of capability out like we should, but we do need to recapitalize. So I think those things are the things we need to focus on, sir, and allow us to execute that range recovery model. It did not happen overnight and multiple reasons for it. But we are diligently working our way out of it right now.

Senator Sullivan: Well, one of the things -- and this is a bit of an advertisement, but one of the things in terms of your getting back to readiness, I certainly would encourage the Marine Corps to take a look at the JPARC training complex up in Alaska, which as you know, the Air Force considers it certainly the best air-to-air and even

CAS training in the world. And given that there is going to be a lot of an Asia-Pacific focus, we certainly would welcome the Marines up there. There were some ANGLICO units up there last year at Red Flag, and I know the Marines have been up there to some degree. But with the F-35's being based, two squadrons, at Eielson in Alaska, having the Marines up there training and fighting against the Air Force would be a healthy competition.

So let me ask one final question. And this is more just educational for me. When you talk about the STOVL capabilities of the F-35B and you look at those capabilities, is the B variant unable to do some things, whether it is bomb capacity, whether it is legs in terms of the ability to travel? And obviously, Harriers did not have the capability that, say, F-18's did, but they had the STOVL ability. Did we lose anything in terms of capability with the B variant that the other F-35's have because the B variant has that vertical lift capability?

General Davis: To the short takeoff, vertical land capability, sir, we lose a little range, but also we add the basing flexibility. You can go off of every amphibious ship to include the British ships if we so choose, the Queen Elizabeth and Prince of Wales. Anywhere wood floats you can base an F-35B. So in conjunction with -- I think also, too, as we as a naval force, how we fight that fight better as we

fight as a naval force, it will include both F-35B's and F-35C's working in concert from the sea base.

But most of our stuff, about 75 percent of our airplanes, will flow from the sea base ashore. And so there is a great strategic advantage to being able to base in a 3,000-foot runway. We took the airplanes up to Twentynine Palms, and that squadron operated out of a 1,500 foot of that runway very easily in support of the marines up there at Twentynine Palms. So a little bit of tin allows us to basically go anywhere that there is a short bit of strip out there. Actually there is a lot of demand for that kind of capability around the world. So the Marine Corps is a light force, a middle-weight force. So to us, it makes great sense to have an airplane with that basing agility to put that airplane closer to the guy on the ground. And that is what it is all about for us.

Senator Sullivan: No munitions capability?

General Davis: The airplane will carry more ordnance if we go in the low observable configuration. It carries all the ordnance inside when we get 3F software and the 3F capabilities. More than software, it is also hardware. We get pylons. The airplane will carry 14,000 pounds of ordnance, which is 3,000 pounds more than the F-18 will today. It has got a little better legs than our legacy F-18. Actually it is a great capability.

And if you could watch what the young officers are doing operating this airplane up and away, it is a qualitatively different machine. I would love to show you all the stuff they are doing. It is very, very different than anything I have seen before, and it is really exciting.

So a few thousand pounds more ordnance than an F-18 can carry, about the same legs, and I can base on a 3,000-foot strip anywhere in the world or an amphibious ship. To me that is a great capability for the Marine Corps. And it is kind of what we expect from our Corps.

Senator Sullivan: Thank you.

Thank you, Mr. Chairman.

Senator Wicker: Senator Kaine?

Senator Kaine: Thank you, Mr. Chair.

And thanks to the witnesses.

The President's budget, I believe, has a recommendation that we would decommission a carrier wing, and I gather that that is kind of a re-rationalization of some of the aircraft used. But I was hoping that you could just walk us through the logic on that.

Admiral Manazir: Senator, as you know, we deploy our carrier air wings with our carriers. And so as part of the President's budget 2017, I proposed to the CNO that we look at the air wing force structure, and it was based on a couple of things.

The first one is as we look at the threat -- and we discussed, China, Russia, North Korea, Iran -- and we look at the global force management plan out through 2025 -- that is, we know what the President and the Secretary of Defense want us to do for deployment from a carrier strike force, and we also understand the load from the proposed operations plans for a major contingency operation, and we apply that out on sort of a map. And we looked at the carrier maintenance schedules and the predictability of the nuclear maintenance schedules for our CVNs, which keeps them at top condition, and also the predictability of our optimized fleet response plan. And it turns out when you lay the predictability of the carrier schedule -- and, of course, every carrier that deploys and operates has an air wing on top of it -- and you lay the predictability of those turnaround plans and the maintenance out through 2025, the number of operational carriers that you have is no more than nine at any one time because one is in long-term retro complex overhaul, as you know, sir, and the other one is in a 16-month dry-docking. And so the maximum number of air wings that you would need over that time is nine.

If the world got a vote and something changed from predictability, there is enough time that is between each of those turnaround periods to extend an air wing and ship team to cover that contingency until they come over. So there is

some flexibility built in.

Additionally, when we apply the 10 air wing force to our current operational tasking, what has happened over the last couple of years is the number of air wings that have spent too much time in port, not training and not deployed, has gone up. We had an air wing recently that had 83 months -- 83 months -- between deployments. So there is not enough work to go around. And so what started out as a fiscal imperative on my part to the CNO, it turned out the analysis actually supported it, and the CNO called it a good business decision.

That air wing is actually an administrative air wing. The way that we tier our readiness -- that is the model 10th air wing. It is not a full air wing. A fully resourced air wing is out and deployed and in advanced training. And so the airplanes that are populating a portion of the air wing go out to different squadrons and reduce the requirement. The people that are in those air wings would go to different squadrons and reduce the accessions. And so we are able to use that capacity across the nine air wings.

So while it appears as if we are getting rid of force structure, we are actually getting rid of a flagpole that holds that force structure and we are moving the assets out. So that is the business case, sir.

Senator Kaine: I think that is a great answer. I

figured that there was a really good answer behind that and I am very glad I asked that question.

Let me ask a question. Senator Sullivan was asking about 35B, that variant. I am curious about the 35C. Both the Marines and Navy are using the F-35C, I guess the carrier variant, and you are doing some kind of joint procurement. Talk to me a little bit about how that procurement is going along and the way the Navy and Marines structure the sharing of that procurement.

Admiral Manazir: So we have shared the transition plan for the F-35C between the Navy and the Marine Corps. And thank you very much for the airplanes. In the President's budget 2017, they start to get at the ramp that we need to IOC the Navy's first squadron in August of 2018, then IOC the Marine Corps' first squadron the year after, and then alternate squadrons such that we will have the right number of squadrons in the mid-2020s to address the high-end threat.

The F-35C, with some risk, as we have talked about, in software and mods is on track to IOC in August of 2018, and we will operate that airplane together as we go forward. And right now, our plans are commingled. The number of airplanes -- we have to get a ramp of the aircraft such that we are buying 20 F-35C's and 20 F-35B's per year starting in 2020. And right now, the ramp is on track to do that with

the President's budget 2017. So thank you very much. We are on track.

Senator Kaine: Please, General Davis.

General Davis: Yes, sir. The Marine Corps will operate four squadrons of F-35C's, and when they are not on the carrier, they will be just like we do with our F-18's. If they are not assigned to a carrier, if there is a lull out there, they will be able to go deploy to a unit deployment program. Our unsinkable aircraft carrier out there in Ohakune -- we flow about three F-18 squadrons and a Harrier squadron out there right now. And we also share with the training squadrons.

So right now, we have already bought -- I think we purchased 10 airplanes. I think five or six have delivered and they are down there in the training squadron right now. I think the executive officer of that squadron is a marine major right now. So we are all in and, bottom line, ramping up. I think we actually get up a little bit north of 20 with the F-35's.

Again, the key for us is getting the F-35B's. We will have 16 squadrons of F-35B's when we are done, two Reserve and in active duty. And so getting those airplanes on the line is an imperative for us, replacing the old with the new. I am very excited about that. And we will get along just great with the C's and B's out there in the United

States Marine Corps. And we look forward to working with our Air Force counterparts as well. It is a great capability.

Senator Kaine: Super.

Thanks, Mr. Chair.

Senator Wicker: Senator Tillis, Senator Hirono has been poised four times now for her second round. While you catch your breath, would you mind yielding and allowing her to proceed with her questions?

Senator Tillis: It would be, indeed, my honor.

Senator Hirono: That is kind of you. It is always really great when members come to our hearings. So I do not want to dissuade anybody of that behavior.

[Laughter.]

Senator Hirono: Thank you so much for updating us on the F-35 program. Admiral Grosklags, I think that you mentioned that at some point you would want the F-35 program to become a multiyear contract program so that we can lower the cost, which I think is a good thing.

And that is why I did bring up the concern that I have about the V-22 multiyear contract. I do not need to go into it right now, but I just wanted to express the concern that we are not meeting the requirements of that particular multiyear contract.

Let me turn to the unmanned carrier aviation program.

This is for Admiral Manazir.

Last year, the Navy was pursuing the unmanned carrier-launched airborne surveillance and strike, or UCLASS, program to develop an autonomous aircraft carrier base unmanned combat area vehicle to provide an unmanned intelligence and strike asset to the fleet.

And this year, the Navy is pursuing a program called the carrier based aerial refueling system, or CBARS. As I understand it this program is primarily developing a tanker, but it may have surveillance and limited strike capabilities.

I would like to get a better understanding of what the differences are between the two programs. So, Admiral, could you describe the CBARS program and how it differs from the older UCLASS program?

And also for General Davis, are there any Marine Corps interests in the new CBARS program?

Let us start with you.

Admiral Manazir: So, ma'am, I am excited that you were anxious to ask about this program. And so I will describe it to you.

The United States Navy has been anxious to get an unmanned capability on to our CVNs for quite a while. Back in 2009 actually Admiral Roughead pounded a table in a secure space and said, I want unmanned on a carrier by 2018.

And that started a series of conversations in the Pentagon about unmanned capability off the aircraft carrier.

The UCLASS program you are familiar with was the subject of a strategic portfolio review by the Office of the Secretary of Defense conducted over the last year. That, coupled with a look at our ISR capabilities in the maritime, resulted in the restructure of the UCLASS program to what we currently call the MQXX. So CBARS is now gone. UCLASS is gone. We talk about the MQXX. And we are working with the authorities that do the aircraft designations.

That MQXX is going to have two primary missions. The first, as you noted, is in-flight refueling. It will be able to take fuel and also give fuel. We primarily use that as an overhead recovery tanker, organic to the aircraft carrier. Right now, that mission is conducted by F-18E and F Super Hornets. And so if we offload that mission to an unmanned system, then we can use those six tankers, those configured airplanes. We can reconfigure the tanks and use them for fighters. And that will limit the hours on the airplane.

The second mission it will have is ISR. And so what we expect to do with that airplane is to put non-developmental systems into -- key, non-developmental systems. Lower the technology risk by putting non-developmental ISR systems into this air platform, and then send it out and conduct

critical maritime domain awareness missions around the carrier strike group. And with its long endurance, it will be able to give that maritime domain awareness not only to the striker commander but also to the fleet commander.

The reason that the Secretary of the Navy agreed with the Secretary of Defense and the Chief of Naval Operations on this new mission set is because we can accommodate those two missions on an unmanned system coming off the aircraft carrier more rapidly. You know that we use the X-47B UCAS system to demonstrate landings and takeoffs and in-flight refueling. We have gotten everything out of that platform that we have needed. Now what we are going to do is show that we can use a platform to do two basic meat and potato missions on the aircraft carrier using the MQXX, and that will also provide a platform for us to go forward and do additional, more advanced capabilities in the future.

Senator Hirono: General Davis, does the Marine Corps have any interest in the MQXX program?

General Davis: We have tremendous interest, ma'am. But it is a little bit different requirement. We would be going looking for something to go off an amphibious ship vice a carrier. So a little bit different design.

Right now, with our 22nd MEU, the MQ-21 is a group 3 UAS that is going out with that ship. And right now, it has to be caught on a tether when it comes in to recover. It

gets launched and recovers on a tether. It limits the payload that we have on the airplane. It is a great capability for us, but we are looking for a group 4 and a group 5 UAS that have long dwell, long duration, manned/unmanned teaming concepts out there, to include -- we think the future could be like an airplane with a future vertical lift. It will be a manned, optionally unmanned capability. If it is fly-by wire, we think we should be able to go off with a manned platform or an unmanned platform for multi-mission platforms.

We are borrowing some MQ-8 Charles from the United States Navy for a period of time to kind of grow into kind of taking a larger airplane off an amphibious ship in an unmanned platform out there to go provide ISR and fires as need be. We are pretty excited about that.

And we have got a requirements document study that is going on at Quantico to go tell us exactly what they want us to go pursue. But there are several projects out there that give us a long-range, long-duration, multi-mission platform for UAS. And we think UAS could deliver people. It could deliver ordnance. It could deliver fires. It could deliver surveillance, all those things. So we are looking for a wide aperture for what we can do with these platforms in the future.

Senator Hirono: Thank you. I just have one clarifying

question that I want to ask.

Both of us talked about the strike fighter shortfall. And I just need to know -- this is probably for Admiral Manazir -- what is the Department of the Navy's current estimate of the strike fighter shortfall because we have had different numbers over different years. So what is the most recent shortfall number?

Admiral Manazir: Ma'am, I am going to caveat the shortfall number. If you manage your inventory, the number is going to be dependent upon several sets of assumptions. And so you have to categorize those assumptions in supply of the airplanes, the demand of the airplanes, the utilization rate of those airplanes.

With my current data, which is valid now, we have a shortfall this year of 92, and I go well below the manageable rate of 65, which we have testified to, all the way until 2024 when the shortfall under the current set of assumptions is 77. And then I go below that gain until I get out into the 2030's when a different set of assumptions will be the case.

So, ma'am, I want to emphasize we talk now about management of the inventory, not the shortfall number. And as I testified earlier, the things that you all have provided us in the PB-17 budget reduces our shortfall down to below the manageable level in the near term. Now, that

again requires us to get through the depot output, and we have some assumptions for depot output that General Davis and I have already talked about, and that has got to stay on track for us to stay below a manageable level. That is overall strike fighters.

Senator Hirono: Thank you for clarifying for us. This is not a set number, that there are things you can do to reduce the shortfall.

General Davis: Ma'am, if I could. Like Admiral Manazir said, it is not just depot when we talk about Harrier and supply. So there are Harriers. There are F-35's. There are F-18's in that mix. And the depot really deals with the -- each of these type model series are kind of like a child. They are all different and they all require a different strategy to recover and basically take best care of them. So with the Harrier, it is supply. We have worked on that really hard, done a good job with that. Now F-35 would be -- we are trying to avoid a supply problem with the spare parts for F-35 to make sure that when we bring that airplane in, we have got adequate supplies out there to go fight that thing and surge, if required.

Senator Hirono: Thank you.

Thank you, Mr. Chairman.

Senator Wicker: Thank you, Senator Hirono.

Senator Tillis?

Senator Tillis: Thank you, Mr. Chair. I apologize. I have got some competing meetings, and I have actually got another SASC subcommittee meeting I have got to run off to. So I am going to ask one or between questions of you, General Davis.

I have down to Lejeune, Cherry Point. We were down at Cherry Point talking about some of the facility's needs for the F-35 long term. I came back with the impression that some of the stuff for the lift fan facility would become a part of your priorities. I am kind of curious. In fact, I think it was November I reached out to talk to the F-35 Joint Program Office and asked them is the lift fan facility a part of their priorities. I thought that the answer was yes, at least based on the letter that I got from them, and now it is not. So I am trying to get an idea of what the future of the F-35 operation is at Cherry Point, particularly in light of these lack of resources or moving the availability of these resources down at Cherry Point to the right.

General Davis: Sir, if I could. I think Paul could be part of that as well -- Admiral Grosklags.

But the lift fan facility is an important part of Cherry Point and getting that built and making sure that gets built on time to make sure we got that capability down there. I think right now we are just finding out how to pay

for that facility.

We have done the security improvements we need to with Cherry Point. That is going to be one of our major F-35 bases in the Marine Corps.

Senator Tillis: Well, that is one of the reasons for my concern because we came away from Cherry Point advocating in the NDAA for the security fence component. We got that. And I wanted to make sure I was not asking for something that is not going to follow through on things that you felt like you no longer need or just get some sense of certainty of when we are going to get it and when I should prioritize it as somebody who hails from that area.

General Davis: Absolutely needed, sir, and it needs to get built. And we are just working on where we find the funding for that right now, sir.

Admiral Grosklags: Yes, sir. I do not have a whole lot to add. It is absolutely critical. The only other place we will be able to do that we do today the production and sustainment that that vertical lift fan is at the Rolls Royce factory in Indianapolis. By the early 2020s, they will have reached their current capacity in terms of the ability to deliver new, as well as repair the stuff that in service. So the VLF facility is absolutely critical. There is nobody changing tune in terms of moving it away from Cherry Point. At this point, it is simply a question of the

funding has not made it into our budget request.

Senator Tillis: Well, maybe I can catch up with you all outside of the committee. But I am just concerned. We are in 2016. 2020 is not too far away. And getting the funding and then moving forward and getting the facility available -- if you want to stay ahead of that curve of Indiana being at capacity, then it seems like this is something we have got to be talking about sooner rather than later.

Admiral Grosklags: Yes, sir. I concur.

Senator Tillis: Thank you. That is all the questions I have.

Senator Wicker: Gentlemen, I am guessing Senator Tillis will catch up with you outside the committee.

Let me just ask one thing, General. Admiral Manazir said the Navy minimum hours flown per month is 11. What is the minimum hours for the Marines?

General Davis: Sir, we are a force in readiness, our targeted T2.0 readiness. So it varies from about 15.4 hours per month to about 22 hours per month. So we do not have a tier readiness model. So we are under-executing in the flight hours in many of our type model series with the exception of F-35. And I think C-130 is getting it right now, too. So we are not in a good spot.

Senator Wicker: You are under-executing. Is that

because of safety concerns?

General Davis: No. There are not enough airplanes on the line to fly. We talked about that ready bench. So we do not have the airplanes to go fly all the pilots to their training and readiness manual numbers to be at T2.0. So we do not have a minimum number.

What we do make sure is that we are not putting anybody in an unsafe -- what I would say where we are suffering is in the tactical proficiency that we need to be a force in readiness. You should not have to wait until right before deployment to get yourself up to speed to be ready to go. You would expect the Marine Corps to be ready tonight. And those bench forces out there are not ready to the degree they need to be.

Senator Wicker: Gentlemen, we thank you very much.

And the record will be left open for questions submitted for the record for 5 days.

Thank you very much for your testimony and your service.

[Whereupon, at 3:28 p.m., the hearing was adjourned.]