

Stenographic Transcript
Before the

Subcommittee on
Readiness and Management Support

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEALTH OF THE DEPARTMENT OF DEFENSE INDUSTRIAL
BASE AND ITS ROLE IN PROVIDING READINESS TO THE
WARFIGHTER

Wednesday, April 11, 2018

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1 HEARING TO RECEIVE TESTIMONY ON
2 THE HEALTH OF THE DEPARTMENT OF DEFENSE
3 INDUSTRIAL BASE AND ITS ROLE IN
4 PROVIDING READINESS TO THE WARFIGHTER

5
6 Wednesday, April 11, 2018

7
8 U.S. Senate
9 Subcommittee on Readiness and
10 Management Support
11 Committee on Armed Services
12 Washington, D.C.

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14 The subcommittee met, pursuant to notice, at 2:32 p.m.
15 in Room SR-232A, Russell Senate Office Building, Hon. James
16 M. Inhofe, presiding.

17 Subcommittee Members Present: Senators Inhofe
18 [presiding], Rounds, Ernst, Perdue, Kaine, and Hirono.

1 OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S.
2 SENATOR FROM OKLAHOMA

3 Senator Inhofe: The Subcommittee on Readiness will
4 come to order.

5 The subcommittee meets today to discuss the health of
6 the Department of Defense organic industrial base and their
7 crucial role in providing readiness to the warfighter.

8 You know, General Levy, I can remember back 25 years
9 ago when we were talking about the organic capabilities that
10 we had to have and the reason for it. And 25 years ago, we
11 made a decision that 50/50 was arbitrary and we were going
12 to figure out some way to be more sophisticated. Now it is
13 25 years later and nothing has happened. But, nonetheless,
14 it is still just as important as it was.

15 We are joined this afternoon by Lieutenant General
16 Edward Daly, Deputy Commanding General of the Army Materiel
17 Command; Vice Admiral Paul Grosklags, Commander of the Naval
18 Air Systems Command; Vice Admiral Thomas Moore, Commander of
19 the Naval Sea Systems Command; Lieutenant General Lee Levy
20 from Tinker and elsewhere; and Major General Craig Crenshaw,
21 Commanding General of the Marine Corps Logistics Command.
22 And I thank all of you for being here. It is very
23 significant what we are doing today.

24 I would also like to thank our ranking member, Senator
25 Kaine, as well as the rest of our members who represent the

1 shipyard industry base so well. I trust that like last
2 year, you will keep Vice Admiral Moore quite busy today.

3 In February, the subcommittee received testimony from
4 the service vice chiefs on the current readiness of our
5 armed forces. We heard many troubling details about how
6 each of the services is currently positioned to respond to
7 the next global contingency. Simply put, we are not.

8 The National Defense Strategy provides the Department
9 of Defense a new approach to ensure our national security.
10 Several of the lines of effort prioritized by the Secretary
11 of Defense in the strategy are directly dependent on the
12 organic industry base. And it forms the backbone of our
13 NDS, and for that reason, it is more important than ever
14 that our organic industrial base remains strong.

15 Unfortunately, we are facing serious challenges. Last
16 week alone, we saw five separate aircraft crashes across the
17 services. That was on April 3rd and April 4th. Five of
18 them in that period of time. And you know, you have to come
19 to the conclusion, without any studies being made, that it
20 is a combination of either training or maintenance. And
21 these are problems that have been suffering during the last
22 administration that we are trying to correct now.

23 The organic industrial base workforce is also facing
24 serious challenges as is ages across the board, and there is
25 a lack of skilled personnel. General Levy, you and I have

1 talked about this. I think they said at the University of
2 Oklahoma, you are in a position to hire every single one
3 that they graduate from their engineering school. This is
4 not just confined to the State of Oklahoma. We need
5 experienced personnel. It is something that we are going to
6 have to address. And I appreciate your being here.

7 I recognize our ranking member, Senator Kaine.

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1 STATEMENT OF HON. TIM KAINE, U.S. SENATOR FROM
2 VIRGINIA

3 Senator Kaine: Thank you, Mr. Chair.

4 And thanks to our witnesses. Three of you testified
5 before us last year, and hopefully all five of you get
6 promotions and you will not need to come back next year.

7 [Laughter.]

8 Senator Kaine: But it is good to have you here, and
9 this is going to be an important discussion.

10 2 months ago, as the chair indicated, we had testimony
11 from the vice chiefs about pressing readiness challenges,
12 and today I look forward to delving a little more deeply
13 into some specific issues. I want to just raise two.

14 First, with respect to our industrial facilities, I
15 applaud the Navy for delivering the Shipyard Infrastructure
16 Optimization Plan. That is very, very helpful. It is a
17 good first step toward identifying necessary long-term
18 investments for Norfolk, obviously I am very focused on, but
19 the other three critical organic shipyards, very helpful. I
20 will have some detailed questions about that. But I would
21 like to hear about sort of the long-term strategy for
22 executing on the plan.

23 We did a 2-year budget deal that I am happy with. I
24 think it is encouraging for the Department of Defense, but I
25 am concerned about other federal agencies that support our

1 defense mission. I am concerned also about the remaining 2
2 years of the Budget Control Act after 2019 and needing a
3 bipartisan strategy for eliminating that burden on our
4 defense.

5 The ability to hire and train workers is probably the
6 area where I am going to ask the most about. And I had a
7 little chart put on folks' desks. I think they have it.
8 And what this shows is the average experience of all who
9 work in the Navy shipyards and then especially the
10 production workers. And you see over time, from 2006 to
11 2017, this average year experience is declining. And I
12 think that poses some challenges that I would like to hear,
13 especially from the Navy, about how we deal with it.

14 I thought it was interesting. We are working on the
15 NDAA right now, and as we work on the NDAA, we ought to be
16 thinking about these workforce questions. There may be
17 things we can do in the NDAA to address them. I noticed,
18 for example, that when the Trump administration delivered an
19 infrastructure plan to Congress about a month ago, they
20 actually within the infrastructure plan had some bills
21 dealing with a trained workforce because they knew just
22 investing in infrastructure, you could have whatever
23 investment you wanted, but you are going to have to have
24 somebody do the paving, you are going to have to have the
25 structural ironworkers. And so they actually put workforce

1 components into the infrastructure proposal that they
2 delivered to us. This budget that we got -- again, I think
3 it is good for defense, but it also means if we are going to
4 be ramping up investments in Colombia class subs or block
5 buying on carriers or other things, that workforce is going
6 to be very, very critical.

7 In the meeting that I had right before I came here, I
8 was with a number of folks in the defense industrial base.
9 And if I just gave an open-ended question, what do you want
10 to talk about, the issue that they are sort of grappling
11 with right now is workforce questions. And giving them
12 predictable funding for this to your budget is really
13 helpful in that, and if that represents a step back toward
14 regular order and they think that we are more likely to do
15 that in the future, that will also help.

16 But it is not just predictability funding. It is also
17 strategies. I am on the Health, Education, Labor and
18 Pension Committee. We are starting to work on the higher ed
19 reauthorizing act. There might be some things we could do
20 in the higher ed act to more vigorously promote the kind of
21 career and technical training that would feed into the
22 industrial base.

23 So these are some of the issues that I am most
24 interested in hearing you talk about today. And I want to
25 thank the chair, and I know we are going to have a good

1 discussion.

2 Senator Inhofe: Thank you very much, Senator Kaine.

3 We would like now to have opening statements and try to
4 confine them to about 5 minutes since there are five of you,
5 but your entire statement will be made a part of the record.
6 And we will start with you, General Daly.

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1 STATEMENT OF LIEUTENANT GENERAL EDWARD M. DALY, USA,
2 DEPUTY COMMANDING GENERAL, UNITED STATES ARMY MATERIEL
3 COMMAND

4 General Daly: Good afternoon. Chairman Inhofe,
5 Ranking Member Kaine, and distinguished members of the
6 subcommittee, I appreciate the opportunity to testify on the
7 preparedness of the Army's organic industrial base and its
8 critical role in providing and sustaining warfighter
9 readiness.

10 On behalf of Secretary Esper and General Milley, thank
11 you for your strong support and continued commitment to our
12 soldiers, Army civilians, families, and veterans.

13 I am honored to be here today with my counterparts from
14 the Navy, Marine Corps, and Air Force.

15 The Army's organic industrial base, the OIB, is a \$14
16 billion enterprise consisting of 23 ammunition plants,
17 depots, and manufacturing arsenals with a workforce of over
18 22,000-plus professionals.

19 The OIB delivers readiness through two key functions:
20 depot maintenance and the Army's role as the Department of
21 Defense executive agent for conventional munitions. The OIB
22 possesses unique and critical industrial capabilities and
23 capacity that is not easily replicated in the corporate
24 sector, providing for immediate requirements, as well as a
25 base from which to surge during periods of crisis.

1 While the OIB successfully surged over the last 17
2 years of conflict, it has been largely reactive to emerging
3 requirements. To be relevant for the future fight going
4 forward, the OIB is now transforming and modernizing to
5 focus on the output required to sustain current and future
6 readiness.

7 The Army is also improving the effectiveness of the OIB
8 through readiness-driven workload forecasting, innovative
9 process improvements, and partnerships and collaboration
10 with the private industry.

11 The Army's organic industrial base was designed to
12 sustain the high volume production rates needed to meet
13 World War II demand. Over the past several decades, the OIB
14 has been reduced from 77 plants, depots, and arsenals to 23
15 facilities at present. And of these 23 facilities, all are
16 at least 50 years old. Aging infrastructure poses a risk to
17 the OIB's capacity and capability to meet current and future
18 demands. The Army recognizes this and as such, has invested
19 over \$2 billion to modernize antiquated, unreliable,
20 inefficient OIB facilities, shortfalls that affect critical
21 systems such as the Abrams tank, the Stryker, the Bradley
22 fighting vehicle, and the Apache helicopter.

23 President Washington once said to be prepared for war
24 is one of the most effective means for preserving peace. A
25 strong, healthy organic industrial base directly generates

1 the readiness that underpins our preparedness.

2 I would like to again thank each distinguished member
3 of the committee for allowing me to appear before you and
4 for your continued support that enables Army Materiel
5 Command to maintain and modernize the organic industrial
6 base delivering materiel readiness to the joint warfighter
7 at the tactical and operational points of need worldwide.

8 Thank you.

9 [The prepared statement of General Daly follows:]

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1 Senator Inhofe: Thank you, General Daly.

2 Admiral Grosklags?

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1 STATEMENT OF VICE ADMIRAL PAUL A. GROSKLAGS, USN,
2 COMMANDER, UNITED STATES NAVAL AIR SYSTEMS COMMAND

3 Admiral Grosklags: Chairman Inhofe, Ranking Member
4 Kaine, distinguished members of the subcommittee, thanks for
5 the opportunity to appear before you today to talk about
6 naval aviation readiness and the health of our industrial
7 base.

8 As I testified last year, naval aviation faces
9 readiness challenges, and while we are making some
10 definitive progress, we also have a long way to go in
11 returning Navy and Marine Corps aviation to the required
12 level of readiness across the force. And a critical
13 component in our efforts to achieve this readiness
14 turnaround is the performance and the health of our organic
15 industrial base, typically called aviation depots, but in
16 our case, we call them naval aviation fleet readiness
17 centers, or FRCs.

18 As I discussed last year, they are continuing a steady
19 recovery from years of uncertain and limited funding while
20 facing an increasing workload not only driven by the
21 continued high utilization of our aircraft but also by the
22 aged and degraded material condition of the aircraft that
23 are being inducted into maintenance.

24 Today I am pleased to be able to report that fiscal
25 year 2017 marked the first time in over 5 years that our

1 FRCs were largely able to meet the fleet demand signal for
2 production of aircraft and engines. They produced 485 out
3 of 487 expected aircraft, including critically meeting the
4 requirement for 69 F-18 A through D aircraft and delivering
5 actually two more than the required or expected number of
6 F-18E and F aircraft. This was done while also improving
7 their turnaround time by 5 percent.

8 Now, over the last 2 years, I have also been able to
9 reduce the number of aircraft requiring in-service depot-
10 level repairs and in doing so have returned aircraft
11 directly back to the fleet available for them to use to meet
12 mission requirements.

13 Now, the improved performance in these two specific
14 areas are the good news. The not so good news is that our
15 FRCs are not performing as needed in the area of component
16 repair and overhaul, which represents about 20 percent of
17 their workload. To date in fiscal year 2018, they are
18 lagging their production plan, and there are a number of
19 actions we are taking obviously to improve their performance
20 in this area, including workforce hiring, developmental
21 training, quality and manufacturing process improvements,
22 and infrastructure upgrades. And it is this latter area in
23 particular, infrastructure, where the history of constrained
24 resources has had the biggest negative impact and
25 potentially where the additional resources identified in

1 2018 and 2019 can have the biggest positive impact.

2 Today, much like the Army, 50 percent of our FRC
3 component test equipment -- so the individual test equipment
4 for a PC gear that has to be tested at the FRCs -- is
5 greater than 25 years old. This equipment is also housed in
6 facilities with an average age of 58 years, and 64 percent
7 of our facilities are actually greater than 67 years old.
8 So think about Jacksonville, Florida in the summer with
9 facilities without air conditioning trying to do avionics
10 maintenance and think about paint hangars trying to do
11 painting of aircraft in Norfolk that leak when it rains.
12 Think about facilities dealing with hazardous material in
13 North Island where the ventilation system fails on a weakly
14 basis. Those are the types of things that our workforce is
15 dealing with. So the modern facilities and equipment are
16 vital to ensuring that our organic industrial facilities
17 have the capability and the capacity to not only improve
18 current performance but to support the next generation of
19 aircraft engines and components such as the F-35.

20 So the bottom line is that our workforce has made
21 significant progress over the last 2 years, but we have a
22 long ways to go and we need to take the next step by
23 providing the tools and the infrastructure needed for that
24 workforce to continue to improve their performance. Naval
25 aviation leadership looks forward to working with this

1 subcommittee and the larger Congress to achieve this end
2 state.

3 I would very much appreciate your continued support of
4 our sailors and marines.

5 I look forward to your questions.

6 [The prepared statement of Admiral Grosklags and
7 Admiral Moore follows:]

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1 Senator Inhofe: Thank you very much.

2 Admiral Moore?

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1 STATEMENT OF VICE ADMIRAL THOMAS J. MOORE, USN,
2 COMMANDER, UNITED STATES NAVAL SEA SYSTEMS COMMAND

3 Admiral Moore: Mr. Chairman, Ranking Member Senator
4 Kaine, and distinguished members of this committee, thank
5 you for the opportunity to discuss Navy readiness, in
6 particular our readiness in our ship depots today.

7 Last year, I testified before the committee about how
8 shortfalls in the size of the needed workforce, coupled with
9 reduced workforce experience levels and shipyard
10 productivity issues were impacting fleet readiness through
11 the late delivery of ships and submarines. The capacity
12 limitations and the overall priority of work toward our
13 ballistic submarines and aircraft carriers resulted in our
14 attack submarines absorbing much of the burden, causing
15 several submarine availabilities that were originally
16 scheduled to last between 22 and 25 months to require 45
17 months or longer to complete. This situation reached a
18 boiling point last summer when, in order to balance the
19 workload, the Navy decided to defer the scheduled
20 maintenance availability of USS Boise that will effectively
21 take it off line until 2020.

22 As we testify this year, we are on an improving trend.
23 We have hired 19,200 people across our four naval shipyards
24 between 2013 and 2017 and are on a path to reach our goal of
25 having 36,100 full-time shipyard employees by the end of

1 fiscal year 2019. The growing and better trained workforce
2 is beginning to have a positive impact. In 2017, all four
3 CVN aircraft carrier availabilities were completed on time
4 and we significantly reduced the delays in the delivery of
5 our submarine force. More work remains as we continue to
6 train this workforce, improve our planning, material
7 availability, and execution performance, but we are on the
8 right track.

9 However, people alone will not provide the throughput
10 and productivity needed to meet the maintenance and
11 readiness requirements today and into the future. As
12 outlined in our recent report to Congress on the Naval
13 Shipyard Optimization Plan, we must also make substantial
14 investments in our four nuclear-capable shipyards to ensure
15 we have the 21st century naval shipyards ready for the
16 challenges of maintaining a growing fleet.

17 The challenges facing our private sector non-nuclear
18 surface ship repair base are similar to those seen in our
19 naval shipyards with the private sector also facing capacity
20 and workload challenges and the need to make investments to
21 upgrade facilities, equipment, and dry docks. The lack of
22 stable and predictable budgets over the past 10 years has
23 had an even more detrimental impact on the stability and
24 predictability of the work in the private sector and how the
25 private sector approaches hiring and investments in their

1 facilities. The Navy is committed to working
2 collaboratively with industry to provide them a stable and
3 predictable workload in a competitive environment moving
4 forward so that they can hire the workforce and make the
5 investments necessary to maintain and modernize a growing
6 non-nuclear fleet.

7 Additionally, I have tasked my staff with developing a
8 companion plan to the Naval Shipyard Optimization Plan on
9 the private sector so that we can provide the Navy
10 leadership of where we need to make investments in the
11 private sector so the private sector is poised as well to
12 handle the size of the growing fleet.

13 As we build the Navy the nation needs, we must also
14 ensure that we have the maintenance capacity and
15 infrastructure needed to ensure our growing fleet is
16 maintained and modernized on time and on budget to deliver
17 forward deployable combat-ready ships. Our ongoing efforts
18 to hire more people and invest in our naval shipyards,
19 combined with the Navy's continuous dialogue with industry,
20 lay the foundation required to maintain today's force while
21 also looking to the future. We have challenges ahead of us,
22 but we are on an improving trend that will ensure we have
23 the capacity today and into the future to maintain and
24 modernize the Navy the nation needs.

25 I thank you for the opportunity to talk to you today

1 about Navy readiness, and I look forward to your questions.

2 Senator Inhofe: I appreciate it. Thank you very much.

3 General Levy?

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1 STATEMENT OF LIEUTENANT GENERAL LEE K. LEVY II, USAF,
2 COMMANDER, AIR FORCE SUSTAINMENT CENTER, UNITED STATES AIR
3 FORCE MATERIEL COMMAND

4 General Levy: Chairman Inhofe, Ranking Member Kaine,
5 distinguished members of the subcommittee, thank you for the
6 opportunity to again testify on the readiness of your United
7 States Air Force. On behalf of the Secretary, the Honorable
8 Heather Wilson, our Chief of Staff, General Dave Goldfein,
9 we are grateful for your support and commitment to our
10 670,000 active, Guard, Reserve, civilian airmen, their
11 families, and our veterans.

12 About this time last year, I had the privilege of
13 appearing before the subcommittee to talk about this very
14 topic. Today, your Air Force Sustainment Center, a \$16
15 billion a year global enterprise, delivers combat power. We
16 support joint and coalition forces at the beginning, middle,
17 and end of every single operation. We secure our homeland
18 by enabling continuous surveillance and air defense, and
19 critically, we also sustain two of the three legs of our
20 nation's strategic nuclear triad. We accomplish these
21 missions with a fleet averaging 28 years of age, an Air
22 Force that is too small for the missions it has been tasked
23 with, and an aging infrastructure, as my colleagues also
24 referred to, that continues to present challenges absent
25 necessary upgrades and, in some cases, replacement.

1 That said, our total force airmen are dedicated, and
2 nearly 43,000 airmen across the Sustainment Center in 28
3 locations around the globe that I have the privilege to
4 lead, our nation's sons and daughters, as the Air Force
5 Sustainment Center Commander -- they continually amaze me
6 every single day with their ability to innovate, achieve,
7 but more importantly, deliver results.

8 Make no mistake. The United States Air Force is ready
9 to fly, fight, and win, but I am concerned with our ability
10 to sustain our Air Force for tomorrow's fight. Our
11 capability to deter, respond to, and eliminate threats
12 relies upon our ability to proactively and continuously
13 develop advanced air, space, and cyber capabilities while
14 simultaneously honing the readiness and lethality of the
15 logistics and sustainment enterprise to meet evolving
16 requirements and ever-increasing demand signals.

17 Achieving this requires a healthy organic industrial
18 base. Our organic industrial base simply serves a national
19 insurance policy. It underwrites our nation's ability to
20 respond rapidly and persevere against threats that may
21 challenge us and our allies.

22 As you previously heard, workforce hiring challenges,
23 unpredictable, inadequate, and insufficient funding, aging
24 infrastructure, emerging software challenges, cybersecurity,
25 and weapon systems sustainment are all challenges that

1 impact our readiness and the health of our organic
2 industrial base and, by extension, the readiness of our
3 United States Air Force and the joint team.

4 I would say our civilian hiring system remains ill-
5 suited for the 21st century and bears strategic readiness
6 implications. We are transitioning to an information age
7 fighting force, recognizing that our ability to modify key
8 software in our weapon systems will be a decisive capability
9 in the conflicts of tomorrow.

10 To that end, we compete with industry for a limited
11 pool of science, technology, engineering, and math workforce
12 candidates. And we are thankful for the congressionally
13 approved direct hire authority, but this is limited in
14 temporary authority. To remain relevant and ready, we need
15 a more efficient system to recruit and hire our future
16 airmen, and I will venture to say that my colleagues would
17 say the same thing about their soldiers, sailors, and
18 marines.

19 Additionally, trained mechanics are growing
20 increasingly scarce. Thus, we rely heavily on former
21 military technicians separating or retiring from service and
22 seeking government employment. In these instances, the
23 current 180-day waiting period to hire military retirees
24 presents a challenge.

25 We are addressing these challenges and many more such

1 as the defense supply chain that is growing increasingly
2 brittle with such innovative technologies as additive
3 manufacturing in order to provide your Air Force an edge
4 against peer competitors. This requires rapid reverse
5 engineering capability and a workforce that understands how
6 to leverage it. It also requires intellectual property and
7 access to those intellectual property rights that continue
8 to be a challenge in an increasingly litigious environment.
9 It is simply that important.

10 I would close my remarks by sharing a quote from our
11 Chief of Staff. As recently published in the National
12 Defense Strategy, we face the reemergence of great power
13 competition. And while we did not seek this competition,
14 let there be no doubt in this room and around the world,
15 your airmen stand ready to defend the homeland, deter
16 nuclear conflict and nuclear readiness, own the high ground
17 in any conflict with air and space superiority and project
18 global vigilance, reach, and power with our joint teammates,
19 allies, and partners.

20 Again, thank you for allowing us the opportunity to be
21 with you today, and I very much look forward to your
22 questions.

23 [The prepared statement of General Levy follows:]

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1 Senator Inhofe: Thank you, General.

2 Before we hear from General Crenshaw, since Senators
3 Ernst, Perdue, and Rounds all have a hard stop at the same
4 time, Senator Kaine and I have agreed to withhold our
5 questions until after they have had theirs at the conclusion
6 of the remarks from General Crenshaw.

7 General?

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1 STATEMENT OF MAJOR GENERAL CRAIG C. CRENSHAW, USMC,
2 COMMANDING GENERAL, MARINE CORPS LOGISTICS COMMAND

3 General Crenshaw: Chairman Inhofe, Ranking Member
4 Kaine, and distinguished members of the Senate Armed
5 Services Subcommittee on Readiness, I appreciate the
6 opportunity to testify on an important aspect of Marine
7 Corps warfighting readiness and our industrial depot.
8 Industrial depot capabilities help ensure that your Marine
9 Corps and our marines are ready today to succeed at
10 difficult tasks and return home safely to their families.
11 The workforce believes this profoundly and is mindful that
12 what they do is important and that every day a marine's life
13 depends on their success. This is why we sincerely thank
14 you for your continued support that enables our success.

15 As we look to the future, we see our depot as a
16 pacesetter, modernizing to meet challenges while embracing
17 the technologies of the 21st century. Through our Marine
18 Corps Logistics Command of the 21st century and the depot of
19 the 21st century initiatives, the Marine Corps is posturing
20 itself to execute its Title X responsibility with logistics
21 solutions that embrace evolving technologies and business
22 processes in order to provide readiness that achieves Marine
23 Corps Logistics Command's top priority which is supporting
24 the warfighter.

25 To communicate the value of our depot in providing the

1 readiness to the warriors, I will touch briefly on four
2 areas: depot maintenance, our workforce, innovation, and
3 facilities.

4 The Marine Corps ground weapons systems depot is
5 centrally managed by Marine Depot Maintenance Command and is
6 comprised of two production plants: one in Albany, Georgia
7 and the other in Barstow, California. Each plant delivers
8 its own distinct capability to the Marine Corps industrial
9 base while reinforcing broader industrial base capabilities
10 of the Department and the nation. Both plants sustain
11 competitive capability to repair our most valuable ground
12 combat weapon systems, such as amphibious assault vehicles
13 and our light armored vehicles. In addition, each plant
14 specializes as the center of excellence for specific systems
15 for the Marine Corps and other Department of Defense
16 customers.

17 Geography is also an important consideration for our
18 plants. Strategically located near major east and west
19 coast operational commands in California and North Carolina,
20 our depot capabilities are collocated with our supply
21 management and distribution centers in order to provide
22 integration and efficient movement of equipment, including
23 war reserves. Our Barstow production plant is situated with
24 one of the largest railheads in the Department of Defense
25 and astride some major interstate highways. Our Albany

1 plant production plant, in addition to being collocated with
2 the Marine Depot Maintenance Command and Marine Corps
3 Logistics Command headquarters, also enjoys access to robust
4 transportation infrastructure, as well as east coast
5 seaports such as Charleston, South Carolina and
6 Jacksonville, Florida, home to the Marine Corps maritime
7 prepositioning program. I share this background so that you
8 can understand our organization and that our location is
9 integral to the success of our mission of sustaining
10 readiness.

11 The funding Congress provides to the Marine Corps
12 depots is essential to readiness. Those funds are used to
13 make sure the equipment marines need is provided when it is
14 needed, where it is needed, and it moves, shoots, and
15 communicates as intended. In fiscal year 2018, Marine Corps
16 depot maintenance was funded to 80 percent of identified
17 maintenance requirements. To optimize the impact on those
18 funds and mitigate the gap, we use a conditions-based
19 methodology and prioritize depot repair requirements based
20 on warfighting value. These methods allow us to keep pace
21 with the ever-present readiness challenges that have
22 accumulated over the last 17 years of conflict.

23 I must be frank about the challenge that you can help
24 us with. One uncertainty is the fiscal environment has
25 exacerbated this challenge. For each of the past 2 fiscal

1 years, we received funding in the third quarter. Funding
2 delays disrupt our maintenance production cycle and
3 pressurizes the supply chain that supports production. It
4 would be of great assistance to our effectiveness and
5 efficiency if we could receive funding at the beginning of
6 the fiscal year. The production plan that depends on timely
7 resources is complex and diverse.

8 Our depot would not be what it is today without the
9 highly qualified experience of our workforce. The 2018
10 National Defense Strategy rightly identifies recruiting,
11 developing, and retaining a high quality workforce as
12 essential for warfighting success. The Marine Corps is
13 building a balanced, competent, and adaptive workforce
14 through recruitment, development of skilled artisans and
15 employees who possess the right skills to accomplish our
16 mission. We do this in many ways. For example, the strong
17 relationship we have with our technical colleges and
18 university, Albany State University and Albany Technical
19 College. We have access to vital local talent that we can
20 draw upon to sustain a workforce that increasingly requires
21 a high level of technical skills. Specifically, we are
22 grateful to Congress for providing direct hire authorities,
23 which are a critical asset in the competitive environment of
24 talent acquisition.

25 Innovation is inherent and fundamental to marine

1 tradition, doctrine, and leadership. Innovation is
2 essential to the industrial capability we need and paves the
3 path to the future readiness. At the service level, our
4 Marine Corps Warfighting Lab, our Next Generation Logistics,
5 and Installation-Works organizations are at the cutting edge
6 of military innovation. These staff organizations are
7 collaborating with an array of internal and external
8 partners across the major categories. One of those
9 categories is additive manufacturing. Across the Marine
10 Corps, we have over 70 3D printers. Each of our production
11 plants recently took delivery of a large-scale 3D metal
12 printer. Our vision is to leverage this technology and
13 produce targeted, positive readiness impacts. We are also
14 seeking innovation and constant improvement through
15 partnerships with academia. Marine Corps Logistics
16 Command's relationships with outstanding academia
17 institutions such as Georgia Institute of Technology and
18 Penn State University exemplify how we are working to
19 leverage the best in class supply chain manufacturing.

20 My last topic is facilities. Modern, high quality,
21 distributed industrial facilities are essential elements in
22 maintaining a viable Marine Corps depot maintenance
23 capability. We became acutely aware of this in January 2017
24 when the base at Albany was struck by a catastrophic EF-3
25 tornado. Your timely response has been invaluable to the

1 restoration of our operations at our depot and other
2 affected areas of Marine Corps Logistics Base Albany. Your
3 fiscal year 2018 support to fund a military construction
4 project for a tornado damaged combat vehicle storage
5 facility in Albany is greatly appreciated as well.

6 We are also very grateful for the fiscal year 2018
7 funds to build a combat vehicle repair facility in Barstow.

8 Senator Inhofe: General Crenshaw, you have to wind up
9 real quick.

10 General Crenshaw: Yes, sir.

11 The Marine Corps depot maintenance capability
12 underwrites warfighting readiness in direct support of
13 dedicated men and women. It is through your support that we
14 continue to be successful. On behalf of all marines,
15 sailors, and many deployed harm's way today and their
16 families and the civilians that support their service, thank
17 you for the opportunity to discuss our organic industrial
18 base and its role in supporting the readiness of our Marine
19 Corps.

20 [The prepared statement of General Crenshaw follows:]

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1 Senator Inhofe: Thank you, General Crenshaw.

2 We will have 5-minute rounds. Senator Ernst?

3 Senator Ernst: Thank you. I guess it is ladies first.

4 General Daly, it is great to see you again. Thanks so
5 much for your wonderful support at Rock Island Arsenal.

6 About 15 years ago, I was running convoys with my
7 soldiers through Kuwait and Iraq, and at that time, I was
8 driving in a canvas-sided, canvas-top, zip-down vinyl window
9 humvee. We all remember those days.

10 But then all of a sudden, we started seeing the
11 development of IEDs, and more and more of those came out on
12 the roads. And at that point, we were using sandbags then
13 to basically up-armor our own vehicles because there was not
14 such a thing in our company as an up-armored vehicle. And
15 that is really where our arsenals came into play at that
16 time and filled a critical role for the men and women that
17 were on the roads in Iraq and, in turn, Afghanistan as well.
18 And they rapidly filled a need that the United States Army
19 and the other components needed with up-armor kits. And
20 they did that in the drop of a hat. So we are very, very
21 thankful for that.

22 And unlike depots that perform maintenance on existing
23 equipment on a more predictable basis and which are
24 guaranteed a large percentage of Army maintenance, arsenals
25 do not have a predictable workload. They do not have that

1 type of supply.

2 Can you talk briefly about the critical capabilities
3 our arsenals provide to our national security efforts and
4 what we can do to increase their workload? Because they are
5 so valuable to us in our time of need.

6 General Daly: Senator, that is a great question.
7 Thanks.

8 In terms of our strategy going forward for our
9 arsenals, as you pointed out, the ebb and flow of that
10 workload -- there are critical capabilities within the
11 arsenals that are needed to support the warfighter and
12 readiness not only for the Army but for the Joint Force.
13 And so as you know Watervliet in terms of what they do, in
14 terms of manufacturing gun tubes and cannons, but also the
15 Joint Manufacturing Technology Center at Rock Island is
16 very, very critical in terms of their capabilities. And as
17 you know, we are increasing their workload.

18 The initiatives that we have ongoing right now with AM
19 General in terms of humvees but across the board -- we are
20 working hard at looking at the critical manufacturing
21 capabilities needed at those arsenals and how we workload
22 them predictably over the future. And we are developing
23 this comprehensive strategy that looks at that, that
24 maximizes their abilities, and again going back to the
25 workforce, utilizes our artisan skill set to be able to

1 provide those capabilities to the warfighter.

2 Senator Ernst: Just as follow-up please, can you
3 provide us with an update on implementing guidance for a
4 make or buy analysis when it comes to our DOD procurement?

5 General Daly: I can, Senator. In fact, a make or buy
6 policy was just signed by the Assistant Secretary of the
7 Army for Acquisition, Logistics and Technology on the 15th
8 of March. What we are looking at now is the comprehensive
9 strategy and implementation plan associated with it. So it
10 goes much more beyond just cost in terms of evaluation
11 criteria. And this gets at your point in terms of make or
12 buy and the value of our arsenals. We expect that our
13 implementation plan will be done within the next 30 to 60
14 days, and we look forward to sharing that with you.

15 Senator Ernst: Excellent. I appreciate that very
16 much, General. Thank you.

17 I will yield back my time.

18 Senator Inhofe: Senator Perdue?

19 Senator Perdue: Thank you.

20 Any hearing where the witnesses either outnumber or
21 match the number of Senate members in here, you know it is
22 an interesting topic. Thank you, guys, for all being here.

23 I have 5 minutes. I am going to be very brief.

24 Aside from the funding issues that we have all talked
25 about before, the CRs and what it does to you guys,

1 sequestration, the Budget Control Act, I would like each of
2 you to respond to one question. That is, would you rate
3 your readiness capability right now within your command 0 to
4 10, 10 being ready to go to war tonight or best in class,
5 however you want to do it? But then give us three
6 priorities that you are working on right now that would
7 bring that back up to where you want it to be. Each of you,
8 if you will. General Daly, do you want to start? Admiral
9 Moore, he was trying to get you to go first.

10 Admiral Moore: I am happy to go.

11 Senator Perdue: Do you want to do that? That is fine.
12 You guys are filibustering my 5 minutes here.

13 Admiral Moore: I am happy to go first.

14 So I think we are probably at a 6 or a 7 where we are
15 today, which is probably better than the 3 or 4 I would have
16 rated it at last year because we have started to grow the
17 size of the shipyards, and we are almost at the capacity
18 that we need to get to.

19 A challenge remains. I really liked the slide that
20 Senator Kaine handed out. I actually like the logo on the
21 upper left-hand corner there as well. I have seen the slide
22 before.

23 If you are talking the three challenges that we have,
24 so, one, as we grow the size of our depots, the average age
25 of the workforce has gone down. So we have a relatively

1 inexperienced workforce compared to where we have been
2 today. Now, that will start to stabilize and come back up
3 as we sort of get to the level that we need to be at and
4 just kind of hire at the level that we attriting at. So
5 that would certainly be one of them.

6 The second thing is I think in the naval shipyards and
7 in my private depots that are doing surface ship repair, we
8 are competing with the big tier one yards, Electric Boat,
9 Newport News Shipbuilding, et cetera. As we ramp up to
10 build new ships, we are competing for the same talent to
11 repair the ships as they are as well. So there is a
12 competition for the talent going on out there, and I think
13 it is something that we are going to have to collectively
14 address with industry to ensure we are getting the skilled
15 labor that we are going to need on both sides, on the new
16 construction side and on the repair side.

17 And then thirdly, I would tell you the third most
18 important thing is a stable and predictable workload or
19 stable and predictable funding, if you will, as we move
20 forward. That is the one thing that really prevents the
21 private sector from making the long-term investments they
22 need to be able to manage the growth to 355 on the new
23 construction side but also the repair work that is going to
24 come along with that.

25 So those would be the three things that I think would

1 be the biggest challenges for me going forward.

2 Senator Perdue: Thank you.

3 Admiral Grosklags: Senator, I will be brief.

4 The first is infrastructure, which I touched on
5 earlier. That includes both the facilities themselves, as
6 well as the support equipment and tooling that lets the
7 workforce do their job.

8 The second is getting the skilled workforce that we
9 need, the challenges with engineering, logisticians, but it
10 is primarily for us with the skilled artisan in some of the
11 very specific trades. So somebody asked earlier -- that
12 direct hiring authority is absolutely critical to us for
13 that.

14 And then the third thing is transforming our workforce
15 and our workplace and our depots, our Fleet Readiness
16 Centers, into a digital organization and getting out of the
17 paperwork business, which is what we are mired in right now.

18 So infrastructure, workforce, and digital
19 transformation.

20 Senator Perdue: Thank you.

21 General Levy: Sir, thanks for the opportunity to
22 comment on that.

23 So you asked for a score, so I will give you one. I
24 would give it an 8, 8 and climbing. But it is something we
25 focus on. But I would offer that it is not simply the depot

1 or the air logistics complex system. I would offer that it
2 is the entire logistics kill chain that we integrate.

3 And to that point, there are parts of that that I would
4 tell you that keep us from being better than we are today
5 and things that we are focusing on.

6 First and foremost for us would be software. If we are
7 going to be a fifth generation Air Force, we need a fifth
8 generation workforce, and that includes software sustainment
9 capabilities. We treat software like hardware today, and we
10 do not understand that our ability rapidly adjust software
11 to meet emerging threats and protect against our own
12 vulnerabilities is a challenge that we need to close the gap
13 on very quickly inside of the larger industrial base. In my
14 organization alone, 3,500 software engineers. So there is
15 lots of work to do there in terms of how we accelerate our
16 software velocity.

17 The second thing I would offer in my universe would be
18 the supply chain. It is extraordinarily brittle. The
19 industrial base is very small, both organic and commercial,
20 and it presents some rapid expansion challenges for us in
21 times of conflict.

22 And then lastly, I would be remiss if I did not also
23 say workforce, workforce, workforce. The quality, the
24 nature, the ability to hire, recruit, and retain. We do not
25 have the right 21st century mindset for a 21st century

1 workforce across the entire skill set base in the DOD, and
2 we really simply need to change that.

3 Thank you, sir.

4 Senator Perdue: Thank you.

5 General Crenshaw: Sir, one of the things -- the number
6 -- I would say 7. Again, there is certainly room for
7 continued improvement.

8 As I look at the areas of priority and focus, this kind
9 of goes back to my opening statement. People are important,
10 and we have to have a viable workforce, one that is
11 educated, one that is trained. And so part of that is how
12 do we train them in a manner that they are able to
13 understand the new environment they are going to be
14 operating in. And we have kind of done that within the
15 command, kind of explained to them what their future looks
16 like. And so we are going to have to educate them in order
17 to take on the new challenge.

18 We need infrastructure to make that happen. Again, a
19 lot of our buildings, much as the other services, are old
20 buildings. And we need to institute ways to make them a
21 building of the future which has all the efforts of wifi,
22 you name it when it comes to what the new building looks
23 like.

24 And then really the other one, sir, kind of capsulates
25 on both, the interests of innovation. Because we recognize

1 the environment of our workforce, we recognize the challenge
2 of the workforce and the facility, how do you create an
3 environment of innovation that causes people to understand
4 how they fit into the organization. And so once you get the
5 buy-in as we see it from our workforce, that we will have
6 the right skill set, right focus for our 21st century Marine
7 Corps.

8 Senator Perdue: Thank you, sir.

9 General Daly: Senator, from an Army perspective, we
10 are in the process of refining our comprehensive strategy
11 for revitalization of the organic industrial base. So I
12 would give it a 7 and climbing. In fact, that report -- I
13 know it was due to Congress here based on section 326 of the
14 NDAA.

15 So three things that we are really focused on here, and
16 it was mentioned by the other members of the panel here.
17 One is workforce, the artisan skilled workforce that quite
18 frankly is worth their weight in gold. With a workforce
19 that in our case within the Army, 50 percent of the artisan
20 workforce is over the age of 50 years old. And so to
21 maintain that artisan workforce going forward is critically
22 important. And as you know, it takes several years to train
23 and get an artisan to the level of competency that we need
24 them at.

25 And the second piece that was mentioned but it is also

1 for us, infrastructure and facilitization. So not just the
2 buildings but obviously state-of-the-art 21st century depot
3 maintenance equipment to be able to improve efficiencies and
4 increase efficiencies on the production line.

5 And then the third is the way we are doing business in
6 terms of change, and that is really developing and refining
7 the way we workload our arsenals and depots and really to
8 focus it on a workload that drives readiness to support the
9 joint warfighter, and using business systems and innovation
10 to do that, and in our business systems, looking at
11 production planning, looking at auditability, and then
12 looking at supply/demand forecasting. And so that would be
13 overarching what we are focused on in this comprehensive
14 strategy.

15 Senator Perdue: Thank you, sir. Thank you all.

16 Mr. Chairman, thank you for your discretion. Thank
17 you.

18 Senator Inhofe: Thank you, Senator Perdue.

19 Let me just ask one general question here. You heard
20 in the opening statement -- my opening statement -- we had a
21 little colloquy with General Levy. I would like to know
22 from each one of you. You are having the same problems.
23 And I hear from both sides, and I have even talked to our
24 universities about this thing in terms of the problem with
25 engineers. And the quote that I used came from General Levy

1 several months ago that they could hire every graduate that
2 came out of Oklahoma University. How about the rest of you?
3 Are you having the same problems?

4 General Daly: Mr. Chairman, I would like to take that
5 question first.

6 In terms of the organic industrial base wage-grade
7 workforce, quite frankly I think we have all the direct
8 authorities for hiring that we need. So the six that were
9 brought into the NDAA recently we feel very, very
10 comfortable with. So between direct hiring authorities and
11 then the Pathways programs, I could just give you a quick
12 data point. To this point, we have hired about 147 with
13 those new direct hire authorities, and then for the Pathways
14 program, about 108 in the last year and a half. We see that
15 increasing exponentially based on these new authorities
16 going forward, again to get at the artisan workforce.

17 In terms of STEM, we have really taken a proactive
18 approach within the Army. And quite frankly, again there I
19 think we have all the authorities we need as well. So we
20 are engaging with colleges and universities. We are
21 attending conferences, Beta Conference, the Woman of Color
22 and STEM Conference, Hispanic engineer conferences. And
23 quite frankly, this past year we have made almost 100 job
24 offers on site at those conferences, as well as at colleges
25 and universities. So I think we are given the authorities

1 now to be able to hire both wage-grade employees for our
2 artisan workforce, but also STEM employees as well right
3 now.

4 Senator Inhofe: So I think the short answer is no.
5 How about you, Admiral Grosklags?

6 Admiral Grosklags: Yes, sir. On the engineering side
7 of the house, we are hiring significantly more engineers for
8 our FRC support this year than we have in the past.

9 Senator Inhofe: Are you finding it, though?

10 Admiral Grosklags: To date, we are doing okay. As I
11 mentioned in response to Senator Perdue's question, we are
12 actually having a harder time with certain skill sets in our
13 depot artisans, particularly in areas where there is a lot
14 of competition like San Diego and where there is a very high
15 wage rate. Our engineering workforce is spread around the
16 country, and to date, we have been able to hire the
17 engineers that we need. But it takes a lot of work.

18 Senator Inhofe: Admiral Moore?

19 Admiral Moore: Yes, sir. On the engineering side of
20 the house, we have to work hard to get them, but we are not
21 finding on the engineering side of the house that we are
22 challenged to find the engineers that we need in the depot.

23 Senator Inhofe: General Crenshaw?

24 General Crenshaw: Sir, today we are fine with them.
25 As we look at are we going to envision our new depot, what

1 is it going to look like, there will be a requirement for
2 additional engineers. But today we are fine with it, sir.

3 Senator Inhofe: Senator Kaine?

4 Senator Kaine: Thank you to the witnesses.

5 Admiral Moore, I want to ask you about this chart first
6 since you noticed my NAVSEA in the upper left. You can look
7 at this chart two ways. So tell me what this chart says to
8 you. It clearly shows that the average years of experience
9 of shipyard workers and production workers is coming down.
10 That could also be a sign of health if it showed a workforce
11 where everybody was near retirement, now we are successfully
12 bringing in younger people, and that is bringing the average
13 years of experience down. So do you look at that chart as
14 exemplifying a problem or some positives or a little bit of
15 a mix?

16 Admiral Moore: Well, I think if you look at the chart,
17 it was a negative probably up from fiscal year 2006 to
18 fiscal year 2011 because that was an era where we were not
19 hiring and we were losing experienced workers.

20 I think that what you are seeing from 2011 on -- and
21 you will notice in 2016 and 2017, it has leveled out. I
22 think it is a positive because we have ramped up
23 substantially, and we are going to be at 36,100 by the end
24 of calendar year 2018. At that point, then I adjust the
25 faucet so that the attrition, which is about 6 percent

1 historically, matches the people I am hiring. And so you
2 will start to see, I suspect, starting in fiscal year
3 2018 --

4 Senator Kaine: It will start to come back up.

5 Admiral Moore: -- you start to see this number come
6 back up. So I think this is kind of a tale of two cities
7 here, probably not a good news story for the first half of
8 the chart, but probably a reflection of a pretty good news
9 story going forward that we have recognized that we have got
10 to bring the capacity of the depots back up. And this was a
11 necessary outcome of hiring the people.

12 Senator Kaine: Excellent.

13 I want to ask you about the shipyard infrastructure
14 optimization plan. That plan suggested significant
15 additional investment, \$21 billion over the course of a
16 number of years. And this is going to be an optimization
17 and modernization while you are also using the shipyards for
18 normally scheduled maintenance availabilities.

19 Talk to us about sort of how you plan to execute over
20 this long period of time if we do what we need to do budget-
21 wise and what will sort of the metrics and measurements be
22 to determine whether those dollars are being invested the
23 right way to get us where we need to be.

24 Admiral Moore: Yes, sir. Thanks for the question.

25 So we, as we go, make the investments in the yard. And

1 this is the first time that we have put an integrated plan
2 together that looked across all four yards.

3 We know where the investments are going to be made year
4 to year. And so what we will do is we will make sure that
5 the work in that particular depot in that year -- we will
6 make sure, for instance, if I am working on a dry dock at
7 Norfolk Naval Shipyard in 2022-2023, we will clear out dry
8 dock work to the left and right of that so we will not
9 interfere with that.

10 But undoubtedly, there is going to be some impact to
11 productivity. It is kind of like -- my analogy is -- I have
12 been living here for 19 years, and when I first moved here,
13 they had not built the mixing bowl yet and you still had to
14 get to work every day. But somehow they were able to figure
15 out how to go build the mixing bowl, at the same time
16 allowing --

17 Senator Kaine: I was the governor when we built the
18 mixing bowl.

19 Admiral Moore: You sure did a great job. I think it
20 was on cost and under schedule.

21 [Laughter.]

22 Admiral Moore: So we will have to be sensitive to
23 watching productivity in particular when we are moving and
24 building new shops and moving the workforce in the yards.
25 We will have a plan to do that.

1 As far as the long-term metrics on how this plan goes,
2 we are going to manage this like a shipbuilding program, not
3 like four individual shipyards. So we are standing up a
4 program office, which will have the authorities to go manage
5 this. I am going to be the person responsible for the plan.
6 The Chief of the Naval Installations Command and Facilities
7 Command will all work for me so that we can integrate all
8 the pieces together.

9 So two things. Near term what we will measure is our
10 ability to get things under contract and meet program
11 milestones, and then as we start the work, we will measure
12 productivity in the shipyards and throughput. So we will be
13 able to show you, as we start working on these projects and
14 as we start to recapitalize the yards -- you will see the
15 cost performance and the throughput in these individual
16 yards improve. And then ultimately, when we finish the
17 plan, we believe that the plan itself eliminates 6 percent
18 of wasted time in the shipyards just traveling to and from
19 the buildings to the docks. So the long-term plan will
20 provide substantial savings and throughput, and we should be
21 able to execute the same amount of depot work that we are
22 today with probably a smaller workforce than we have today
23 going forward, and I think that would be good news for all
24 of us.

25 Senator Kaine: I have one, Mr. Chair, that is going to

1 require a little bit of an answer. So why do I not allow
2 Senator Rounds to go first?

3 Senator Inhofe: That would be great.

4 Senator Rounds?

5 Senator Rounds: Thank you, Mr. Chairman. Thank you,
6 Senator.

7 Vice Admiral Moore, you talked about this in your
8 opening statement a little bit, but I would like to pursue
9 it a little bit more. When you and I met back in September
10 of 2017, we discussed the attack sub maintenance delays. Of
11 particular concern to me at the time were the delays facing
12 the USS Boise. I understand that insufficient public
13 shipyard capacity has led to cost inefficiencies and delays
14 and that the Navy was rescheduling some of the planned
15 maintenance to private shipyards. I believe the USS Boise
16 was rescheduled from a 2016 public shipyard planned
17 maintenance to, if I am correct, to a 2019 private shipyard
18 availability. Now, you talked about this briefly earlier in
19 your comments.

20 Would you mind giving us some more information both on
21 the delays surrounding the Boise, where it is at right now,
22 and then also as well the other nuclear attack subs that may
23 also be experiencing similar delays and what the plans are
24 to eliminate those delays?

25 Admiral Moore: Thanks, Senator, for the question.

1 So there are no other Boise-like submarines out there.
2 So we have gone back and looked at the rest of the submarine
3 fleet and ensured ourselves from an engineering standpoint
4 and where they are going to be loaded in the yard that we do
5 not have the delays that we saw on Boise.

6 You know, there is no reason that Boise should have
7 happened. The Navy should have been able to predict far
8 enough in advance that we did not have the capacity at our
9 naval shipyards to do that work.

10 So today, Boise is going to go to Newport News
11 Shipbuilding starting in January 2019 -- you are correct --
12 and we will deliver in the 2020 time frame. So we are
13 talking about a substantial period being off line.

14 We have gone back and looked at the rest of the
15 submarine fleet. We have also recognized that when we do
16 not have the capacity in the yards, we need to go look to
17 the private sector. And so we have four submarine
18 availabilities right now, USS Helena, USS Columbus and Boise
19 at Newport News Shipbuilding, and USS Montpelier up at
20 Electric Boat. Both Newport News Shipbuilding and Electric
21 Boat have told the Navy they are happy to provide capacity
22 when we reach a situation when we do not have the workload.

23 So as we move forward, we absolutely have the ability
24 to predict when I have too much work for the capacity in the
25 shipyards I have. That is going to be minimized by our

1 growing the workforce from around 30,000 up to 36,100. But
2 we know far enough in advance that if I do not have the
3 capacity, we should move to go put that work into the
4 private sector where the capacity exists.

5 Senator Rounds: I have got to ask this, and perhaps I
6 am misunderstanding. But it seems that last time that we
7 were in this room and talking about these issues, there were
8 at that time several other nuclear attack subs that were in
9 the same position or coming up on the same position as the
10 Boise. And the Boise had been docked not in dry dock or not
11 in depot, but had been docked for more than 3 years.
12 Perhaps my information is off by a year. But I am just
13 curious. What changed from last September until now that
14 allows us to feel confidence that the backlog at the depot
15 or at the facilities has been addressed? Because we had
16 those private facilities and public facilities at that time
17 as well. What changed in terms of management style or
18 management directives?

19 Admiral Moore: So I think it is two. It is certainly
20 a management directive that we look further out than we did
21 before. So that is why you have the four submarines in
22 there today. We are looking very closely, as we head out
23 into 2020, 2021, and 2022, where we have a significant
24 amount of work, is there opportunity to perhaps put some of
25 these submarines into the private sector at Newport News and

1 Electric Boat. And in fact, it may have a benefit to both
2 Newport News and EB as they have a requirement to start
3 ramping up their workforce as they start to build Columbia
4 and the two carriers. So there is a benefit there.

5 To your first question on what has changed since last
6 November is we have done a detailed engineering analysis of
7 each submarine, and I can tell you there are no Boise-like
8 submarines out there. There are a handful of submarines
9 which will have a delay getting into a yard on the order of
10 months, single digit months, less than 5 months, versus the
11 Boise, which was years. So we have the capacity in the
12 shipyards to go put these submarines into the availability,
13 and we will not have another case of a submarine sitting
14 pier-side for years like Boise has before we start the work
15 on her.

16 Senator Rounds: Very good.

17 Thank you, Mr. Chairman.

18 Senator Inhofe: Thank you.

19 Senator Kaine?

20 Senator Kaine: Yes. Just one last question that I
21 wanted to ask, and it is really for each of you.

22 There has been some indication that committee members
23 have heard that the Department is considering outsourcing
24 some of the depot and other organic industrial base
25 facilities to private contractors for cost savings or other

1 reasons. I would like each of you to talk about that as we
2 seek to rebuild the military and improve readiness. Do you
3 think that we need to outsource more work to contractors?
4 Is that sort of the plan that is in place in any of your
5 responsibilities, or is there more of a focus on
6 strengthening the government yards, depots, and workforce?
7 It could be a little bit of both. So I am curious.

8 General Levy: Senator, thank you for the question.

9 So from an Air Force perspective, we are actually
10 bringing work into the organic industrial base. What we
11 find is that we have been more cost effective and we have
12 achieved greater throughput through our efficiencies,
13 through our ability to implement across my logistics
14 enterprise, the command I am lucky enough to lead, called
15 the "art of the possible." That is how we manage the
16 horizontal enterprise. And so by doing that, we have
17 created efficiencies, cost savings, throughput improvements,
18 readiness increases, all the numbers that you would look for
19 in that kind of activity. And so what that has done is it
20 has created some competition in the marketplace where in
21 some cases there has not been competition. We have raised
22 our performance, and that has given us capacity and
23 capability and desire to bring work in.

24 A great case in point at Robbins Air Force Base. By
25 improving the performance on some of the C-130 lines, we

1 increased the capacity and drove the cost down such that we
2 could go back to the Air Force and say, you want to put
3 infrared countermeasure systems on those airplanes? Okay,
4 we now can do that more affordably and we have the real
5 estate, if you will, to bring those airplanes and do it when
6 previously the Air Force did not have the money allocated
7 and did not have the time available in the production flow.

8 So we have been able to do things like that across the
9 enterprise not just for airplanes but for software -- and we
10 can talk about that extensively -- but also for commodities.
11 And I would also tell you that at least in our organization,
12 70 percent of what I do is for the Air Force. The other 30
13 percent is for my teammates here to either side of me, for
14 example, Navy and Marine F-135 engines for the F-35 at
15 Tinker, and I could go on and on supporting the F-18's, et
16 cetera.

17 So that increase in performance and improvement in
18 capacity allows us to help the joint team as well, not just
19 the Air Force team. So not much desire at all to move it to
20 the commercial space. It is actually quite the opposite
21 because of performance, efficiency, and effectiveness
22 reasons.

23 Senator Kaine: And how about our other witnesses?

24 General Crenshaw: Sir, again, a great question.

25 Thanks for allowing me to have a chance to speak on it.

1 I think there is value when you look at, in some cases,
2 surges, how the industrial base or commercial can support
3 you. But I think as the Marine Corps, being able to support
4 the Marine Corps, being able to be able to deliver as
5 required to support our Commandant's requirement, at the
6 same time as I spoke to earlier, as a depot and arsenal, we
7 have numbers of groups. I look at where is the best place
8 to go to get work done. The Army does a lot of work for the
9 Marine Corps at Anniston. The Army does our tanks. At
10 Letterkenny, they do work for us and Tobyhanna, even to
11 include the Navy and the Air Force. So we do have, I
12 believe, a good commission that kind of outlines where are
13 the best places to put the resources based on type of work
14 that needs to be done. But I think there is value when it
15 comes to maybe surge capability that we cannot field, for
16 whatever reason it may be, that we rely on the commercial
17 industry to provide that gap for us.

18 Senator Kaine: Please, Admiral Moore.

19 Admiral Moore: Yes. First and foremost, the most
20 important thing is to make sure that the public organic
21 depots are sized properly to handle the work. So there is
22 no plan to outsource significant amounts of work to the
23 private sector.

24 Having said that, you would like a level workload.
25 That is the best, and we do have an obligation to manage the

1 entire industrial base. And so where there is opportunity
2 in a year where we may have more work than we would
3 typically have in a normal year, I think it would make sense
4 for us to go look to the private sector as a way to kind of
5 balance that out. But there are no plans, in the name of
6 cost savings, to outsource work.

7 Senator Kaine: Thank you, Admiral Moore.

8 Admiral Grosklags: Senator, there is certainly no
9 overarching plan one way or the other, quite honestly. We
10 deal with each individual case kind of on its own merits
11 both from a business as well as a risk management
12 perspective, whether or not we want to keep that work inside
13 the government. One area where we have started establishing
14 more commercial capability is second sources of component
15 repairs that we do at our organic sites to help with some of
16 the workload. But if I look across our expectations for our
17 organic workload for the next 5 years, it is not going to go
18 up or down dramatically over that time period. It is fairly
19 consistent.

20 The other thing we are seeing more of, quite honestly,
21 are public-private partnerships where we and industry are
22 teaming. One or the other has the lead, but we are working
23 together to get capabilities back out to the fleet.

24 And as General Levy mentioned, I think one of the areas
25 where we are trying to pull actually more work into the

1 government is in software, and we would really, I think
2 collectively with the Air Force, like to get our arms around
3 the F-35.

4 Senator Kaine: Got it.

5 General Daly?

6 General Daly: Senator, I appreciate the question.

7 Just as was mentioned earlier, I think it comes down to
8 the exact type of work. There are some specific critical
9 manufacturing and depot capabilities that only exist in the
10 organic industrial base, for one, and then looking at where
11 our centers of excellence are in our 23 organic industrial
12 base facilities, whether they are in maintenance or
13 ammunition.

14 The second piece is in terms of private-public
15 partnerships. Right now, we have about 263 private-public
16 partnerships valued in terms of revenue at about \$263
17 million. So that is situations where we have companies that
18 are operating in our depots hand in hand. And so,
19 obviously, it affects cost. It affects quality. It shares
20 best practices and then drives innovation as well.

21 And then the third piece is the joint workload that we
22 just talked about. So we do, as you know, a significant
23 amount of joint work. And so if you look at Anniston, for
24 example, mentioned with M-1 tank engines, the M-1's -- and
25 our joint work right now is about \$5 billion over the past

1 several years with about \$500 million programmed for this
2 upcoming year.

3 So it is really a balance of all to really get at the
4 complexities and the totality of the capabilities in the
5 industrial base.

6 Senator Kaine: Great. Thank you for that full answer.

7 Senator Inhofe: Senator Perdue?

8 Senator Perdue: Thank you again.

9 I just have one closing question. I do not need a
10 response from all of you, but I would like you to think
11 about this. This is bigger than your responsibility, but
12 you guys have the backbone of our kinetic responsibility of
13 getting ready to fight again.

14 But also in the other two domains, we mentioned space,
15 General Levy. Nobody has mentioned cyber today. I will
16 hold that to the side.

17 But in terms of the leadership continuity, each of you
18 are laying in plans right now that will go beyond your
19 tenure. That is the normal thing at your level. You are
20 the up and comers of our DOD leadership, but you will be on
21 a new responsibility as these plans come to fruition.

22 Are we in a moment of crisis that we need to review
23 that at this level of leadership? I am not talking about
24 chain of command progression, et cetera, et cetera. But
25 this is a difficult question. A new leader comes in. New

1 priorities are set. A new focus is made, and all of a
2 sudden we might lose the continuity that you guys are laying
3 in right now. This is coming from a guy that has been a
4 turnaround guy doing exactly what you are doing right now.
5 And if you had changed the top guy in the middle of that
6 process, I guarantee you it would slow that process down,
7 change directions. It would be an inefficient use of
8 resources.

9 My challenge within the DOD structure of moving
10 individuals through their career at this level -- we are all
11 at very senior levels here. How would you respond to that
12 today? I mean, how should we think about that here in terms
13 of trying to -- I know our biggest responsibility is getting
14 the funding. We got that and we are on it. And I consider
15 that the most important thing in the United States Congress
16 today is to fix that one thing. But aside from that, I am
17 looking at something here that -- please address the
18 continuity of leadership as you go through a multiyear
19 effort to get this thing turned around. Anybody. Admiral,
20 you reached first.

21 Admiral Moore: I should have let the marine go first.

22 [Laughter.]

23 Admiral Moore: So I think it depends on the job. So
24 if you are talking major business-oriented job like a
25 systems command or a program executive officer, I think

1 having longer tenure agreements to stay in these jobs makes
2 sense. I was the program executive officer for an aircraft
3 carrier for 5 years. So that is a substantial amount of
4 time to really try to go make change. I do not know if I
5 will be in this job for 5 years.

6 But I think there are particular jobs which are very
7 business-oriented, if you will, and change-oriented, talking
8 about management plans. And those jobs probably require us
9 to stay in those jobs a little bit longer than we would,
10 say, in some of the fleet operational jobs where you have
11 got to go build a skill set pretty quickly to move up to the
12 four-star rank.

13 Senator Perdue: Sorry. But the turnover at your level
14 is not necessarily the entire story. You have got big
15 staffs that run this too. And so you do not turn everybody
16 over at the same time. Is that correct? I mean, for the
17 most part.

18 Admiral Moore: That is correct. And at the systems
19 command, 90 percent of the systems command is civilian. So
20 I have a very strong leadership team there that provides
21 some of that continuity as well. So there is a balance
22 there. It is not a wholesale change-out. I may move but a
23 lot of the senior leadership at the systems command will
24 stay in place.

25 Senator Perdue: General Crenshaw, do you have

1 something?

2 General Crenshaw: Sir, just from the Marine Corps
3 perspective, if you look at this, it is really much broader
4 than at the level that I am at at this command level. It is
5 a top-driven issue. And we do not operate independently in
6 terms of what that cyber plan is. And so it is less about
7 the individual who is in command. It is more of a process,
8 what type of things we have in place that allow that focus
9 to stay.

10 And so Marine Corps Cyber Command kind of has that
11 overarching responsibility in terms of how do we fight this
12 and what are the right process and policies and training
13 that is required that goes into the various commands at
14 different levels. So it is not an independent command. It
15 is more of a Marine Corps process and overarching approach
16 and how you get after that. So almost anyone can come in
17 and fill the shoes and continue to move because the process
18 in place allows us to get after that issue of cyber threat,
19 sir.

20 Senator Perdue: Thank you.

21 Senator Inhofe: Thank you, Senator Perdue.

22 First of all, the line of questioning that Senator
23 Kaine came up with talking about the core capability, no one
24 said it, but let us go back historically. The reason for
25 that is -- it is a security reason that we have to keep that

1 capability there. And I can remember back when -- I have
2 been around long enough -- there were a multitude of
3 contractors and all of that. Then when it became smaller
4 and smaller, to me that became more important because we do
5 not want to be in a position where we are held hostage.

6 I would just ask you a yes or no question. Do you
7 think right now with the requirements that we have
8 concerning core capability that is adequate in your minds?

9 General Daly: Mr. Chairman, I think it is adequate
10 right now.

11 Admiral Grosklags: Adequate and appropriate.

12 Admiral Moore: Yes.

13 General Levy: Yes, Mr. Chairman, I think so.

14 General Crenshaw: Yes, sir.

15 Senator Inhofe: Even though it was totally arbitrary.

16 We had a hearing yesterday, and we talked about the --
17 well, I would say the aircraft -- the problems that we have
18 right now. We have the KC-46 is going to be coming on
19 board. We have had the KC-135 for 61 years. We have
20 discontinued the production of a KC-17 -- or C-17. And so
21 when you are looking at this and we are looking at the fact
22 that the KC-46 is still down the road -- and this would be
23 for you, Admiral Grosklags and you General Levy -- do you
24 think the math is going to work on that? And is that not
25 going to have the effect of increasing your workload? And

1 are you going to be capable of handling that? Because the
2 big question that was before our committee yesterday is the
3 math working in terms if we are going to be able to keep the
4 equipment going long enough until help has arrived with the
5 KC-46. What do you think about your capability of doing
6 that? Because the older the vehicles get, the longer it
7 takes to maintain.

8 General Levy: So, Senator, thanks for the question.

9 You are spot on. Absolutely, the older the equipment
10 gets, the more it takes to maintain and the more it requires
11 us to plan and be thoughtful and the more it requires us to
12 manage the industrial base to support that weapon system.
13 So I will give you a vignette on the KC-135 and then I will
14 connect it to your KC-46 question specifically.

15 So the single source repair for the KC-135 for
16 modification and for maintenance repair and overhaul for
17 depot maintenance is Tinker Air Force Base. Last year, they
18 did 73. They are on track to do 75 this year. That is a
19 pretty significant number of airplanes. All the while the
20 workload package, the amount of work, if you will, the
21 hours, however you want to measure it, has almost doubled --
22 almost doubled -- but yet we have held the amount of time
23 that they have remained in the facility fairly constant,
24 accommodated that almost doubling of workload, and still met
25 the warfighter requirements to produce the aircraft

1 availability that he or she needs to fly.

2 Senator Inhofe: You see that is the past. I am
3 projecting forward.

4 General Levy: So if past is prologue for us and I look
5 at the trend lines, I would say we are absolutely poised to
6 continue to support the KC-135 while the KC-46 comes on
7 board. I think that is your specific question, sir.

8 Senator Inhofe: Well, it is. Right now, they are
9 talking about 179 is the figure they are using in the KC-46.
10 But we always know that -- you know, it is going to fall
11 behind that. We know that. But go ahead.

12 General Levy: So as the sustainment guy, I will not
13 necessarily speak to the requirements side of that. I will
14 leave that to Air Mobility Command and U.S. Transportation
15 Command. That is maybe a little bit out of my lane.

16 But to your question about can we keep the 135 going as
17 the KC-46 comes on board I think is sort of your question
18 for us as professional sustainers, the answer is yes. And
19 as you know, the Air Force has a plan to keep the KC-135 in
20 the inventory till the 2040s time frame. So we are on path.
21 We are on course, on glide slope to do that.

22 Senator Inhofe: Admiral?

23 Admiral Grosklags: Senator, it is kind of an
24 interesting question. When I look at the new platforms we
25 have coming on line -- take P-8, for example, where there

1 are certain pieces of equipment on that aircraft, certain
2 parts that we are 100 percent organic. There are other
3 parts such as the engines and big chunks of the airframe,
4 because it is a commercial derivative aircraft, that it
5 makes much more sense to use commercial capabilities that
6 already exist out in the private sector. So that is one
7 instance.

8 F-35 is another great example where General Levy and
9 our organization are working with the program office to try
10 and increase the speed with which we transition that work
11 from the private sector into our organic depots. I think it
12 is important to note we have the ability to surge or
13 increase our capacity. We just need a couple years to do
14 it, whether it is facilities or as we have talked today
15 about workforce. So bringing a new airplane on line or new
16 type model series or taking something that is in the
17 commercial sector today and bringing it into the organic
18 sector does not concern me at all as long as we have got the
19 amount of time we need to plan and get adequate workforce
20 and tooling in place.

21 Hopefully that answers your question. I think it
22 depends on the airplane.

23 Senator Inhofe: Yes, it does. And this comes from the
24 hearing we had with TRANSCOM yesterday. So I knew we were
25 going to be in this today.

1 All I have left is one. I want to get this on record
2 for each one of you to respond to two things. You had to be
3 going through a real area of trauma before we took care of
4 the fiscal year 2018 and fiscal year 2019. And what I would
5 like to get from each one of you, if we are not able to
6 continue to do that, because that stops in fiscal year 2020
7 -- now, if that should happen, what is going to happen to
8 you at each of your facilities if we do not rectify that and
9 continue that past the end of fiscal year 2019?

10 General Daly: Mr. Chairman, if we do not continue
11 beyond 2019 --

12 Senator Inhofe: So it goes back, you know, what
13 happens if we do not.

14 General Daly: I am sorry, Mr. Chairman.

15 Senator Inhofe: Well, you know the consequences if we
16 cannot continue what we did in 2018 and 2019 into future
17 years.

18 General Daly: Yes, sir. If we do not continue beyond
19 2019, there will be significant adverse impacts to the
20 organic industrial base.

21 Senator Inhofe: Okay. Try to be a little more
22 specific.

23 Admiral Grosklags: My answer is going to be less about
24 the organic industrial base and more about the readiness of
25 the fleet because in the end the organic industrial base

1 there is to ensure that we have that readiness. And what
2 you have seen up until the fiscal year 2017 additional
3 funding and then into 2018 and 2019 is that the state of
4 naval aviation readiness has degraded significantly over the
5 last 7 or 8 years. And that is due in large part to the
6 fact that our readiness accounts, which include support for
7 our fleet readiness centers, have been funded well less than
8 the requirement.

9 I will give you a great example. Just spares for
10 aircraft across that 8-year period was funded to an average
11 of 72 percent of the requirement for 8 years. That is like
12 skipping two full years of funding spares at all. That is
13 the type of impact that will continue to perpetuate itself
14 if we cannot get a consistent budget after 2019. And it is
15 both consistency as well as -- people have mentioned --
16 getting it on time at the beginning of the fiscal year.

17 Senator Inhofe: And the reason I am asking this, we
18 want to get something started on the record now to prepare
19 for that possibility.

20 Admiral Moore: Thank you, Senator, for the question.

21 I agree with everything that Admiral Grosklags said,
22 and I would additionally add that we are already seeing some
23 of this in the private sector right now because they know
24 the money is there in 2018 and 2019. They are not sure it
25 is there in 2020 and 2021. And therefore, they can see the

1 workload in 2020 and they should be hiring just like I am
2 hiring in the naval shipyards, and they are hiring at a much
3 slower pace because they are not sure the money is going to
4 be there in 2020. So they are not hiring and they are not
5 making the investments in the private sector surface ship
6 facilities. And so we are already starting to see a little
7 bit of a backlog in work in private sector surface ship
8 maintenance because of their reluctance to make the long-
9 term investments and hiring necessary because they do not
10 know if there is any stability in the plan beyond 2019.

11 Senator Inhofe: Excellent.

12 General Levy: Mr. Chairman, so I would agree with
13 everything my colleagues said.

14 So we have been managing in this unusual fiscal
15 environment. We have a 2-year agreement that adds funding.
16 The majority of it, at least in the Air Force, is for
17 modernization, which we very desperately need. It helps us
18 with readiness. Please, do not misunderstand me. And we
19 are grateful for that. But we have the same concerns
20 particularly in the industrial base, both the commercial and
21 the organic industrial base, where I see, just like Admiral
22 Moore opined, commercial industries somewhat reluctant to
23 take risk because they are not sure that there will be the
24 opportunity in 2020 and beyond. And so they are hedging.

25 And what that does for us from a readiness perspective

1 is that sort of diminishes the value of the money you have
2 given me today -- right -- because the vendor says I am not
3 sure you are going to be there in 2020. I am not so sure
4 how much I am going to respond to you today even though you
5 have money today. And that runs a readiness risk. So in
6 one or two little examples, it is not particularly
7 impactful, but what I would tell you is across the \$9
8 billion of the supply chain that I manage for you every
9 year, it is corrosive. And when that corrodes, it affects
10 fleet readiness, and when that affects fleet readiness,
11 pilots do not fly. When pilots do not fly, they leave the
12 Air Force. And so all of these things are very
13 interconnected from the budget to the industrial base, both
14 organic and commercial, all the way to our readiness of our
15 Air Force, sir.

16 Senator Inhofe: Excellent answer.

17 General Crenshaw?

18 General Crenshaw: Chairman, sir, thank you.

19 I could not have stated it any clearer than what has
20 been said earlier.

21 I would add it is all about readiness. For the Marine
22 Corps, it is. And we are trying to maintain some legacy
23 systems today as we wait for our new ACVs to come on board,
24 other new tech equipment. And so not having that dedicated
25 funding and deliberate funding can reduce our readiness, as

1 well as General Levy talked to, there is a possibility of
2 our workforce. So what do they do? As they start to read
3 the tea leaves as well, do we have a probability of the
4 workforce moving to another sector where the organic base
5 now does not have that workforce to meet the potential
6 workload of the future. So all those are different
7 variables that we kind of look at as we address the funding
8 issue as we go forward, sir.

9 Senator Inhofe: And we saw the problem that you had
10 with the F-18 during this past 4 years.

11 All right. We do not have any more questions. We
12 appreciate very much -- I really wanted to get this on
13 record, though, because people are kind of shrugging their
14 shoulders. They are not too sure. There is a lot of
15 competition with defending America. I do not think there
16 should be but there is. So we want to prepare for it now.

17 I appreciate all of you and the statements you made and
18 the help you are to us.

19 And we are adjourned.

20 [Whereupon, at 3:57 p.m., the hearing was adjourned.]

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