

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON UNITED STATES
NORTHERN COMMAND AND UNITED STATES STRATEGIC
COMMAND IN REVIEW OF THE DEFENSE AUTHORIZATION
REQUEST FOR FISCAL YEAR 2021 AND THE FUTURE YEARS
DEFENSE PROGRAM

Thursday, February 13, 2020

Washington, D.C.

ALDERSON COURT REPORTING
1111 14TH STREET NW
SUITE 1050
WASHINGTON, D.C. 20005
(202) 289-2260
www.aldersonreporting.com

1 HEARING TO RECEIVE TESTIMONY ON
2 UNITED STATES NORTHERN COMMAND AND
3 UNITED STATES STRATEGIC COMMAND
4 IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST FOR
5 FISCAL YEAR 2021 AND THE FUTURE YEARS DEFENSE PROGRAM

6
7 Thursday, February 13, 2020

8
9 U.S. Senate

10 Committee on Armed Services

11 Washington, D.C.
12

13 The committee met, pursuant to notice, at 9:30 a.m. in
14 Room SD-G50, Dirksen Senate Office Building, Hon. James M.
15 Inhofe, presiding.

16 Committee Members Present: Senators Inhofe
17 [presiding], Fischer, Cotton, Rounds, Ernst, Tillis,
18 Sullivan, Cramer, McSally, Scott, Blackburn, Hawley, Reed,
19 Shaheen, Gillibrand, Blumenthal, Kaine, King, Heinrich,
20 Peters, Manchin, and Jones.
21
22
23
24
25

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

3 Chairman Inhofe: The meeting will come to order.

4 I have already kind of explained the situation we
5 have. You and I are both going to waive our opening
6 statements, as are our witnesses. Then we get right into
7 questions. I think we will be fine with the votes coming
8 up that way.

9 So that being the case, we will go ahead and just
10 start with questions. I only have one that I really wanted
11 to get to. I talked to both of you guys on other occasions
12 about this, but what we ran up against -- and this was kind
13 of a surprise to a lot of us -- the NNSA's primary job is
14 to build the nuclear warheads to meet the requirements of
15 the Department of Defense. And earlier this year when we
16 heard that the NNSA budget had been cut, we called the DOD
17 and asked them what they thought, and to my surprise, when
18 I got a hold of them, they said they did not know because
19 they do not get it until after such time as -- actually I
20 think Energy gets it first. And so they did not have it.
21 I am not sure how it happened.

22 Then I went back and I have talked to you folks about
23 it. What are you really able to do if you do not hear
24 about what the budget is before it is already signed off or
25 in the process of being concluded? And that is something

1 we have a concern about.

2 Then it reminded me back when I was first elected --
3 and that was when David Boren had this job, and he called
4 me. I remember this. This was way back in 1994. He
5 called me up and he said, well, Inhofe, there is something
6 I have been trying to get done for a long time and I
7 failed. Maybe you can do it. And it was correcting this
8 very problem that we are pointing out right now. So we may
9 be addressing this.

10 So the question I would ask you is do you agree this
11 thing ought to be changed. You got to be in on this thing
12 to know -- you remember what we did earlier this year. We
13 had to go in and talk to the President because they had
14 dropped the budget down about 8 percent on NNSA, and nobody
15 was aware of it except the Department of Energy. So we
16 went and talked to the President and had a meeting, and we
17 brought it back up to just under the 20 figure. So that is
18 what happened there.

19 Do the two of you agree that this is something that
20 needs to be corrected after all these years?

21 Admiral Richard: Senator, one, I applaud yours and
22 the committee's leadership in addressing the necessary
23 resources for the nuclear weapons complex. That, along
24 with nuclear command and control and recapitalization of
25 the triad systems, are essential for maintaining strategic

1 deterrence, which is foundational to everything else we do
2 inside the Defense Department.

3 Chairman, you are well aware of the responsibility of
4 the Nuclear Weapons Council to certify NNSA's budget, and I
5 have a role in providing a recommendation to the Nuclear
6 Weapons Council to that end.

7 The Chairman: Okay.

8 Admiral Richard: If there are weaknesses -- and you
9 described one -- in terms of our ability in a timely manner
10 to do that, that is something that I will take up with the
11 Secretary to address how we might be able to do that
12 better.

13 The Chairman: Why do we not do this for the record?
14 We will just start this discussion going and not try to do
15 it under the timelines we are dealing with today.

16 So I will go ahead. I had one other area to bring up.
17 Last summer, the Missile Defense Agency canceled their
18 program to modernize the ground-based interceptors that
19 were up in Alaska due to technical failures. And the next
20 generation interceptor then we find will not likely be
21 fielded until 2030. And I think that would be a good thing
22 for you to answer on the record as to what about that gap,
23 can we handle that gap, because everyone up here is going
24 to be interested in that. Okay?

25 Senator Reed: Well, thank you very much, Mr.

1 Chairman.

2 Admiral Richard, I am terribly concerned that there
3 has been no significant effort to extend the New START
4 agreement with Russia. Do you believe that New START
5 treaty gives you critical value in planning strategic
6 concerns based upon on-site inspections and deck relations,
7 and if it is not extended, you will be at a disadvantage?

8 Admiral Richard: Senator, as you know, New START
9 treaty has been valuable to this nation and to my command.
10 The Russians are largely compliant with it. It does have
11 the benefit of not only limiting the total number of
12 strategic weapons to both nations' benefit, and it has the
13 transparency and confidence-building measures that you just
14 described, all of which has been good for deterrence.

15 However, it does not address a very large class of
16 weapons that the Russians have a significant advantage in.
17 It does not constrain novel systems, and it is a bilateral
18 treaty.

19 Ultimately a decision to extend a treaty is a
20 political decision. I do provide best military advice down
21 the lines of what I just offered to my department to
22 contribute to that.

23 Senator Reed: But if we do not do this, we will lose
24 a great deal in terms of deterrence, in terms of, just as I
25 mentioned previously, signaling for the first time in 40-

1 plus years there is no arms control regime in the world,
2 and that could lead to proliferation, not just eroded
3 relationships between Russia and the United States.

4 And thank you, Admiral. I just want to -- in the
5 context of moving quickly.

6 General O'Shaughnessy, one of the issues that came up
7 in our discussions and also in your testimony is the threat
8 of cruise missiles to the United States. And we are
9 configured pretty well since the 1950s for ballistic
10 missiles, but cruise missiles and other hypersonic weapon
11 systems are more challenging.

12 Give us an idea of what you think you need to be
13 effective to deal with this cruise missile threat.

14 General O'Shaughnessy: Thank you, Senator, for
15 highlighting that important threat that we have facing us
16 today as a nation and something that we really have to
17 invest in in order to maintain our competitive advantage
18 and our ability to defend this great nation over time.

19 Specifically, I think as we look at the way we have
20 been approaching the threats we have been looking and from
21 the ballistic missile standpoint and then cruise missiles,
22 kind of UASs -- and I think we have to look at this more
23 holistically. And really we need domain awareness over our
24 entire territory and the approaches to it. And then if we
25 are able to have that domain awareness with sensors from

1 the undersea all the way up through space, we can then take
2 that to be able to defend ourselves against all the
3 threats, to include the cruise missile threat that you
4 mentioned.

5 Some of the things that we are doing right now to get
6 after that, as an example in this year's budget, we are
7 increasing our domain awareness capability with sensors
8 within the National Capital Region, for example, with our
9 wide area surveillance program. We have money this year
10 for over the horizon radars that will not only be helpful
11 for cruise missile threats but also hypersonic threats.
12 And we also have funding in place for some additional
13 radars to give us the ability to truly see and understand
14 the domain on the approaches to us.

15 But this is just a start. Senator, what I would say
16 is we have to invest into the future in understanding what
17 is happening in and around our territory and really
18 understanding our ability to have defeat mechanisms that
19 can defeat these proliferated threats such as the cruise
20 missiles.

21 Senator Reed: Thank you very much.

22 I yield back all my time.

23 [Laughter.]

24 Chairman Inhofe: Senator Fischer?

25 Senator Fischer: Thank you, Mr. Chairman.

1 Admiral Richard, your opening statement refers to an
2 increase in both Russian and Chinese nuclear forces. On
3 page 4, it states that China is likely to double the size
4 of their stockpile by the end of this decade. And on page
5 5, it states that Russia's overall nuclear stockpile is,
6 quote, likely to grow significantly over the next decade.
7 End quote.

8 Does our current program of record for modernization
9 expand our nuclear forces?

10 Admiral Richard: Senator, it does not. We do not
11 seek parity. And it is not only in the statement in terms
12 of what they are going to do, we could also back up and
13 look at what Russia in particular has been doing over the
14 last 15 years to expand and modernize her arsenal, all
15 while we just extended life-extended systems that we
16 already have.

17 So the recapitalization that we are asking for is one-
18 for-one. We do not seek more. We do not seek a greater
19 number. We simply seek a sufficient number of capabilities
20 to enable us to achieve national objectives.

21 Senator Fischer: I have been struck by the reception
22 that this budget has gotten. Earlier this week, a "New
23 York Times" column summed up the budget's investment in
24 nuclear modernization by saying, quote, the President's
25 spending proposal requests money for a new arms race with

1 Russia and with China and restores nuclear weapons as
2 central to military policy. End quote.

3 The truth is actually the opposite of that. There is
4 no policy change, as you stated, that relates to nuclear
5 weapons in this budget. And it is Russia and China that
6 are expanding their arsenals while we are not. Is that
7 correct?

8 Admiral Richard: Senator, I must confess the whole
9 concept that we are starting an arms race baffles me in
10 terms of no nation has done more than the United States to
11 reduce the reliance on nuclear weapons. No nation has
12 divested more nuclear weapons than the United States has.
13 We have waited 15 years in some cases to the absolute
14 limits of what our systems will go before we simply sought
15 to replace like for like inside our triad. So I do not
16 understand where the concept of an arms race comes in. And
17 you are absolutely correct, ma'am.

18 Senator Fischer: Thank you.

19 On page 12 of your prepared remarks, you state, quote,
20 our nuclear deterrent underwrites every U.S. military
21 operation around the world and is the foundation and
22 backstop of our national defense. I cannot overemphasize
23 the need to modernize our nuclear forces and recapitalize
24 the supporting infrastructure to ensure we can maintain
25 this deterrent in the future. I am concerned that the oft-

1 repeated message of the need to modernize and recapitalize
2 has lost its impact and that collectively we have under-
3 estimated the risks associated with such a complex and
4 time-constrained modernization and recapitalization effort.
5 Even seemingly small issues can have a disproportionate
6 impact on the force. We cannot afford more delays and
7 uncertainty in delivering capabilities and must maintain a
8 focus on revitalizing our nuclear forces and the associated
9 infrastructure. End quote.

10 I really appreciate your candor on this. As you know,
11 we continue to hear calls to slow down, to cut funding, and
12 to reexamine issues that have already been studied numerous
13 times. And I appreciate your clear description of the
14 urgency that we have.

15 Do you have anything you would like to add to that?

16 Admiral Richard: No, ma'am, other than --

17 Senator Fischer: I took the words right out of your
18 mouth.

19 Admiral Richard: Yes, ma'am. We chose those very
20 carefully to accurately describe the situation this nation
21 faces. These capabilities are foundational to our survival
22 as a nation. It is a great credit that we have been able
23 to take the -- it is a once every other generation
24 responsibility to recapitalize the strategic deterrent. We
25 had wise leaders back in the 1980s who saw the need for

1 this -- leadership and resources. And we have benefited
2 with no nuclear use for up to 42 years in some cases with
3 particular weapon systems, no great power war. And the
4 return on investment that we achieved -- the submarine is a
5 great example, designed for 30 years. We thought that is
6 what we were going to get. In fact, you wind up getting
7 42. What a credit to the people that designed it, built
8 it, operated it, that we were able to take it out as far as
9 we can. But in the submarine's case, we are literally
10 reaching physics and engineering limits such that you
11 cannot extend it. You can only take a piece of high-
12 strength steel, pressurize it at great depths, then take
13 that pressure back off before you just do not want to get
14 in the tube anymore. And so that is the limits that we
15 have reached, and it is our turn to provide that leadership
16 for the next 40 or 50 years to give them the benefits that
17 we have already received.

18 Senator Fischer: Thank you.

19 And thank you, General O'Shaughnessy, for your meeting
20 with me yesterday. I would commend to my colleagues that
21 they also contact you to have a classified briefing on what
22 we need to do with our cruise missiles. Thank you, sir.

23 Chairman Inhofe: Thank you, Senator Fischer,

24 Since a quorum is now present, I ask the committee to
25 consider two civilian nominations and a list of 871 pending

1 military nominations. All the nominations have been before
2 the committee the required length of time.

3 First, I ask the committee to consider the nomination
4 of James McPherson to be Under Secretary of the Army and
5 Charles Williams to be Assistant Secretary of the Navy for
6 Energy, Installations, and Environment.

7 Is there a motion to favorably report these two
8 civilian nominations out?

9 Senator Reed: So moved.

10 Chairman Inhofe: Is there a second?

11 Senator Fischer: Second.

12 Chairman Inhofe: Any opposition?

13 [No response.]

14 Chairman Inhofe: That does pass.

15 And finally I ask the committee to consider a list of
16 871 pending military nominations. Is there a motion to
17 favorably report these 871?

18 Senator Shaheen: So moved.

19 Senator Fischer: Second.

20 Chairman Inhofe: Second.

21 All in favor, say aye.

22 [Chorus of ayes.]

23 Chairman Inhofe: Opposed?

24 [No response.]

25 Chairman Inhofe: It carries.

1 Now, for those who may have come in a little bit late,
2 we are waiving opening statements. We are going to get
3 right to the questions, and we are going to adhere to the
4 5-minute rule. Thank you very much.

5 Senator Shaheen?

6 Senator Shaheen: Thank you, Mr. Chairman.

7 Thank you both for being here and for your service.

8 I want to follow up on Senator Reed's question about
9 the New START treaty because, as he pointed out, we are
10 less than a year from its expiration. We could extend it
11 for 5 years without going through a whole Senate
12 confirmation process. And it seems to me -- while I
13 recognize the concern that you expressed, Admiral Richard,
14 that I have heard from other sources about the fact that it
15 does not encompass a number of other weapons, the fact is
16 we could extend it and work on those other weapons at the
17 same time without losing the important information that we
18 are currently getting from New START.

19 So I wonder if you could describe how STRATCOM uses
20 information from New START such as through inspections and
21 data exchanges as you look at your day-to-day planning.

22 Admiral Richard: Senator, so that insight gives us a
23 much better idea of what the threat level is from that
24 particular class of weapon systems are, which enables us to
25 do a very calculated and thorough job of determining

1 exactly how we deter the use of that, all very valuable and
2 helpful. So I would desire to keep those attributes.

3 But I am also required to do the same thing on the
4 parts that are not included in the treaty. So better for
5 me if we could down a path to address all of that.

6 Senator Shaheen: Sure. But if we do not extend New
7 START and it expires next February, you lose that
8 information. Is that correct?

9 Admiral Richard: That is correct, Senator.

10 Senator Shaheen: I think this is probably for General
11 O'Shaughnessy. Last August, 33 airmen from New Hampshire's
12 Air National Guard spent several weeks on a remote Alaskan
13 island near the Bering Sea. I am sorry Senator Sullivan is
14 not here because they were part of a rotating group of
15 airmen and guardsmen who were helping to build a new home
16 for a group of indigenous people who have been displaced
17 due to rising sea levels.

18 Can you talk about what you see from climate change
19 and what we are doing to try and shore up our
20 infrastructure and to be prepared for the challenges we are
21 going to face as climate change increases and creates more
22 of these kinds of situations?

23 General O'Shaughnessy: Senator, what I would talk to
24 is the importance of the Arctic and specifically in this
25 case Alaska not only, as you mentioned, with increased

1 activity and the things that we are seeing and some
2 problems with erosion that are very real -- they are real
3 from both a military aspect, as well as, of course, as you
4 mentioned, the indigenous population.

5 One of the things that we try to do is we partner, as
6 you mentioned, with organizations that are tied to the
7 indigenous people -- for example, Tulikika and AFN has been
8 a great partner -- because I think we have common
9 challenges of which we might have common solutions. We
10 went to Barrow, for example, and saw some of the erosion as
11 the ice has melted and now the waves are hitting the shore.
12 That affects us and some of our radar installations just as
13 much as it effects the local village. And so we are trying
14 to partner with the local communities to truly understand
15 what is happening and the impacts.

16 But we also see it because simultaneously this is a
17 critical part for us for the defense of our homeland. If
18 you look at it as an avenue of approach and we see the
19 Arctic as an avenue of approach to our homeland that we
20 need to be able to defend, and we need to be able to
21 operate out of. And therefore, you need infrastructure.
22 You need the ability to actually bring your force in and
23 sustain a force. You need to be able to communicate. You
24 need to actually understand what is happening in that
25 domain and have the domain awareness.

1 And so these are very similar. We find multiple
2 opportunities in some of the forums that we have led with
3 our partners in both industry, local populations, local
4 communities, all the way down to the villages that we find
5 these common approaches that we might be able to solve. We
6 are working, for example, in communications that might help
7 us with the proliferation of LEO. That would bring
8 communication not only to us as a military but even to the
9 remotest villages.

10 Senator Shaheen: So as you are looking at preparing
11 budgets for future years, how are you factoring in the cost
12 of those infrastructure needs that we have as we are seeing
13 the impacts of climate change?

14 General O'Shaughnessy: So what we are doing is we are
15 trying to look at the infrastructure that we need, the
16 infrastructure that we need to be able to defend our
17 nation. And this is actually not just with the U.S. We are
18 working in partnership with Canada, and especially with my
19 NORAD hat on, we are very interested in similar issues that
20 we see from the Canadian front of having an infrastructure
21 in place throughout the Arctic that will give us the
22 ability to defend our nation. And in doing so, we have to
23 have the sustainability of that infrastructure going into
24 the future.

25 Senator Shaheen: Thank you very much.

1 Thank you, Mr. Chairman.

2 Chairman Inhofe: Senator Ernst?

3 Senator Ernst: Thank you, Mr. Chair.

4 Gentlemen, thank you for being here today.

5 Admiral Richard, I will start with you as we continue
6 the discussion about modernization. As has been discussed,
7 the ground-based strategic deterrent will replace the
8 Minuteman III as the sole intercontinental ballistic
9 missile starting about the mid-2020s. And Congress has
10 appropriated the funds to do that for this fiscal year.

11 But while the GBSD will enter service this decade, the
12 Air Force will continue to sustain the Minuteman III into
13 the 2030s. This is an old program from the 1970s, and I
14 think some of the silos date back to maybe even the 1960s.
15 And I am concerned about failure to modernize with our
16 nuclear deterrent, and I think that in the long run, this
17 will be a lot more costly and makes it a risky gamble with
18 our national survival.

19 So just if you can, how are we balancing the
20 maintenance issues that will occur as we continue to hold
21 onto the Minuteman III and talk a little bit about that.
22 And are you confident then that as we move into the new
23 system, that the timeline is suitable as a deterrent?

24 Admiral Richard: Senator, the short answer is yes.
25 It is yet another example of why we have no margin left in

1 terms of the need to recapitalize. In terms of sustainment
2 of Minuteman III, I am not sure that it is often recognized
3 the extraordinary levels the Air Force went to to be able
4 to accomplish that. Unlike a submarine, which is designed
5 to have depot level maintenance, the Minuteman III was not.
6 It was designed to serve for a certain period of time and
7 get replaced. And the Air Force went in after the fact and
8 figured out how to take that and get a depot maintenance
9 capability retrofitted into the weapon system that will
10 then enable it to go till the crossover point. I think it
11 is a great credit to the Air Force they were able to
12 accomplish that. And that is what gives me confidence,
13 provided no further delay in GBSD, that this will work.

14 Senator Ernst: Well, God bless the Air Force, you
15 know, their extraordinary effort. And it just points to
16 the fact, though, that as Congress, we need to be aware of
17 these issues and make sure that we stay on top of it.

18 General O'Shaughnessy, thank you for being here.

19 I am going to redirect and talk about something that
20 has not been brought up yet.

21 At the SOUTHCOM posture hearing, I asked Admiral
22 Faller about challenges with COCOM and interagency
23 coordination to stop the flow of drugs and human
24 trafficking over our southern border and entering into the
25 United States. It is surprising but my home State of Iowa

1 really sees one of the highest rates of human trafficking,
2 and I know that there are many colleagues here that have
3 those same concerns and same issues in their home States.
4 And we have also felt the pain and the pressure of illicit
5 drugs that enter into the stream in our States.

6 And so what I would like to hear from you is thoughts
7 on how that interagency coordination is going, the
8 collaboration that you might have with SOUTHCOM, and what
9 are the efforts that we see to push back on some of the
10 flows of drugs and human trafficking?

11 General O'Shaughnessy: Yes, ma'am. Thank you for
12 highlighting that.

13 One of the things that we do find is a very strong
14 collaboration amongst the interagency. I think it starts
15 with the Interdiction Committee and that is led, of course,
16 by the Drug Czar and Admiral Schultz as the co-chairs, but
17 it brings the entire interagency together with respect to
18 the counternarcotics, counterdrug, and the transnational
19 organized crime and the aspects of that. And it is a great
20 forum of which we all get together. Admiral Faller is
21 there, as well as myself, to really bring the team
22 together, if you will.

23 In addition, as you mentioned, SOUTHCOM and NORTHCOM
24 have a great relationship. In fact, Admiral Faller is
25 actually my cousin, as it turns out. So there is a great

1 relationship there.

2 Senator Ernst: Okay, good. Sounds a lot like Iowa.

3 [Laughter.]

4 General O'Shaughnessy: And we see that we clearly
5 have to work together as we do this.

6 And so we actually went down together to Mexico City
7 to meet with the Mexican leadership and especially looking
8 at SEDENA and SAMARA and the great work that they are doing
9 to help with both the migration flow and the
10 counternarcotics problem.

11 And then we went right from there to Guatemala, and we
12 were able to work with the local Guatemalan officials and
13 really see how do we stem this flow and how do we get to
14 the roots to be able stem that flow.

15 And so I think it is those kind of relationships and
16 working together that is important, but is also important
17 what we are doing on our actual border. And as you know,
18 we are very active with respect to some of the work that we
19 are doing to provide assistance. We are the lead federal
20 agency but we provide great assistance because we see this
21 as a national crisis. 68,000-69,000 Americans killed last
22 year. That is something that we have to be a part of the
23 solution, and we are. We flew over 5,000 hours in support
24 of that last year, over 2,000 man-days of intelligence
25 analysis. It is one of the things I think we bring as the

1 military, that we can bring that expertise and bring that
2 right to our interagency partners. And so we continue to
3 find those areas where we can bring that value to the
4 interagency process.

5 Senator Ernst: I appreciate it so much. Thank you,
6 gentlemen.

7 Thank you, Mr. Chair.

8 Chairman Inhofe: Senator Blumenthal?

9 Senator Blumenthal: Thanks, Mr. Chairman.

10 Thank you both for being here and thank you for your
11 service.

12 Admiral, thanks particularly for your enormous
13 contribution to our submarine force. I assume you continue
14 to share the Navy's strategy and support it to achieve 66
15 submarines by 2048.

16 Admiral Richard: Senator, I do.

17 Senator Blumenthal: I am somewhat disquieted, even
18 dismayed by the apparent change of pace in construction
19 reflected in this budget, dropping one of the submarines
20 that was planned for this year at the Electric Boat
21 shipyard. Do you share that concern that we may be falling
22 off the necessary pace?

23 Admiral Richard: Senator, one, I am pleased that Navy
24 is maintaining the highest priority on the Columbia class
25 submarine, which directly supports my mission set. And

1 beyond that, I think that is just indicative of the
2 difficult budget choices that Navy and the whole Department
3 of Defense are having to make.

4 Senator Blumenthal: But those budget choices reflect
5 priorities, and the Virginia class -- and I agree with you
6 completely about the Columbia class and there is a lot of
7 progress in the budget in that regard. But the Virginia
8 class is essential to our undersea superiority. Is it not?

9 Admiral Richard: Senator, the Virginia class
10 submarine is the finest submarine in the world.

11 Senator Blumenthal: And we want to continue to build
12 more of them.

13 Admiral Richard: Absolutely, sir.

14 Senator Blumenthal: In that regard, I want to ask
15 about hypersonic missiles which in your testimony you say,
16 quote, ensure our deterrence and conventional power remains
17 strong in the future. Are you satisfied with the
18 investment that we are making in hypersonic missiles, given
19 the Russians and the Chinese investing so heavily in them?
20 And that can be a question for both of you.

21 Admiral Richard: Senator, what I will start with,
22 because there are two ways to answer -- there are two
23 aspects to your question. One is offensive use of
24 hypersonics by us, plus there is a defensive piece. And I
25 remind everybody the Russians have publicly reported that

1 they have hypersonics on alert now. And so this is a very
2 real thing.

3 My command has had a longstanding requirement for
4 conventional prompt strike. Hypersonic technologies would
5 be an ideal way to go accomplish that, and I think that
6 enables me to better deter threats to this nation. Also, I
7 have responsibility for global strike already inside the
8 Department of Defense, and I think we would be an ideal
9 command because we have concepts, command, and control
10 ready to go to use that to the best advantage.

11 Senator Blumenthal: Are you satisfied, though, that
12 we are investing sufficiently in all of the aspects of
13 hypersonics both offensive --

14 Admiral Richard: Senator, I am. I was actually very
15 pleased in the priority. It is in line with the National
16 Defense Strategy in terms of the priority that this budget
17 submission puts in that and a couple of other technical
18 areas.

19 Senator Blumenthal: Are you concerned about a
20 developing potential arms race in hypersonics?

21 Admiral Richard: Senator, no. Again, it is do you
22 have sufficient capability, technologies to meet our
23 national objectives. And I think we are on pace to do
24 that.

25 General O'Shaughnessy: And, Senator, I would

1 highlight on the defensive side, one of the key aspects I
2 think is the space sensing layer and the importance that we
3 invest in that and continue to invest, which we are and
4 this budget includes that. But we need to continue to
5 invest in that space sensing layer because as we go from a
6 ballistic missile to a hypersonic glide vehicle, for
7 instance, it really changes the problem of maintaining
8 custody of that weapon system throughout its entire flight,
9 and the best way to get at that is the space sensing layer.
10 So I strongly endorse continued investment in that for a
11 defensive.

12 It is also about awareness because unlike a ballistic
13 missile where you know where it is going, the hypersonic
14 glide vehicle -- you do not necessarily know because it has
15 the energy and the ability to maneuver. And so we have to
16 be able to keep track of that. And so I can give the
17 warning to Admiral Richard so he knows where that is going
18 from the NORTHCOM and NORAD perspective.

19 Senator Blumenthal: Well, I agree with you that it
20 introduces a potential game-changing technology and new
21 challenges in terms of both defense and deterrence and
22 offense. And I would like to ask for more information
23 perhaps in a classified setting if we can arrange a
24 briefing.

25 I am also going to submit for the record, because we

1 are adhering strictly to time limits, questions on the
2 threats posed by cyber. I understand there was a recent
3 cybersecurity conference that involved the National Guard,
4 which I would like to learn more about, and also troops at
5 the border. So I will be submitting questions for the
6 record on those two topics.

7 Thanks, Mr. Chairman.

8 Chairman Inhofe: Thank you very much.

9 Senator Cotton?

10 Senator Cotton: Admiral Richard, I want to return to
11 the budget for the National Nuclear Security
12 Administration. The President's budget has it at just under
13 \$20 billion. Are you confident that that is a sufficient
14 number to proceed with nuclear modernization?

15 Admiral Richard: Senator Cotton, the short answer is
16 yes. There is not a lot of excess margin that number, but
17 it is sufficient.

18 And I will also offer that I have a very close
19 relationship with NNSA. I just spoke to Ms. Gordon-Hagerty
20 actually yesterday in a continuing series. And I would
21 point to that as an example of us making sure that she has
22 the right resources.

23 Senator Cotton: And if you take the warhead
24 modernization program on the one hand and you take the
25 triad modernization -- the delivery systems on the other

1 hand, that is also a number that is satisfactory to keep
2 those two things integrated over the next several years?

3 Admiral Richard: Senator, yes, again with no extra
4 margin. I would throw in nuclear command and control as
5 the third piece of that that also needs to be synchronized.

6 Senator Cotton: I would as well given the fact that
7 we have woefully -- woefully -- undercapitalized our
8 nuclear command and control and infrastructure over the
9 last many decades.

10 The one thing I hear you say, not much excess margin.
11 To the extent that Congress does not meet that budget
12 number of just under \$20 billion, would we be introducing
13 more risk into those programs for every dollar that we go
14 below it?

15 Admiral Richard: Senator, yes. And in fact, we are
16 close enough into this recapitalization that we can also
17 give you a number where you start to see points of no
18 return, and they are not that far off. They are in the
19 early 2030s, that if we do not recapitalize now, we simply
20 lose the fundamental infrastructure and capacity that if we
21 cross over, you cannot recover for like a decade no matter
22 how much money you put at it. Those points are starting to
23 come into view.

24 Senator Cotton: General O'Shaughnessy, I want to talk
25 about the Wuhan coronavirus. And it is the Wuhan

1 coronavirus, not some politically correct name that a bunch
2 of politically correct bureaucrats at the World Health
3 Organization have come up with, to give you a sense of
4 their misplaced priorities.

5 You were recently directed in your role as Commander
6 of the Northern Command to begin prudent planning for a
7 potential pandemic. I think it is very prudent to begin
8 prudent planning. So could you talk us through what the
9 role for Northern Command would be in such a situation and
10 the extent to which you have already begun planning or even
11 exercises for that scenario?

12 General O'Shaughnessy: Yes, sir. So, Senator, what
13 we are doing first and the immediate actions we have taken
14 have been in support of Health and Human Services with
15 respect to housing some Americans coming home. And I think
16 right now we have over 600 still in our facilities in
17 support of both the State Department bringing their folks
18 home, as well as HHS. That has been going extremely well,
19 and we appreciate the close coordination through the
20 interagency to make that happen. It also is tied to 11
21 airports, of which we have facilities that are on standby
22 in coordination with both the Department of Homeland
23 Security, as well as HHS and CDC, as you would imagine.
24 And the ongoing collaboration continues to make sure we are
25 part of the support structure that we would have here

1 within the United States to be able to respond to this
2 virus.

3 Now, to your point about the global aspects of this
4 and our role as NORTHCOM, we are, as you would expect,
5 doing the appropriate prudent military planning to ensure
6 that we are able to respond. The types of things that we
7 are doing is, for example, we are running a BTC every
8 single day and that includes representatives from all
9 around the globe, all the geographic combatant commands
10 that are in there to make sure that we see what is
11 happening within their regions and that we are centrally
12 managing that from our headquarters in NORTHCOM.

13 We have plans in place, as you would imagine, that
14 look for what is the scope that this could go to
15 potentially and making sure that we are not caught by
16 surprise.

17 And so both our role that we are doing in the day-to-
18 day is very much informative to the role that we are doing
19 for the planning and making sure that we are prepared for
20 the worst case scenario that might happen and make sure we
21 are doing that globally not just here in the United States.

22 Senator Cotton: Thank you, General. I think we are
23 still at only 14 cases in the United States that have been
24 confirmed by public health authorities.

25 General O'Shaughnessy: That is correct, sir.

1 Senator Cotton: Let us hope that remains the case. I
2 think we are in a much better position than we were a few
3 weeks ago when we had 20,000 people landing in the United
4 States from mainland China every single day. So I commend
5 the President and the administration for the travel ban put
6 in place.

7 But there are still around a million and a half
8 Americans who traveled from -- or a million and a half
9 persons who traveled from mainland China starting in mid-
10 November until the travel ban went into place. So we have
11 even a fraction of what China reported, just overnight,
12 14,000 cases, which I should add were not newly discovered
13 cases or the result of new scientific breakthroughs, but a
14 political decision to finally start getting a little bit
15 closer to the truth. And obviously, it is going to put a
16 lot of emphasis and stress on the mission and the planning
17 that you and your people have been doing. So thank you for
18 that.

19 Chairman Inhofe: Senator Heinrich?

20 Senator Heinrich: Admiral Richard, congratulations on
21 your assumption of command, and I would remiss if I did not
22 invite you back to Sandia and Los Alamos. I know you have
23 been there before.

24 But during your confirmation hearing, you agreed that
25 restoring plutonium pit production at Los Alamos is the

1 military's top priority. However, in your answer you also
2 stated that there are issues. And now that you have had a
3 little time to work with NNSA and get up to speed on that,
4 I would like to ask you to articulate what the specific
5 issues and impediments are that you see in meeting the
6 current goals.

7 Admiral Richard: Well, Senator, when I talked about
8 the weapons complex infrastructure, the plutonium pit would
9 be the first thing that I would call attention to in terms
10 of our nation's ability to generate that number of pits
11 that is essential simply for the sustainment programs that
12 we desire to go do. And the concern actually again was
13 funding. Step one is to provide adequate resources. I am
14 very confident, particularly in the near term at Los
15 Alamos, that with adequate funding we can deliver 30 pits
16 per year by 2026, and I continue to work with NNSA and Ms.
17 Gordon-Hagerty to make sure the longer-term plan is also --
18 I have equal confidence in that.

19 Senator Heinrich: One of my concerns with regard to
20 that is if we are going to do pit production at two
21 locations and the intellectual capital is currently pretty
22 much all at Los Alamos, not losing, not poaching that
23 capital to a second facility before we actually get job
24 number one done. Do you share those concerns?

25 Admiral Richard: Well, Senator, not only do I share

1 them, but it is in the weapons complex and other areas writ
2 large, do we have enough talent to be able to accomplish
3 what we have to go do.

4 So I work with Ms. Gordon-Hagerty closely on her stack
5 of responsibilities with regard to that, as well as we do a
6 number of things at U.S. Strategic Command to bring talent
7 into the strategic deterrence area writ large. I can give
8 you a longer answer for a question for the record. But,
9 for example, we have an academic alliance with over 70
10 colleges and universities where we are trying to encourage
11 people to come in and develop expertise in national
12 security strategic deterrence, and the weapons complex
13 benefits from that.

14 Senator Heinrich: As you have articulated, we are
15 pushing up against very thin margins on all three parts of
16 the triad. What are the consequences for your command if
17 any one of those legs experiences a significant delay? And
18 if that were to occur, how would you rebalance?

19 Admiral Richard: Senator, one, I thank you for that
20 question.

21 I think we all well know the commanders of Strategic
22 Command have been repeatedly asked that question over time.
23 And part of how we got to the point that we are at was by
24 doing operational mitigations to make up for lack of
25 earlier decisions to recapitalize.

1 We are very close to turning that rheostat about as
2 far as it is going to go. So the last remaining things
3 that I have -- and you can refer to them as a hedge.
4 Sometimes that is more thought of for the weapons complex.
5 But the triad itself was built with an overlapping,
6 interlocking set of attributes that are very complementary,
7 and each leg makes up for the weaknesses in the other leg.

8 I would get to the point where I -- basically that is
9 called inter-leg hedging. I would have to start taking the
10 attributes of the triad apart, and I will lose attributes
11 along the way. So I can cross-cover with one piece of the
12 triad on another, but I may lose the survivability of the
13 ballistic missile submarines. I may lose the flexibility
14 and signaling for the bombers. That is about what is left
15 for us to do.

16 Senator Heinrich: Moving on real quick, I do not have
17 a lot of time left. But you are familiar with my interest
18 in hypersonics and more broadly in just maintaining the R&D
19 focus to have a third offset, whether that is through the
20 lens of hypersonics or directed energy or, for that matter,
21 artificial intelligence.

22 We are seeing a big bump in this budget in the area of
23 hypersonics. It is a \$3.2 billion overall number. It is a
24 23 percent increase. How is that money going to be spent
25 so that when you are scaling, that you are still efficient

1 and spending it wisely?

2 Admiral Richard: Well, Senator, that question would
3 be best answered by the services that are responsible. All
4 of them are working on it. I am pleased with the progress.
5 And I am working to make sure that when that capability is
6 delivered, I am ready to receive it with concepts of
7 operation and command and control, being able to
8 immediately put it to use defending the nation.

9 Senator Heinrich: Thank you, Chairman.

10 Chairman Inhofe: Senator Scott?

11 Senator Scott: First, thank you both for your
12 service.

13 General O'Shaughnessy, I think we have all been
14 following what Communist China has been doing around the
15 world. I am from Florida, and so everybody in Florida is
16 clearly watching what is happening in Latin America,
17 especially Communist China's involvement in Venezuela but
18 even in other countries with their investments. What they
19 are trying to do is build relationships and make people
20 dependent on them.

21 How does Communist China's involvement in Latin
22 America impact our national security?

23 General O'Shaughnessy: Well, I think you bring up a
24 good point because sometimes it is easy to forget about our
25 own neighborhood, as we look at this global competition

1 that we are in with China. Admiral Faller has done a
2 really good job I think of highlighting that and the
3 consequences thereof and the focus that we need to have not
4 only within the Department of Defense but as a nation to
5 that.

6 Of course, we also see it, for example, in the
7 Bahamas, which is even closer to home, where we see China
8 is trying to get an influence with one of our closest
9 neighbors and great partners.

10 And so I think we have to be cognizant of it. We have
11 to think about it from the aspect of what are the
12 implications to us from a national security standpoint, and
13 then what are the implications to us just as a nation as we
14 see this global competition playing out in our own
15 hemisphere close to home.

16 Senator Scott: Thank you.

17 Admiral Richard, do you think we have enough --
18 whether it is Communist China or Russia in Latin America,
19 do you think we have the right amount of assets there and
20 the right amount of focus there, or do we need to put more
21 focus based on what they are doing to try to have an impact
22 close to our borders?

23 Admiral Richard: Senator, one, I applaud the Chairman
24 of the Joint Chiefs' focus broadly on global integration,
25 and when you take a global view of the competitions that we

1 have, it drives visibility into those areas. So I think
2 the Department is moving in the right direction to look at
3 the totality of what we need to be concerned about and not
4 just focus on one geographic region.

5 Senator Scott: So Canada is about to make a decision
6 on 5G on Huawei. It is my understanding that the military
7 establishment in Canada has said that the Trudeau
8 administration should not go forward with doing any
9 business with Huawei with regard to their 5G.

10 How would that impact our relationship with Canada if
11 they do?

12 General O'Shaughnessy: Senator, what I would say is
13 clearly we see the security implications of 5G not only
14 with Canada but with our allies and partners and even here
15 at home. Clearly we see this as a national security
16 implications at large, and making sure that we, with all
17 our allies and partners -- that they all go into any
18 negotiations and ultimately procurement of infrastructure
19 with clear eyes to truly understand what are the risks and
20 then what can we do to mitigate those risks.

21 And so I think as we do continue to work with Canada
22 as a close ally and a partner, just like we have done with
23 other allies and partners, we need to make sure that we are
24 sharing all the intel that we have, which we are, and
25 making sure that we provide them all the things that they

1 need to make the proper decision and an informed decision
2 to fully understand the risks that they take and ultimately
3 the implications, to your point, that we might have here at
4 home with what we can share with them, how we would share
5 with them, and what the implications would be.

6 I think as we look at Canada with the NORAD aspect of
7 that, that becomes even closer to home because of our
8 binational relationship we have with them and making sure
9 that we understand the rippling effects of potential
10 security concerns relative to Huawei, 5G, and we see as
11 very real concerns.

12 Senator Scott: So knowing the risks especially like
13 with NORAD, what should Congress be doing to try to make
14 sure that Canada makes the right decision and to follow the
15 lead of their military establishment that Huawei should not
16 be a partner for 5G?

17 General O'Shaughnessy: I think the continuation of
18 what we are doing already, which is the great conversations
19 and dialogue that we are having with our partner in Canada,
20 again sharing the intel so that we make sure that they
21 understand fully the risks that they might be taking on so
22 that they can make a decision, their own sovereign decision
23 that they will make, but it is an informed decision fully
24 understanding the risks, the consequences, and ultimately
25 what the rippling effects might be as a result of that from

1 a national security, for their own security, and then for
2 us together as a binational organization within NORAD as an
3 example, and as we are tied with North America very much so
4 the rippling effects through the binational, bilateral
5 relationship.

6 Senator Scott: Thank you.

7 Chairman Inhofe: Thank you, Senator Scott.

8 Senator Manchin?

9 Senator Manchin: Thank you, Mr. Chairman.

10 I thank both of you for your service.

11 I can only repeat to you what I have heard in talking
12 and listening to people with expertise, and this is how
13 they have kind of explained the Cold War coming to an end
14 and where we are today and if we are on top of our game or
15 if we are ahead of our game. Basically the United States
16 in the 1980s took the position to be very aggressive in
17 some of the weapons we designed. Russia could not keep up
18 with what we were doing. It kind of forced them into a
19 situation where they had to evaluate could we defend
20 ourselves against America with the superior weapons they
21 have designed. That is what was given to me, along those
22 lines.

23 Now, if you take it from the Cold War forward, have we
24 still stayed on top of our game? It sounds to me as if
25 hypersonic weapons and other future weapons have been more

1 advanced by other countries such China, even Russia coming
2 back into the scene in a real aggressive way, maybe North
3 Korea to a certain extent. And are we going to be able to
4 deter them from moving forward because of our superiority,
5 or are we going to be playing defense to catch up?

6 So however you can help me with that to understand it
7 better.

8 Admiral Richard: Let me start that in terms of,
9 first, I go back to that was a choice by China and Russia
10 to develop those weapons. We certainly could have done
11 that and we did not. I think their actions in many cases
12 speak louder than what they tell us in terms of what their
13 intentions are. And again, this is a competition just like
14 any other military competition, and I am confident that
15 this nation has the ability to produce the capabilities we
16 have to have. And for deterrence, again the basic equation
17 has not changed. Can I deny you your aim or can I impose a
18 cost on you that is greater than what you seek? I can do
19 that if necessary.

20 Senator Manchin: Admiral and General both, the
21 evaluation was given to me about the Cold War and the end
22 of the Cold War. Is that accurate? We outpaced them so
23 far that they had to come to the realization they could not
24 compete and defend themselves?

25 Admiral Richard: Senator, what I would offer, I would

1 break that into a conventional piece and a strategic
2 deterrence piece. And on the conventional side of the
3 house, in general I would say that that is in the main
4 correct. And what we were able to do on the strategic
5 deterrence side is hold strategic deterrence. The whole
6 goal on strategic deterrence is for nothing to happen, and
7 we were successfully able to do that. So I would
8 recharacterize that slightly in terms of a conventional
9 force advantage that we achieved.

10 Senator Manchin: General?

11 General O'Shaughnessy: Senator, what I would add to
12 that, though, as you fast forward to today, what we do see
13 is our adversaries really investing in some of that
14 conventional capability that does have the ability to hold
15 us at risk and we have to, therefore, be able to defend
16 against it. What I am referring to, for example, is the
17 submarine that has very good capability that carries cruise
18 missiles, some of the long-range aviation like the
19 bombers --

20 Senator Manchin: We have the USS West Virginia. I
21 have been on it and spent some time with them. I
22 appreciate it. You do an excellent job.

23 General O'Shaughnessy: And so I think from our
24 perspective we think a lot from the Cold War about the
25 nuclear aspect and deterrence. I think as we reach today,

1 we also have to factor in the conventional aspect of this
2 and having peer adversaries that have the capability to
3 reach out to us at home in ways that we did not have in the
4 Cold War that we have to factor into our defense.

5 Senator Manchin: My final question would be basically
6 you are looking 30 years down the road -- at least 30 years
7 down the road -- for the life of the weapons and the
8 defense that we are doing with our triad. Are we looking
9 at their capabilities and where they are looking 30 years
10 down the road too and if they might be to the point to
11 where they are advancing quicker, willing to make more
12 sacrifices, spend more money to become an equal super
13 power?

14 The One Belt, One Road, as far as I am concerned, is
15 China wants to be the only super power left by 2050. I
16 hope Americans understand that, and I hope we in Congress
17 understand it. That is what I am concerned about. And I
18 am determined in my life and for my children, whatever I
19 can do and whatever decision can prevent that from
20 happening because this is the greatest country on earth.
21 There is no doubt what their mission is, what China's
22 mission is.

23 Admiral Richard: Sir, not only do I agree but I will
24 give you a quick example. Columbia is going to be in
25 service until 2080. The Navy and the submarine force --

1 and there are Air Force equivalents to this too -- have
2 long had very extensive programs that are looking 30 years
3 down the road, and they are physics-based -- they are not
4 necessarily intel-based -- and looking at anything that
5 could be developed into a threat so that we in parallel
6 start working the countermeasure to that. And I have great
7 confidence in those programs. They have served us well.

8 General O'Shaughnessy: And in my time, I would just
9 quickly say that that is why the NDS implementation, which
10 very clear focuses on this great competition and the
11 competition with China in particular and Russia drives, us
12 to make sure we do invest in those right resources that
13 will allow us to compete appropriately going into the
14 future, Senator.

15 Senator Manchin: It is my confidence in military
16 leaders like yourselves that gives me the confidence for my
17 children and grandchildren. Thank you.

18 Chairman Inhofe: Senator Blackburn?

19 Senator Blackburn: Thank you, Mr. Chairman.

20 And thank you for your thoughtfulness and coming
21 before us today.

22 I want to talk a little bit about the hypersonics
23 issue, circle back to that, because of Arnault Engineering
24 Development Complex which is there in Tennessee, and of
25 course, they are very much engaged in some of the work that

1 we are trying to do as we look forward. I actually had
2 some people in the office yesterday, and we discussed this
3 and Arnault's importance to the Air Force.

4 But one of the things that continues to come up as we
5 talk about hypersonics is personnel and a trained
6 workforce. And, General O'Shaughnessy, I would love to hear
7 from you. Do you think we have what we need to meet the
8 demand as we move forward, and how do we go about
9 backfilling that? How do you change recruitment in order
10 for us to be able to backfill that?

11 General O'Shaughnessy: Yes, ma'am. Thank you for
12 highlighting that.

13 One of the things we look at, first, there is a
14 capability but then there is also a capacity. And if you
15 look at our entire defense industrial base, one of the
16 things I think we have to really focus on is are we able to
17 both have the technology and to make sure we are taking
18 advantage of the emerging technology in the appropriate
19 ways, but also do we have the capacity to turn that into
20 actual weapon systems that can be relevant on the
21 battlefield.

22 Senator Blackburn: I am glad you mentioned that
23 because I had noted in 2017 at a hypersonics conference --
24 I think the Chinese had like 250 papers, and it was 10
25 times what we had had.

1 So, Admiral Richard, as you look at this, are you
2 attracting and training and retaining the experts that are
3 going to be needed in order to meet the demand?

4 Admiral Richard: Ma'am, the short answer is you are
5 highlighting a challenge for the department across the
6 board. It is not only in hypersonics that you talk about,
7 but I could point to any number of other areas where we
8 face an equivalent challenge.

9 I had been very pleased in the efforts particularly by
10 the services to reach out, develop, attract, and create
11 this industrial base that we are going to have to have not
12 only for hypersonics but for the capabilities writ large.
13 They are working very hard on it.

14 Senator Blackburn: Then human capital is one
15 component, but then facilities, areas like Arnault
16 Engineering are important. So where are we on the
17 sufficiency of our facilities and having what we need
18 there?

19 Admiral Richard: Again, I applaud service efforts to
20 go after the capacity and the industrial base physical
21 plant necessary to achieve the results that you are talking
22 about. They are working very hard on both pieces of that.

23 Senator Blackburn: Then highlighting another area,
24 let us move over and talk about electromagnetic spectrum.
25 And as you know, this is something where I have spent a

1 good bit of time working on how we proceed in this area,
2 how we utilize expertise when it comes to working in a
3 contested EW environment. Do we have that? Are we moving
4 forward with the right type work, the visualization, the
5 modeling, so that we are growing the expertise in this
6 area?

7 Admiral Richard: So, ma'am, let me start that.

8 Senator, one, I applaud your interest and your
9 leadership in terms of electromagnetic spectrum. That is
10 yet another domain not unlike space and cyber that was
11 permissive and we had freedom of maneuver for a very long
12 period of time, and that has changed. So it too has to
13 have a certain level of expertise. The services are
14 working very hard on that.

15 For example, if you would allow me to have a Navy
16 flashback for a second. I am a joint commander now but
17 just left the Navy. The submarine force, which I recently
18 commanded, has been an emergency flank wide open trying to
19 develop that expertise to the point that we have
20 restructured the electronic technicians' rating to elevate
21 greater numbers, better training. And I could go into more
22 detail on that. You see all the services working like that
23 right now.

24 Senator Blackburn: Let me ask you this. Are we at a
25 point where we should develop a concept of operations for

1 EW?

2 Admiral Richard: Yes, ma'am. You hit on a couple of
3 things that we have to continue to work on. There are
4 numerous concepts of operation. To be able to knit them
5 together in a whole is --

6 Senator Blackburn: Right, but we need one overriding
7 strategy.

8 Admiral Richard: One overarching piece --

9 Senator Blackburn: And if you are reworking training
10 and looking at a different utilization of expertise, then
11 it seems to me we would be well served to move to one
12 concept of operations that would enable each of our
13 military divisions.

14 Admiral Richard: Senator, one, I not only agree, but
15 I would also highlight another point you made earlier that
16 a key piece of that concept is going to be electronic
17 battle management, electronic warfare battle management,
18 the ability to visualize. We cannot be statically assigned
19 anymore in our use of the RF spectrum. We have to be
20 dynamic. We have to maneuver, and we are going to have to
21 be able to visualize and understand it to accomplish that.
22 Now, the concepts will start from there.

23 Senator Blackburn: Thank you. I yield back.

24 Chairman Inhofe: Senator King?

25 Senator King: Thank you, Mr. Chairman.

1 General O'Shaughnessy, one of the questions I ask
2 quite frequently in these hearings is what does China want,
3 and I want to ask you pointedly, what does China want in
4 the Arctic?

5 General O'Shaughnessy: Well, thank you, Senator, for
6 allowing me to highlight a little bit of the Arctic and the
7 importance of the Arctic. And as it relates to one of our
8 global competitors and potential adversaries, I think it is
9 important to look at what is their desire in the Arctic.

10 What we see initially is clearly an economic desire
11 because of the natural resources there, and they want to be
12 able to take full advantage of those resources.

13 But we also see activity, for example, the Xuelong,
14 one of their supposed scientific research vessels that
15 potentially could be the precursor to increased submarine
16 activity and those things from a more nefarious aspect.

17 So we are looking at it clearly to understand what is
18 it they are trying to do, but from our perspective, we are
19 concerned about that as an avenue of approach. We are
20 concerned about that as --

21 Senator King: They are clearly highly interested. I
22 was at an Arctic conference in Iceland a couple of years
23 ago. There was a 40-person delegation from China, and they
24 have designated themselves as a near-Arctic nation, which
25 is like Australia saying -- you know. But there they are.

1 Now, let me follow up. There was a sentence in your
2 presentation that got my attention. Finally, in the past
3 year, we observed signs of nascent but growing strategic
4 cooperation between China and Russia, including a combined
5 bomber patrol last July and Chinese participation in
6 multiple Russian exercises. I find that very important and
7 concerning. Expand on that a bit please.

8 General O'Shaughnessy: This was not particularly
9 concerning the Arctic, but I will get back to the Arctic in
10 the answer.

11 What we do see is --

12 Senator King: But the Arctic is one of the places
13 where they may well find common cause.

14 General O'Shaughnessy: Absolutely, and that is where
15 I will move back to where I have some concern there.

16 One of the things we do see is Russia actually has
17 more advanced operational capability with respect to the
18 longer-range bomber force, and as we see them fairly
19 routinely flying in and around our -- Adak as an example.
20 As we see them working with Russia and China together, we
21 have concerns as we just look at that capability, and if
22 they were to work together, they could potentially advance
23 China's ability in that regard.

24 Clearly in the Arctic, we also see the potential if
25 they work together, but I think there is a little bit

1 different approach because clearly Russia has concerns
2 about China infringing on them from an economic standpoint.
3 Yet, nonetheless, we see Russia with some very significant
4 --

5 Senator King: Russia is being very aggressive in the
6 Arctic in terms of icebreakers, airstrips. I mean, that is
7 a big part of where they are putting some of their major
8 investments.

9 General O'Shaughnessy: Exactly, and so that is where
10 I was going with this answer is that we can actually see
11 the potential for China to leverage Russia's capability and
12 capacity and understanding to develop China's --

13 Senator King: Do you have adequate sensors to
14 determine if something is coming over the top?

15 General O'Shaughnessy: We do not, sir.

16 Senator King: And that is clearly a gap that needs to
17 be addressed.

18 General O'Shaughnessy: It is, Senator.

19 Senator King: This hearing seems to be the hypersonic
20 hearing, and I think that is important. And the budget is
21 important, the additional resources. But we are behind.
22 Russia and China are fielding hypersonic missiles now, and
23 are we not 4 or 5 years from there? And my concern is that
24 some of that research should be going into defense because
25 right now hypersonics are really a nightmare weapon for an

1 aircraft carrier, for all kinds of targets. So are we
2 going to put some money into how to defend ourselves
3 against hypersonics, Admiral?

4 Admiral Richard: The short answer is yes, and I think
5 you see the budget priorities that are being developed to
6 do just that.

7 But I will also go back and offer particularly for
8 Russia and China, we are defending today by deterrence. I
9 can impose a cost on them that I think they will find
10 unacceptable to deter their use of that or any of their
11 other novel weapon systems.

12 Senator King: How do you deter? If we get into a
13 conflict and they -- I mean, I do not understand deterrence
14 when they use a hypersonic to take out an aircraft carrier
15 in the strait between Iceland and Scotland.

16 Admiral Richard: Sir, I would have to go into a
17 classified session to give you details of options that I
18 could provide to redress that.

19 Senator King: Well, I just hope that 23 percent
20 budget increase -- part of that goes to defense.

21 Finally, very briefly, can hypersonics be nuclearized?
22 Can a hypersonic missile carry a nuclear warhead?

23 Admiral Richard: Senator, absolutely, yes.

24 Senator King: So is this really triad 2.0? It is not
25 a ballistic missile. It is not a submarine. It is not an

1 aircraft. Or it could be, I guess, all three of those.

2 But clearly we need to think about hypersonics in terms of
3 the triad, in terms of our strategic deterrence.

4 Admiral Richard: Absolutely, I will offer that it is
5 not our policy or intent right now to nuclearize
6 hypersonics. Other nations can choose to do what they wish
7 in that area. And, yes, this is the competition. This has
8 a lot of similarities to the introduction of the
9 intercontinental ballistic missile back in the late 1950s
10 and early 1960s, and we are ready to address it.

11 Senator King: Thank you. Thank you very much,
12 gentlemen. I appreciate your testimony.

13 Chairman Inhofe: Senator Cramer?

14 Senator Cramer: Thank you, Mr. Chairman.

15 I thank both of you for your service and for being
16 here.

17 I was going to start, Admiral Richard, with a question
18 about GBSD, and you answered it beautifully for Senator
19 Fischer and in your statements. But I will just emphasize
20 the importance of doing all we can to keep it on track, if
21 not even escalate a little bit. And that is reflected, of
22 course, in the budget and I appreciate that.

23 I want to ask both of you some questions about the
24 standing up of Space Force, starting with you, of course,
25 Admiral Richard, given the unique relationship between

1 STRATCOM and space and space capabilities, and first,
2 generally ask you, are you comfortable with how it is going
3 in terms of the standing up of Space Force? And what and
4 how are you communicating with Space Force in terms of
5 helping them be successful in training, equipping, manning
6 the force?

7 Admiral Richard: Senator, I would draw a distinction
8 between Space Command, the joint operational command, and
9 the Space Force. My relationship is much more with Space
10 Command. And, Senator, I would describe it as we are the
11 proud parents. We were where those responsibilities came
12 from. I am delighted that the decision the nation and the
13 Department has made. It is putting necessary attention to
14 our freedom of maneuver and action inside space. General
15 Raymond and I speak frequently. We are setting up a set of
16 war fighter talks here in the very near future. And I am
17 encouraged across the board that it improves mission
18 performance overall, particularly his responsibilities as
19 the sensor manager, looking across missile warning, missile
20 defense, and space situational awareness. The nation wins
21 because we are more effectively utilizing our assets.

22 Senator Cramer: Very well said.

23 General O'Shaughnessy, so again same, basically
24 because obviously the relationship between Space Command
25 and STRATCOM is special, but yours is awfully important as

1 well.

2 General O'Shaughnessy: Yes. Thank you, Senator.

3 I am excited about both the Space Force and U.S. Space
4 Command. I think we are already starting to see some of
5 the benefits of this. And I think we as a nation are very
6 fortunate to have a great American, Jay Raymond, leading
7 both of these at this time and really chartering the course
8 that these will take going into the future.

9 Specifically for us for homeland defense, from the
10 NORTHCOM role we are very much tied from the U.S. Space
11 Command side relative to those sensors. The very sensors
12 that Admiral Richard mentioned are the ones that we are
13 using for our own homeland defense.

14 And the second aspect is we look at warfighting as
15 space, a domain of warfighting, that occurs. And we are
16 talking about that in really relevant ways, and clearly
17 from a homeland defense aspect, that has significant
18 consequences.

19 And then from a U.S. Space Force, excited about the
20 potential there, as that has now been stood up, of how that
21 is going to allow us to really focus like a laser on space
22 going into the future.

23 Senator Cramer: Well, just following up a little bit
24 on that, one of the challenges I think, of course, is
25 actually manning, training, and equipping this force. And

1 I think the services all play a role in that, which I think
2 is somewhat unique to the way Space Force has been designed
3 to be successful. I certainly look forward to anything
4 that you can add to that discussion as well.

5 As I run out of time, I want you to answer that if you
6 have more to say about it, and then actually ask you about
7 our northern tier bases -- of course, I have three of them
8 in North Dakota -- and what we ought to be looking for in
9 terms of capabilities to meet a potential Arctic conflict
10 and to make sure that we are in sync with the strategy.

11 General O'Shaughnessy: Well, I would start first on
12 the Space Force. Clearly the intent is it is not just a
13 pulling away from just the United States Air Force but
14 actually looking within the Department of Defense where are
15 our space experts and how do we actually bring them into
16 the Space Force as well.

17 That aside, relative to your question on the Arctic,
18 we are actually excited about some of the things that we
19 are actually doing right now in your State to support our
20 Arctic operations. Clearly we see the future in our
21 defense of our nation is very critically dependent on our
22 ability to operate in the Arctic, our ability to have
23 domain awareness. So some of the things we are doing with
24 over-the-horizon radars are critically important for us to
25 have that domain awareness, that understanding of what is

1 happening on the approaches to our nation and in
2 cooperation with Canada through North America is critically
3 important. And whether you are talking hypersonics -- and
4 the over-the-horizon radars have great capability against
5 the hypersonics so we can maintain that custody -- or
6 whether we are talking about the cruise missile threats and
7 the bombers, those are all played because of some of the
8 work that we are doing within your State.

9 Senator Cramer: Well said, and I appreciate both of
10 you and yield back. Thank you, Mr. Chairman.

11 Chairman Inhofe: Senator Peters?

12 Senator Peters: Thank you, Mr. Chairman.

13 Admiral Richard and General O'Shaughnessy, your
14 command areas play a very important role in defending the
15 United States from the threat of ballistic missiles, and I
16 note that the Missile Defense Agency's budget request
17 discusses a layered approach to homeland defense as the
18 underlay to the current ground-based mid-course defense
19 system that protects the continental United States.
20 Specifically the MDA request discusses Aegis and THAAD as
21 potential options for a layered homeland defense approach.
22 But I am also interested in the potential for transportable
23 ground-based interceptors or other systems that can serve
24 as an underlay to existing GMD system and add flexibility
25 and depth in a cost effective way.

1 As you know, MDA has completed an environmental impact
2 statement of three locations to host a potential third GMD
3 site, including two fields at Fort Custer in Michigan,
4 which were identified as the least expensive and least
5 environmentally impacted site.

6 But the question for both of you is, can you please
7 discuss how you view the potential of a layered homeland
8 missile defense system, and what role would the three
9 locations, which MDA has already studied, play in this
10 layered system?

11 General O'Shaughnessy: Senator, I will start with
12 this.

13 First, I will talk to one of the reasons that this
14 demand signal is there, as we look at the cancellation of
15 RKV and the resulting timeline between now and when an NGI,
16 next gen interceptor, could be fielded. We have very
17 significant concerns about that from NORTHCOM. We have
18 been working closely with both MDA, as well as OSD R&E, Dr.
19 Griffin. And I am pleased to announce now that we are
20 bringing time in as a variable within that discussion. And
21 so what we are trying to do -- we cannot wait 10 years to
22 get the next gen interceptor fielded. We are trying to
23 bring that left, and so I think we will see, as the RFP
24 actually gets released, we are actually looking to bring
25 time left and get that fielded faster. And I think we are

1 in a good position there.

2 But that brings you to part of that mitigation, as the
3 threat continues to advance, is this layered defense
4 concept, which we very much support. And you see money in
5 the budget this year.

6 The initial concept, to your point, was to bring in as
7 an underlayer the ability to use, whether it be a THAAD
8 modified potentially with additional boost capability or
9 whether it be an SM-3 IIA missile that we could use in that
10 regard is existing capability that we could bring into the
11 homeland defense architecture to provide that ballistic
12 missile defense.

13 But the follow-on to that is, okay, we will understand
14 using that existing capability, but what is the capability
15 we could actually develop that might not be what we need to
16 deploy overseas but we could use specifically built for our
17 homeland defense. And that gets into the point where the
18 next iteration of the layered defense might be individual
19 weapon systems that are designed to be fielded within the
20 continental U.S. and in Alaska to defend the United States
21 using maybe the technology that is in our current systems
22 but portrayed a different way.

23 And I think all the work that has been done with all
24 of the continental interceptor sites will go into
25 potentially where we could put those, how we do those. So

1 I think it is just part of the information that we now have
2 as we look at this new approach with both the current GBI,
3 the NGIs, this layered defense with the current system,
4 additional system informed by some of the work that we have
5 done to include within your State.

6 Senator Peters: Great. Thank you.

7 Admiral, do you want to add anything?

8 Admiral Richard: Just very quickly. Missile defense
9 is deterrence by denial. We have a very clear national
10 policy on what it is designed for and what it is not
11 designed for. And so everything General O'Shaughnessy just
12 talked about not only allows him to execute his mission
13 responsibilities, but it is a part of the tailored
14 deterrent strategies that I am required by the Nuclear
15 Posture Review to develop. And so that is precisely the
16 path I think we need to go down. I would throw in sensing
17 is also a key piece as both of us have talked about.

18 Senator Peters: One final question. I am the ranking
19 member on the Emerging Threats and Capabilities
20 Subcommittee within this committee, and one area that I
21 have been focusing on are some of the ethics associated
22 with the military application of artificial intelligence
23 and automation in particular. And I know there are a
24 number of ethical concerns related to these weapons. And I
25 think the dilemma is represented by the threat that you

1 both identified in your written statements of Russia's
2 nuclear-capable autonomous underwater weapon, the Poseidon.
3 And I know what the threat is is all up to debate to talk
4 about.

5 But if we face time-sensitive threats in the U.S., are
6 we at a tactical disadvantage if we require human
7 involvement in our decision chain where our adversaries may
8 not do that?

9 General O'Shaughnessy: Senator, I will take that.
10 And what I would say is what we have to get away from is
11 what we now have as either the human in the loop or
12 sometimes the human is the loop in some of our systems to a
13 human on the loop. And what that will allow you to do is
14 actually make those decisions at the speed of relevance
15 because what can and should be done by machines and by AI
16 and leveraging that will be done by that. But it will
17 identify those key areas where we humans have to be the
18 ones ethically, morally making those decisions. And so I
19 think human on the loop is a concept we need to apply to
20 leverage that capability while not preventing ourselves
21 from operating at the speed of relevance.

22 Senator Peters: Thank you.

23 Chairman Inhofe: By the way, we have been notified
24 the first vote is underway. So we are going to try to get
25 to everybody here. Let us try to keep our remarks brief.

1 Senator Hawley?

2 Senator Hawley: Thank you, Mr. Chairman.

3 Thank you, gentlemen, for being here.

4 Admiral, let me start with you. As you know, we are
5 the proud home in Missouri of the Whiteman Air Force Base
6 and the B-2 bomber. Let me ask you about the Air Force's
7 budget request and the funding cuts for the B-2 defense
8 management system. Does that decision cause you any
9 concern about the B-2's ability to operate in high end
10 threat environments to the end of its service life?

11 Admiral Richard: Senator, I think it is a great
12 example of some of the difficult decisions that we are
13 going to have to make in trading or balancing near-term
14 risks for long-term risks. And so overall, the Air Force
15 is way ahead on the bomber program. Bomber road map I
16 think it is referred to I endorse. I think that is a very
17 thoughtful approach, and the loss of the defensive
18 management system -- we will accommodate that risk for the
19 greater gain the Air Force is going to provide overall.

20 Senator Hawley: That sounds like a yes to me. You
21 think that there is a risk that it will. There will be
22 some detriment to its ability to operate in high end
23 capacity.

24 Admiral Richard: There is but I can manage it.

25 Senator Hawley: What else do we need to ensure that

1 the B-2 maintains its ability to operate in those
2 environments if this decision goes forward?

3 Admiral Richard: That is part of the planning that I
4 have to do. So we will use operational mechanisms to
5 compensate for technological abilities of the aircraft. I
6 retain full confidence that the B-2 can do the missions
7 that I will ask it to do.

8 Senator Hawley: Great. Well, I will be following up
9 with you on that.

10 General, let me turn to you for a second. Russian
11 bombers make regular visits to our coastlines we know.
12 What role would you say that the F-15EX could play in
13 protecting our homeland against these and other threats in
14 the decades that are coming?

15 General O'Shaughnessy: One of the things that we do
16 see is it is not only the increasing frequency but also the
17 complexity of how they are maneuvering and the missions
18 that they are flying. Some of it has to do with where we
19 would need to go to intercept them based on the length of
20 their missiles that they carry, the range that the missiles
21 now have. For example, the S-23 is an example of a long-
22 range missile. What that means is we want to intercept
23 them further out. We want to go further so that we can not
24 only get the missiles. We want to hit the bombers so that
25 they never actually get to launch them.

1 And so the F-15EX brings us that. It brings us that
2 extended range that we can get with the F-15EX, as well as
3 a much significant improvement in the number of missiles it
4 can carry. So we see that from a homeland defense aspect.
5 We see that new platform as being well suited for the
6 homeland defense role in both our counter-cruise missile
7 defense, our counter-airborne threats such as the Russian
8 bombers.

9 Senator Hawley: Great. That is great to hear.

10 Admiral, let me come back to you and let us talk a
11 little bit about nuclear policy. Are you confident that
12 Beijing would stick to its announced no-first-use policy if
13 there were a conflict with the United States?

14 Admiral Richard: Senator, I think I could drive a
15 truck through that no-first-use policy.

16 Senator Hawley: And why do you say that?

17 Admiral Richard: In other words, I am not trying to
18 be flippant on a very serious matter. Right? The number
19 of situations where they may conclude that first use has
20 occurred that do not meet our definition of first use -- I
21 should back up. They are very opaque about what their
22 intentions are. They are very different from the Russians.
23 We have very little to go on in terms of how they interpret
24 that relative to what we see from the other competitor.

25 So what constitutes first use? Where might they say

1 we are actually not -- that is our territory. Therefore,
2 it does not count as an attack against you.

3 And more broadly, the Soviet Union had a no-first-use
4 policy. I do not think we took great comfort in that
5 either.

6 And so the declaratory policy things are not helpful
7 in my mission area to deter.

8 Senator Hawley: That is very helpful and I think is a
9 great point for those who would advocate a no-first-use
10 policy on our end as to why that that would be I think a
11 very serious strategic mistake.

12 Let me give you, Admiral, still on the same subject an
13 opportunity to clarify something. A senior U.S. official
14 recently was reported as saying -- and I am quoting now --
15 the sole reason the United States has nuclear weapons is to
16 prevent others from using nuclear weapons. That does not
17 seem to be exactly what our declaratory policy is. Can you
18 clarify what our declaratory policy is?

19 Admiral Richard: So the Nuclear Posture Review lays
20 it out very clearly in terms of our strategic capabilities
21 are designed to deter a strategic attack on the United
22 States, which can be nuclear, but I think it wisely
23 acknowledged the fact that it now may be possible to have a
24 strategic attack against our vital interests that is non-
25 nuclear, particularly in space and cyber.

1 Senator Hawley: Right. So we will only consider the
2 employment of nuclear weapons in extreme countries to
3 defend our vital interests or those of our allies or
4 partners, and those circumstances could include, as you
5 just said, significant non-nuclear strategic attacks. Is
6 that correct? Am I getting that correct?

7 Admiral Richard: That is correct.

8 Senator Hawley: Great.

9 Admiral, I have got another question for you about the
10 W-76 TAC 2. I will submit that for the record because I am
11 about out of time.

12 Thank you, Mr. Chairman.

13 Chairman Inhofe: Thank you very much.

14 Senator Jones?

15 Senator Jones: Thank you, Mr. Chairman.

16 And thank you both for your service. In particular,
17 Admiral Richard, as one Alabama native to another, thank
18 you for your service. Alabama is very proud of you and so
19 is the University of Alabama Roll Tide. I just thought I
20 would throw that in real quickly. I know you appreciate
21 that.

22 The other thing that folks in Alabama are particularly
23 proud of these days is our 117th air refueling wing, which
24 as you know, won the prestigious STRATCOM Omaha Trophy this
25 past year. And I want to take the opportunity to

1 congratulate Colonel Scott Grant, the commander there -- he
2 has just done an amazing job -- Command Chief Master
3 Sergeant Davis and the other airmen. I think sometimes our
4 National Guard unit is going to get overlooked in the
5 scheme of things, and I so much appreciate them winning
6 that award. It is the first time a guard unit has won that.

7 Can you talk a little bit about the critical role that
8 the unit plays in the strategic deterrence mission that we
9 have?

10 Admiral Richard: Senator, I just would highlight.
11 That is a very competitive award, and it speaks highly of
12 that wing's ability to compete in that broad a competition.

13 Air refueling is vital. I am not an airman, but no
14 gas, no bombs. And so it is critical to my mission set for
15 the bomber leg to have adequate tanking capacity. General
16 O'Shaughnessy will tell you here in a second it is equally
17 critical in his areas for homeland air defense. And it is
18 something we pay very close attention to in terms of having
19 capability in the right priority to meet those missions

20 Senator Jones: Great. Well, thank you.

21 This past Monday, the President's budget request and
22 the briefings that we got indicated that the Air Force
23 intends to divest several aging aircraft, namely 17 B-1
24 bombers, 16 KC-10 tankers, 13 KC-135 tankers. And to
25 replace the tankers, the budget asks for 15 KC-146's, but

1 those are not going to be fully operational for another 3
2 years.

3 So with the delay in the operational capability status
4 of the KC-46's, does this in any way -- does this
5 divestiture of these legacy tankers pose any kind of threat
6 to the reliable in-air refueling capability of the joint
7 force? And I will ask either or both of you that question.

8 General O'Shaughnessy: I will start, Senator, and say
9 in this year's budget, I think our United States Air Force
10 made some difficult decisions in how do we get to the
11 future faster. This is just one of those decisions where
12 we are trying to divest yourselves of legacy platforms
13 while moving to the future, in this case the KC-46. And so
14 while, yes, there will be an impact in the short term to
15 the availability of tankers, we will be able to mitigate
16 our way through that. We still are working closely,. In
17 fact, I talked to the TRANSCOM commander just yesterday
18 about this. I believe we will be able to mitigate that
19 going forward. But it is crucial that we are able to get
20 to the KC-46 and multiple other modern platforms that the
21 Air Force is trying to get to.

22 Senator Jones: Great. Well, thank you. Thank you
23 both for being here.

24 Mr. Chairman, in the interest of time, I will yield
25 back. Thank you.

1 Chairman Inhofe: I appreciate it.

2 We will now recognize Senator Sullivan. At the
3 conclusion of his remarks, we will be adjourned. Senator
4 Sullivan presiding.

5 Senator Sullivan [presiding]: Thank you, Mr.
6 Chairman.

7 Thank you, gentlemen, for your service.

8 General O'Shaughnessy, I particularly appreciate your
9 testimony. It was probably the most comprehensive,
10 insightful description of our strategic interests in the
11 Arctic that I have seen. In your testimony, you say the
12 Arctic is the new front line of homeland defense. It
13 sounds like you are saying that the Arctic and Alaska are
14 no longer a sanctuary from which we can safely project
15 power, but it is more of a battle space area. Is that
16 correct? And what are the implications from your mindset
17 as the NORTHCOM Commander?

18 General O'Shaughnessy: That is exactly correct,
19 Senator. And as always, I find myself well aligned with
20 you relative to the importance of the Arctic. It is not
21 only from the strategic location that it is, but now, to
22 your point, it is clearly an avenue of approach to our
23 great nation. And as we look at what --

24 Senator Sullivan: That impacts the whole nation.

25 General O'Shaughnessy: It impacts the whole nation,

1 absolutely.

2 And so as we look at now Alaska where -- I will just
3 use the Russian long-range aviation. Whether it be
4 hypersonics or whether it be the cruise missiles that can
5 be launched from that long-range aviation, we clearly see
6 that avenue of approach as being critical. So we have to,
7 one, have awareness of what is going on in that space, and
8 then we have to be able to defend in that space. And the
9 time that will be required to respond is short because of
10 the pure geography.

11 And so I think what we really need to think about in
12 Alaska is how do we invest to have that domain awareness,
13 having the right sensors and ability to understand what is
14 happening, but also the ability to defend immediately and
15 what are the systems that we could invest in that would
16 allow us to have that persistent defense in Alaska because
17 it is key terrain that will be important to us as a nation
18 in any conflict whether that be with Russia or China going
19 forward.

20 Senator Sullivan: Thank you.

21 Let me go on to a little bit more detail. You know,
22 it seems from whether it is Secretary Pompeo's speech in
23 Finland at the Arctic Council, major publications like "New
24 York Times," 60 Minutes -- you know, there is a lot of
25 discussion about the great power competition in the Arctic.

1 I appreciate Senator King highlighting that in his
2 questions for you.

3 You know, unfortunately, this committee has observed
4 that the Pentagon is the organization that sometimes seems
5 the furthest behind, with the exception of certainly your
6 great advocacy, General O'Shaughnessy.

7 In your personal opinion and the advocate for the
8 capabilities in the region, what specific capabilities are
9 you advocating for to ensure that we can both protect the
10 homeland in these avenues of approach that you talked
11 about, but also to continue to project power from Alaska to
12 not just PACOM but EUCOM, STRATCOM? And if you can talk on
13 JPARC and even OCONUS KC-46 deployments, that would be
14 helpful as well, in terms of capabilities.

15 General O'Shaughnessy: Thank you, Senator.

16 First, I would say we have to complete the next
17 generation interceptor. We have literally holes in the
18 ground right now that we need to fill with capabilities.
19 So we need to bring that left, and we need to bring that as
20 fast as possible.

21 We need to augment that with additional ballistic
22 missile capability that we could put in Alaska, whether
23 that be SM-3 IIA's, whether that be potentially THAAD
24 deployments there. We need to bring that into Alaska. And
25 we need a sensing capability that will be persistent, that

1 will be steady state, that will always be there. We have
2 the technology today. We just have to deploy it to Alaska.

3 The second thing I think we need -- and I would
4 applaud the Air Force for moving the additional fifth gen
5 aircraft, the F-35's, to Eielson. It is now truly the
6 fifth gen center of excellence. And therefore, you need a
7 place to train. And so I think continued investment in the
8 JPARC range is critically important not only for fifth gen,
9 but for the Arctic. And Arctic Edge upcoming exercise we
10 have with great participation -- for example, from the
11 marines --I think is critically important because the joint
12 force needs to train in Arctic conditions.

13 I make the observation that we can deploy a force
14 anywhere, all over the world, and we can train that force
15 very quickly and have them out the door in a matter of
16 days. You cannot do that to the Arctic. If you are not
17 training, if you do not have the right equipment, and if
18 you are not versed in operating in the Arctic, you will not
19 effectively be able to operate there. And our adversaries
20 are operating there, and therefore, we need to be able to
21 operate there as well. To your point, it is now a battle
22 space, and so we need to be able to operate in Alaska in
23 the Arctic in cooperation with Canada from the NORAD side.

24 And so I think continued investment. The tankers are
25 important because it is a strategic place where you can

1 actually get to the European theater quicker than you can
2 even get to the South China Sea from Alaska. And
3 therefore, having that as a center where we have robust
4 tankers is important, as well as the entire joint force I
5 think just continuing to be able to operate.

6 Senator Sullivan: The Secretary of Defense said that
7 if you collocated the over 100 fifth gen fighters that we
8 are going to have in Alaska with the OCONUS deployment of
9 KC-46's, it would show that our adversaries -- that we
10 would have extreme strategic reach whether in PACOM or
11 EUCOM. Do you agree with that?

12 General O'Shaughnessy: I do believe there is a
13 powerful synergy of bringing together the fifth generation
14 with additional and modern day tanker capability.

15 Senator Sullivan: Let me ask one final question for
16 both of you. Actually just two real quick ones.

17 In our office call, you talked about your number one
18 unfunded priority for some type of space-based
19 communications for the Arctic. Can you just briefly touch
20 on that?

21 General O'Shaughnessy: Thank you, Senator, for
22 allowing us to highlight that.

23 One of my main concerns in the Arctic is
24 communication. Basic communication that we normally use
25 satellites for becomes challenged above about 65, even

1 harder above 70.

2 One of the things we find is the commercial technology
3 is there. And so we have been working with commercial
4 companies over the proliferation of LEO and finding ways
5 that we might be able to bring that ability to have
6 essentially broadband connectivity anywhere, for example,
7 within Alaska. And that is a huge implication for us to be
8 able to operate if we can connect the force in areas that
9 today we cannot connect the force even through our
10 commercial partners.

11 And so whether it OneWeb or whether it is Starlink, we
12 think, for example, in some of our partnership with
13 Starlink over the last several experiments that we have
14 done, for example, at Eglin where we are able to show our
15 ability to connect that force with their satellites -- this
16 is not hypothetical. This is satellites that are in orbit
17 today.

18 Senator Sullivan: But it is your number one unfunded
19 priority because that is not just protecting the comms in
20 the Arctic. That protects the whole homeland in terms of
21 the avenue of approach concern that you talked about.

22 General O'Shaughnessy: That is exactly right,
23 Senator. It is my number one priority to have Arctic coms,
24 and I think the proliferation of LEO and a Starlink or a
25 OneWeb type solution is the way to get it fastest.

1 Senator Sullivan: Final question for both you,
2 gentlemen, and it is a just a quick answer on this. But I
3 have been frustrated with Under Secretary Griffin. You
4 know, I think we are seeing really smart guys in the
5 Pentagon making dumb decisions. Let me give you one. It
6 was already briefly touched on.

7 This committee has worked really hard in a bipartisan
8 way with the administration fully supporting it to build up
9 our missile defense. There has now been a decision
10 recently, despite the fact that we just built 20 new silos
11 at Fort Greely, to make those empty for the next 10 years.
12 I cannot think of something that is unequivocally more --
13 well, that is just going to harm our readiness in terms of
14 missile defense. I mean, there is no dispute about that.
15 20 empty silos for 20 years.

16 How do we fix that gap, fill that, and correct what to
17 me seems like just kind of a boneheaded decision at the
18 upper levels of the Pentagon?

19 General O'Shaughnessy: Senator, first I will say that
20 the unfortunate decision to cancel the RKV was the right
21 decision that was made at that time --

22 Senator Sullivan: But do you agree to have 20 empty
23 silos for 10 years?

24 General O'Shaughnessy: No, sir. What I am very
25 dissatisfied with is it is going to take us 10 years to

1 actually produce the next gen interceptor. And so we have
2 been working very closely with MDA and Dr. Griffin
3 personally. I met with him on Monday. And I am pleased to
4 announce that we are going to bring this left. The way we
5 will have to do that is we will have to find some trade
6 space, but we have to put time as an important part of this
7 because our adversaries are not waiting. Our adversaries
8 are building capability and capacity. And so we have to be
9 able to respond. So we are going to insert time into this
10 so that we are going to have trade space developed so we
11 can bring missiles to put, interceptors to put into those
12 holes sooner.

13 Senator Sullivan: Thank you.

14 Admiral, any views on that?

15 Admiral Richard: I would just say that General
16 O'Shaughnessy described that very well. We both have a
17 role in setting the requirements for missile defense.
18 Those requirements are valid, and General O'Shaughnessy
19 just laid out how we are going to meet those.

20 Senator Sullivan: Well, I believe this committee will
21 be supportive of any role that we can play in support to
22 help fill that gap, which I think is important for the
23 nation's missile defense overall.

24 Thank you very much, gentlemen. We all appreciate
25 your testimony.

1 This hearing is now adjourned.

2 [Whereupon, at 10:57 a.m., the hearing was adjourned.]

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25