

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

HEARING TO RECEIVE TESTIMONY ON UNITED STATES STRATEGIC
COMMAND IN REVIEW OF THE DEFENSE AUTHORIZATION REQUEST
FOR FISCAL YEAR 2019 AND THE FUTURE YEARS DEFENSE PROGRAM

Tuesday, March 20, 2018

Washington, D.C.

ALDERSON COURT REPORTING
1155 CONNECTICUT AVENUE, N.W.
SUITE 200
WASHINGTON, D.C. 20036
(202) 289-2260
www.aldersonreporting.com

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8
9 U.S. Senate
10 Committee on Armed Services
11 Washington, D.C.

12
13 The committee met, pursuant to notice, at 9:24 a.m. in
14 Room SH-216, Hart Senate Office Building, Hon. James M.
15 Inhofe, presiding.

16 Committee Members Present: Senators Inhofe
17 [presiding], Wicker, Fischer, Cotton, Rounds, Ernst, Tillis,
18 Cruz, Sasse, Scott, Reed, Nelson, McCaskill, Shaheen,
19 Gillibrand, Blumenthal, Donnelly, Kaine, King, Heinrich,
20 Warren, and Peters.

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

3 Senator Inhofe: Our meeting will come to order.

4 The committee today is meeting to hear testimony on the
5 posture of the U.S. Strategic Command, and we welcome our
6 witness, General Hyten, Commander of STRATCOM.

7 The Trump administration's National Defense Strategy
8 prioritizes in reemergence of long-term strategic
9 competition. Nowhere is this reality more evident than in
10 Russia and China intensifying their efforts in the nuclear,
11 cyber, and space domains, which are a focus of a Strategic
12 Command mission.

13 The Nuclear Posture Review released last month orients
14 our nuclear enterprise to address these strategic
15 competitors. The NPR offers continuity in the U.S. nuclear
16 modernization efforts and wisely advocates developing
17 additional capabilities to achieve our fundamental goal of
18 nuclear deterrence.

19 Our potential adversaries are not standing still. In
20 his recent state of the nation address, Putin unveiled new
21 nuclear weapons, including heavy, mobile ICBMs and
22 hypersonic glide vehicles. Meanwhile, Russia's continued
23 violations of both the INF and Open Skies treaties threaten
24 to undermine strategic stability.

25 And then there is China. China is rapidly expanding

1 its missile forces, including development of new ICBM
2 capabilities and advanced ballistic missile submarines. It
3 recently developed a new nuclear capable strategic bomb,
4 achieving a nuclear triad for China.

5 Beyond our strategic competitors threats from North
6 Korea and Iran persist. In particular, recent North Korean
7 missile tests suggests that they are capable of striking the
8 homeland with an ICBM. I would say I am more optimistic now
9 about North Korea than I was just a short while ago. I
10 think our response to North Korea's threat was one that
11 actually produced some good results. So I think that right
12 now I really believe that the meeting is going to take place
13 with Kim Jong-un and our President.

14 Russia and China are also increasingly active in space,
15 intent on challenging our domain superiority to achieve an
16 asymmetric advantage. Both countries invested significant
17 resources in anti-satellite ISR, direct energy, jamming, and
18 cyber capabilities. We have got to do more to meet these
19 challenges.

20 Thank you for being here, General Hyten.

21 Senator Reed?

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1 STATEMENT OF HON. JACK REED, U.S. SENATOR FROM RHODE
2 ISLAND

3 Senator Reed: Well, thank you very much, Mr. Chairman.

4 And, General Hyten, thank you for your service to the
5 country and for testifying on the posture of the United
6 States Strategic Command as we prepare for the fiscal year
7 2019 National Defense Authorization Act.

8 I would like to hear from you about a number of topics
9 based on your office call with me last week. Thank you
10 again for making time.

11 First and foremost is the administration's Nuclear
12 Posture Review. It adopts many of the same premises as the
13 2010 posture review that we will not use nuclear weapons
14 against nations in good standing under the Nuclear
15 Nonproliferation Treaty, but we always reserve the right in
16 cases of extreme circumstances to use nuclear weapons. It
17 affirms the importance of nonproliferation but places an
18 emphasis on the changed threat conditions that exist today
19 versus 2010. It reaffirms the importance of the 2010 review
20 and modernizing the triad of delivery platforms and weapons
21 and their nuclear command, control, and communication, or
22 NC3 systems. But it also proposes two supplemental systems:
23 a low-yield submarine-launched ballistic missile and a sea-
24 based cruise missile which was dropped in the 2010 posture
25 review because it was not being deployed and maintained. I

1 am referring to the sea-based cruise missile.

2 While I agree with much of the NPR, I have concerns
3 about the low-yield submarine-launched warhead. It is my
4 understanding that this system is in response to Russia's
5 military doctrine of using a small-yield nuclear weapon as a
6 means to escalate to deescalate or escalate to win a
7 conventional conflict. The Russian doctrine of escalate to
8 deescalate could easily spin out of control if our response
9 to their low-yield weapon is to use a similar one which
10 could escalate into exchange of larger weapons. We have to
11 devote considerable effort to war-gaming this problem and
12 ensure that existing systems, both conventional and nuclear,
13 cannot meet this doctrinal challenge of escalate to
14 deescalate.

15 In any case, such a proposal certainly opens up a
16 debate of deeply held opinions. While this debate may be
17 important to have -- I think it is important to have, indeed
18 -- I worry that it may disrupt the bipartisan consensus that
19 presently ensures the modernization of the triad and NC3
20 system. This process will take decades and I believe it
21 should be our highest priority and sole focus.

22 Beyond the nuclear mission, General, you also have an
23 increasingly important space mission. I realize much of
24 this is classified, but it is imperative that you
25 communicate in an appropriate format what this budget

1 request proposes and how it addresses the threats we face.

2 You are also responsible for synchronizing global
3 missile defense plans and operations. I would like to hear
4 your thoughts on the state of our homeland and regional
5 systems, how we need to improve reliability and address
6 advancing threats.

7 Your command is also responsible for spectrum
8 operations and electronic warfare. I would like to know
9 what your command has been advocating to make this
10 integrated effort across the Department of Defense.

11 Strategic Command, as its name implies, is about
12 deterrence with near-peer competitors. Today, deterrence is
13 a seamless continuum between land, sea, air, electronic
14 spectrum, and space. You have many issues on your plate,
15 and I look forward to your testimony.

16 Thank you very much, sir.

17 Senator Inhofe: General Hyten, you are recognized for
18 an opening statement. Your entire statement will be made a
19 part of the record.

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1 STATEMENT OF GENERAL JOHN E. HYTEN, USAF, COMMANDER,
2 UNITED STATES STRATEGIC COMMAND

3 General Hyten: Thank you, Senator Inhofe, Ranking
4 Member Reed, members of the committee. I am honored to be
5 here today in a continuing privilege for me to represent the
6 184,000 Americans, the 184,000 men and women performing the
7 missions of U.S. Strategic Command every day.

8 I want to start by thanking you for your enduring
9 support to our nation's defense.

10 As we sit here today, it is important to note that the
11 appropriations bill funding our military is still awaiting
12 full approval by the Congress. Passage of this bill is
13 essential in ensuring our Department maintains the ability
14 to field the most lethal, capable, and resilient military in
15 the world. I remain optimistic that Congress will pass this
16 bill as the existing continuing resolution expires this
17 Friday. Reliance on continuing resolutions in lieu of
18 stable budgets delays mission-critical modernization,
19 degrades troop morale, and impedes readiness recovery. But
20 I am grateful for this committee's continued support. But
21 timely budgets are essential in order to ensure our all
22 volunteer force remains fully trained and equipped to
23 address the nation's existing and emerging future threats.

24 The first most important message I want to deliver
25 today is that the forces under my command are fully ready to

1 deter our adversaries and respond decisively should
2 deterrence ever fail. We are ready for all threats. No one
3 should doubt this. We just have to make sure that the
4 future STRATCOM commanders that come after me will always be
5 able to make this statement.

6 STRATCOM is a global warfighting command. We set the
7 conditions across the globe as the ultimate guarantor of our
8 national and allied security. Our forces and capabilities
9 underpin and enable all other joint force operations.
10 STRATCOM forces are dispersed across the globe, under the
11 sea, on the land, under the land, in the air, across cyber
12 and into space. The men and women of this command are
13 responsible for strategic deterrence, nuclear operations,
14 space operations, joint electromagnetic spectrum operations,
15 global strike missile defense analysis and targeting and
16 still cyberspace operations until Cyber Command is elevated.

17 Today, our country is challenged by multiple
18 adversaries with an expanding range and capabilities
19 available to them. To maintain military superiority in this
20 multipolar, all-domain world, we must out-think, out-
21 maneuver, out-partner, and out-innovate our adversaries.
22 Deterrence in the 21st century requires the integration of
23 all our capabilities across all domains, enabling us to
24 respond to adversary aggression anytime anywhere.

25 The bedrock of our nation's deterrence continues to be

1 our safe, secure, ready, and reliable nuclear triad. The
2 surest way to prevent war is to be prepared for it, and
3 while the current triad continues to provide the backbone of
4 our national security, we will eventually consume the last
5 remaining margin from our investments made during the Cold
6 War. And our modernization programs are critical and
7 include the B-21 bomber, the Columbia class ballistic
8 missile submarine, the ground-based strategic deterrent, the
9 long-range standoff cruise missile, nuclear command and
10 control, and life-extended nuclear warheads, which will
11 provide, without a doubt, the nuclear deterrent capability
12 that our nation needs now and well into the future.

13 The recently completed 2018 Nuclear Posture Review
14 reinforces and clearly defines longstanding national
15 objectives regarding nuclear weapons. From a warfighter
16 perspective, there is important consistency between the 2018
17 NPR and its predecessor. The biggest difference, as with
18 the recent National Defense Strategy, is the return to
19 threat-based planning and response to great power
20 competition. We started the NPR with assessment of the
21 threat -- it was all about the threat -- and based our
22 approach on what our adversaries are doing today and the
23 increasing challenges of the future. We have to remember
24 the strategic environment is dynamic. It changes
25 constantly. And our approach to deterrence must be equally

1 dynamic to address these evolving threats.

2 STRATCOM truly is a global warfighting command, and the
3 strength of its command is its people. The soldiers,
4 sailors, airmen, marines, civilians of this enterprise have
5 the most important mission in our entire Department and our
6 entire nation. Their hard work and dedication ensures our
7 nation's strategic capabilities remain safe, secure,
8 reliable, and ready. Sustained congressional support will
9 ensure we remain ready, agile, and effective in deterring
10 strategic attack assuring our allies and partners well today
11 and into the future.

12 So I thank you for the opportunity to be here, and I
13 look forward to your questions.

14 [The prepared statement of General Hyten follows:]

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1 Senator Inhofe: Thank you.

2 When a quorum is present, we are going to shift over
3 and do some confirmations, a brief interruption.

4 As you heard the opening statements from both Senator
5 Reed and myself, there is little difference of opinion in
6 terms of low-yield capabilities. Both China and Russia have
7 a robust nuclear arsenal and a triad of delivery systems, as
8 you said in your opening statement. And I think that China
9 and Russia are identified a little differently than the rest
10 of the threats. I think General Dunford said it the best
11 way. He said we are losing our qualitative and quantitative
12 edge.

13 The 2018 Nuclear Posture Review calls for the
14 development of a low-yield nuclear weapon in the range of
15 approximately 10 kilotons to counter Russia's tactical
16 nuclear weapons, weapons that are not controlled by New
17 START.

18 Now, when you talk about 10 kilotons, sometimes we have
19 to remember what is a kiloton. And I think Hiroshima was 15
20 kilotons. The Minuteman 3 is around 300-350 kilotons. So
21 you are talking about a capability that is not there right
22 now.

23 The New START limits both the United States and Russia
24 to 1,550 deployed strategic nuclear weapons. It has been
25 stated policy that since the early 2000s, that Putin could

1 use a nuclear weapon in a conventional fight to, using his
2 words, escalate to deescalate the conflict by using a
3 tactical nuclear weapon to halt hostilities. Now, I know
4 that some worry that this might lead to increased nuclear
5 proliferation.

6 But I would kind of like to hear from you what your
7 thoughts are. And this is a part of the posture review
8 right now. Do you think we ought to have a low-yield
9 capability?

10 General Hyten: So I strongly agree with the need for a
11 low-yield nuclear weapon. That capability is a deterrence
12 weapon to respond to the threat that Russia, in particular,
13 is portraying. President Putin announced as far back as
14 April of 2000 that the Russian doctrine will be to use a
15 low-yield nuclear weapon on the battlefield in case of a
16 conventional overmatch with an adversary.

17 Senator Inhofe: Let us say if we do not have one, the
18 only thing we could do, if we were to use a response, would
19 be a larger one in terms of kilotons.

20 General Hyten: So two limits in that is Henry
21 Kissinger recently said that if you do not have the right
22 response, you could put the United States in a position
23 where the two choices for the President would be surrender
24 or suicide, suicide if you escalate too high and the
25 escalation comes back at you, surrender if you do not have

1 the ability to respond.

2 We do have low-yield nuclear weapons in our arsenal.
3 They are with our aviation capabilities right now, but those
4 aviation capabilities may not be the right response in terms
5 of timeliness and survivability to get to where the threat
6 is. Therefore, to respond to the threat, we need a small
7 number of low-yield nuclear weapons that we can deploy on
8 our submarine-launched ballistic missiles, still in the New
9 START limits.

10 Senator Inhofe: And I remember the conversation we
11 had, when Kissinger was here, on that.

12 We talk a lot about the hypersonic threats that are out
13 there. Let us start off by -- give me a definition of a
14 hypersonic threat.

15 General Hyten: A hypersonic threat is a system that
16 starts out ballistic, and so you will see it like a
17 ballistic missile, but then it depresses the trajectory and
18 then flies more like a cruise missile or an airplane. So it
19 goes up into the low reaches of space and then turns
20 immediately back down and then levels out and flies at a
21 very high level of speed. That is hypersonic. That is a
22 hypersonic weapon.

23 Senator Inhofe: Do both or either Russia or China have
24 the hypersonic threat capability?

25 General Hyten: Both Russia and China are developing

1 hypersonic capabilities. We have watched them test those
2 capabilities. So both Russia and China are aggressively
3 pursuing hypersonic capabilities.

4 Senator Inhofe: If that happens, what kind of defense
5 do we have against a hypersonic threat?

6 General Hyten: Our defense is our deterrent
7 capability. We do not have any defense that could deny the
8 employment of such a weapon against us. So our response
9 would be our deterrent force, which would be the triad and
10 the nuclear capabilities that we have to respond to such a
11 threat.

12 Senator Inhofe: And then back to the triad, the
13 capability that we would have with ours -- when I talk to
14 people back home who are not really into these issues, but
15 they have heard of the B-52 and how old it is today and to
16 use that for the length of time that we anticipate we would
17 have to use that before we are able to replace that. What
18 do you think in terms of the age of the three elements of
19 our triad and their capability relative to those of China
20 and Russia?

21 General Hyten: So as you look across our force, you
22 can start with the B-52. It is such an amazing airplane.
23 The designers of the airplane were geniuses way before their
24 time. But it is basically a truck to carry weapons. It is
25 not a penetrating bomber. It will never be a penetrating

1 bomber. A penetrating bomber would be the B-21. We only
2 have a small number of B-2's. We need a larger number of
3 penetrating bombers. That will be the B-21. We will need a
4 new weapon to go on the B-52. We will need the long-range
5 standoff weapon.

6 I am concerned about our ICBM force about the 2030 time
7 frame and beyond. We replaced the propulsion, the guidance,
8 the electronics on that system 15 years ago or so, and by
9 2030, all of those capabilities will have aged out. We did
10 a detailed analysis that said the smartest thing we can do
11 is just buy new this time instead of trying to replace all
12 the components. We will have to do that.

13 The Ohio class submarine. At a certain point, it will
14 not go down under the water anymore. We need a new
15 submarine to replace that, and we need new command and
16 control and we need new weapons as well.

17 All those things come to fruition in the 2030s.

18 Senator Inhofe: Yes. Thank you, General Hyten.

19 Senator Reed?

20 Senator Reed: Well, thank you, Mr. Chairman.

21 Again, General, I think this is a very serious debate
22 about the new proposed systems, particularly the low-yield
23 submarine-launched ballistic missile.

24 As you indicated in your testimony, we have systems
25 that are even lower yield than the one we are proposing

1 today. They are generally airborne I believe, platform-
2 launched by an aircraft.

3 One of the things -- and we talked about this -- is
4 there will be -- my sense -- a reaction and reaction. This
5 will be a dynamic process. If there is a conventional
6 attack, I do not think we will sit back and wait till they
7 threaten to use a nuclear device. We will start positioning
8 our resources immediately. And some of those resources will
9 be low-yield nuclear weapons as a deterrent to their use of
10 weapons.

11 In that context, why can we not use something like the
12 long-range standoff weapon as a deterrent to the use of
13 small nuke by the Russians?

14 General Hyten: The answer is basically the reason we
15 have a triad. We have a triad to respond to the different
16 elements of the threat that Russia brings to bear. Russia
17 is going to have, in the unclassified world, at least 11
18 different delivery platforms for a low-yield nuclear weapon
19 that they can use in different places and different times.
20 Right now, we have one and that is an airplane. The
21 airplane can be positioned in the right place in order to
22 respond to that kind of threat, but an airplane is also
23 difficult. It has to fight through a denied environment.
24 It has to work in different areas.

25 As we worked through the various gaming of the

1 responses that the Russians may have to those capabilities,
2 we felt strongly that we needed another delivery option. So
3 a small number of low-yield nuclear weapons on the
4 submarine-launched ballistic missile, still under the 1,550
5 deployed strategic nuclear weapons under the START treaty.
6 In other words, we will take a big weapon out of a submarine
7 and put a small weapon back in, still the same kind of
8 structure. We believe that will give future adversaries
9 significant pause before they act.

10 Senator Reed: Again, I think the whole issue -- and
11 you put your finger on it -- is deterrence. And the flip
12 side of that is that even if we have these new systems, if
13 they make, I think, the extraordinary error of using a
14 nuclear device, we respond. There is at least the option on
15 the other side -- as you point out, they have multiple
16 launching devices and multiple nuclear warheads -- is to
17 maybe try a second one which we try a second one. And
18 again, we get into this nuclear escalation scenario, which I
19 think we are concerned about.

20 And this is an issue I would like to say -- I think it
21 is a point we have to really think very, very clearly about
22 and share with you your thoughts and the gaming that you
23 have done and analysis you have done to see -- again, for
24 the public to vet this. So I look forward to doing that
25 with you.

1 One of the other proposals is the sea-based nuclear
2 cruise missile. And as you know, in 2010, the prior NPR
3 canceled the submarine-based cruise missile because the Navy
4 literally had it in storage, and NNSA was not modernizing
5 its warheads. So it seemed to be sort of obsolete in
6 effect.

7 We have got some criticism from our colleagues, our
8 allies, the South Koreans and the Japanese, because they see
9 this as a very effective extended deterrent.

10 Can you just state the military requirement now for
11 bringing back this system?

12 General Hyten: Yes, sir.

13 The threat is from both Russia and China that drives
14 the need for the sea-launched cruise missile. We have not
15 made a decision yet about how to base that, whether it is on
16 a surface ship or a submarine. We will look at that. Part
17 of the 2019 budget request is to start down that process and
18 decide what the best basing for that would be.

19 I can tell you the details in a classified session of
20 why we believe the threat demands it, but I can tell you the
21 threat is clear and I believe we need that to respond to the
22 threat that is there.

23 Senator Reed: Thank you, sir.

24 Just a final question is that we mutually rely upon
25 NNSA to create the nuclear pits and all the other basic

1 components of our nuclear missile response. Your
2 predecessor, General Keller, indicated that he had some
3 doubts about the ability of NNSA to do this given the
4 ongoing debate about whether production would be in Los
5 Alamos or elsewhere or what kind of production, the big box
6 or the small box. Do you share those concerns?

7 General Hyten: Well, I still have concerns. Those
8 concerns have not gone away.

9 However, you should know that the Director of NNSA,
10 Lisa Gordon-Hagerty -- the first day that she took the oath,
11 the first call she made was to me to commit that NNSA and
12 the Department of Energy was fully on to deliver the
13 capabilities that we need. As the STRATCOM Commander, my
14 requirement for a future capability is that we need to build
15 to 80 plutonium pits by 2030 in order to build out the
16 nuclear weapons profile. I think that has been well
17 studied, understood. We can talk about that further later
18 if you desire.

19 But I still am concerned because the infrastructure is
20 challenged, but the current leadership in DOE has made a
21 commitment to me that they will go after that. I guess the
22 concern that I have left over is we do not have a lot of
23 margin there, and anytime we do not have a margin, I am
24 concerned.

25 Senator Reed: Thank you, sir.

1 Thank you, Mr. Chairman.

2 Senator Inhofe: I ask the committee to consider a list
3 of 2,901 pending military nominations. All of these
4 nominations have been before the committee the required
5 length of time.

6 Is there a motion to favorably report this list of
7 2,901 pending military nominations to the Senate?

8 Senator Reed: So moved.

9 Senator Inhofe: Is there a second?

10 Senator Fischer: Second.

11 Senator Inhofe: All in favor, say aye.

12 [Chorus of ayes.]

13 Senator Inhofe: All opposed, no.

14 [No response.]

15 Senator Inhofe: The motion carries.

16 Senator Fischer?

17 Senator Fischer: Thank you, Mr. Chairman.

18 Thank you, General, for your service to this country,
19 and I thank you for representing the men and women under
20 your leadership.

21 The NPR states, quote, if Russia returns to compliance
22 with its arms control obligation, reduces its non-strategic
23 nuclear arsenal, and corrects its other destabilizing
24 behaviors, the United States may reconsider the pursuit of
25 an SLCM. End quote.

1 However, in the debate, this statement has lost some of
2 its nuance, and some now describe the SLCM as purely a chip
3 to bargain for Russia's return to compliance with the INF
4 Treaty.

5 Can you clarify this? And if Russia returned to
6 compliance with the INF Treaty and otherwise maintained its
7 current course with respect to non-strategic nuclear
8 weapons, would it be your best military advice to cancel the
9 deployment of the SLCM?

10 General Hyten: Senator, I agree with my boss,
11 Secretary Mattis. I do not like the term "bargaining chip."

12 The capabilities that we proposed in the Nuclear
13 Posture review are in response to the threat. Everything
14 that we talked about, including the low-yield nuclear weapon
15 and the sea-launched cruise missile, are in response to a
16 threat.

17 If that threat changes, then my military advice will
18 change. But if that threat does not change, my military
19 advice will stay that we need those capabilities in order to
20 respond to the threat. I am not a diplomat. I am not a
21 politician. Diplomats need to work those issues with our
22 adversaries. I hope that they do, but my job as a military
23 officer is to look at the threat, understand the threat, and
24 propose capabilities to this body to deliver to the military
25 so we can respond to any threat that exists. It is all

1 about the threat.

2 Senator Fischer: And while we are on the topic of
3 Russia's violations of the INF Treaty, your opening
4 statement reads, quote, Russia's violation of the treaty
5 with the development of the SSC-8 ground-launched cruise
6 missile remains a significant issue as delivery of the
7 treaty-violating system continues.

8 And when you say delivery of the treaty-violating
9 system continues, do you mean that Russia is continuing to
10 produce and deploy the illegal system in greater numbers?

11 General Hyten: Yes, ma'am.

12 Senator Fischer: Since the NPR's release, some, the
13 Russian Government in particular, deny that Russia genuinely
14 has an escalate to deescalate strategy. And I think you
15 were questioned by a member of the Russian embassy staff on
16 this point during a speech that you gave last month.

17 Do you agree with the NPR's assessment that the
18 escalate to deescalate strategy reflects that Russian
19 doctrine?

20 General Hyten: I guess I will say that I watch very
21 closely what President Putin says, and I watch very closely
22 what the Russian military does in response. President Putin
23 in April of 2000 -- April of 2000 -- almost 18 years ago,
24 President Putin said that the doctrine of Russia will be to
25 use nuclear weapons on the battlefield in a conventional

1 scenario. And that has been the continuing doctrine of
2 Russia for almost 18 years. This is nothing new.

3 We need the ability to effectively respond to that. We
4 need the ability to deter that. We do not want that to ever
5 happen. There is no such thing as a tactical nuclear weapon
6 in my opinion. There is no such thing as a conventional
7 nuclear weapon. All nuclear weapons are strategic, but you
8 need different kinds to respond to different threats.

9 Senator Fischer: And would you agree that when we are
10 looking at this continuous threat of a Russian doctrine to
11 escalate to deescalate that is based on the talk of their
12 senior leaders? It is based on the fact that they are
13 building weapons that are designed for this purpose and that
14 they do conduct training exercises.

15 General Hyten: There is no doubt that they do all of
16 those things. And when I have my intel -- I do not speak
17 Russian, but when I have my intels translate the Russian for
18 me, it is not escalate to deescalate. It is escalate to
19 win. It is escalate to win on the battlefield. And we have
20 to deter that kind of response. That cannot be allowed.

21 Senator Fischer: General, critics have made a variety
22 of arguments against the deployment of that low-yield
23 ballistic missile warhead on a submarine. In sum, they
24 believe the system is impractical because any use of the
25 weapon would enable the submarine to be detected, destroyed,

1 and they believe would initiate a full-scale nuclear war.

2 Can you speak to those arguments, sir?

3 General Hyten: Those arguments are not true, ma'am. I
4 can tell you in a classified forum how a submarine would
5 survive after launching. I can tell you how the Russians
6 would see it. I can tell you how they would respond to
7 that. I can also tell you that from a U.S. perspective,
8 when we see a launch of a missile, we can characterize that
9 threat. We understand where it is, where it is going. And
10 unless it is a massive attack from Russia, any other
11 scenario, there is actually a lot of time to respond, a lot
12 of time to characterize, and it will be the same way on the
13 Russian side. So each of those arguments are false. It is
14 better to discuss the answers in a classified session.

15 Senator Fischer: Thank you, sir, for addressing these
16 immense threats that we face.

17 General Hyten: Thank you, ma'am.

18 Senator Inhofe: Thank you, Senator Fischer.

19 Senator Nelson?

20 Senator Nelson: Good morning, General.

21 I am not too keen on ripping space out of the Air Force
22 and creating a space corps. Do you want to state your
23 position for the record?

24 General Hyten: So I think I have stated my position
25 many times. I think that some day we will have a space

1 corps or a space force in this country. But I do not think
2 the time is right for that right now. But I loved the fact
3 that the President talked about space as a warfighting
4 domain. I loved the fact that he embraces the fact that we
5 need to have a future that looks at this warfighting domain.

6 I am a big supporter of the bill that was passed by
7 Congress last year in the National Defense Authorization Act
8 that talks about looking at a space force and looking at
9 when that would be the right time and what elements would be
10 in place. I think the best example is the budget. The
11 budget that was submitted this year is an 18 percent
12 increase in space. Looking at warfighting, we are going to
13 get after those pieces. And so both the President and the
14 Vice President and Members of this Congress, everybody is
15 aligned with the threat. That is exactly where it should
16 be, Senator. Thank you.

17 Senator Nelson: So you gave a speech back in December
18 that the days of viewing space as a benign environment are
19 clearly behind us, and we need to maintain our lethal edge
20 in space. And you have said continually since then that in
21 order to maintain the edge, we have to move faster. Do you
22 think this is happening?

23 General Hyten: I see good signs. The good signs I see
24 is the leadership in the Department right now: Secretary
25 Mattis, Secretary Shanahan, Lord, Mike Griffin in R&E. I

1 see leadership in the Air Force and AQ that all believe in
2 going fast. I think the budget lays the groundwork for
3 going fast, but Senator, we have not done it yet. We have
4 not done any of that yet. We have not proven to anybody
5 that we can go fast again. We used to be able to do that.
6 We need to be able to do it again. We can do it again. But
7 we have to get out of our own way. But I am excited about
8 the leadership in the Department that has been put in place
9 to help lead that change.

10 Senator Nelson: General, I dare to touch the
11 politically sensitive topic of the JCPOA. If the President
12 were to unilaterally withdraw, what kind of impact is that
13 going to have on our global security environment?

14 General Hyten: So my job, Senator, is to look at that
15 treaty, look at what it does to our overall strategic
16 deterrent, work with the intelligence community, as well as
17 the broader interagency to evaluate whether Iran is in
18 compliance with JCPOA. And as I sit here today, Iran is in
19 compliance with JCPOA.

20 But JCPOA is about nuclear, and from a command that is
21 nuclear, that is an important piece to me because it allows
22 me to understand the nuclear environment better. But it
23 does not say anything about Iran as a global sponsor of
24 terrorism or Iran is building huge numbers of ballistic
25 missiles that threaten their neighbors and potentially us

1 some day. All of those will be the decision that a
2 policymaker has to make, but my job is to look at the
3 nuclear capabilities and make that recommendation, which I
4 have done.

5 Senator Nelson: If we were to pull out of the JCPOA,
6 does that send a message to North Korea?

7 General Hyten: Any action the United States makes
8 sends a message to everybody on the planet. So it will send
9 a message to North Korea. It will send a message to Russia,
10 China, our allies, Iran, Saudi Arabia. Everybody is
11 impacted. That is one of the differences in deterrence in
12 the 21st century is that it is no longer a single country
13 problem and a single issue problem. It impacts everybody.
14 So every decision has to be considered in concert with the
15 entire global environment.

16 Senator Nelson: General, you already discussed in
17 detail the threat of the hypersonics. Your answer was that
18 we need this submarine-based low-yield nuclear capability.
19 Is that the deterrent to hypersonics not only from Russia
20 but also China?

21 General Hyten: So that is where we stand today. But I
22 believe we need to pursue improved sensor capabilities to be
23 able to track, characterize, and attribute the threats
24 wherever they come from. And right now, we have a challenge
25 with that with our current space architecture and the

1 limited number of radars that we have around the world.

2 In order to see those threats, I believe we need a new
3 space sensor architecture. The Missile Defense Agency and
4 the Air Force are looking into that right now. There are
5 \$42 million in the fiscal year 2019 budget in the Air Force
6 line to look at that, alongside of MDA as a prototype. I am
7 going to advocate, as I have advocated for the last 30 years
8 that we need to move into space and be able to build sensors
9 to conduct both the characterization of these new threats
10 that are appearing, as well as discriminate better and
11 earlier the mid-course element of the threat that exists
12 today.

13 Senator Nelson: Mr. Chairman, in conclusion, I will
14 just say I am sure that General Hyten lays awake at night
15 after he has prepared all of this infrastructure up in space
16 to protect us, and then he sees the threat of cyber attacks
17 on that infrastructure, that that must keep you awake at
18 night, General.

19 General Hyten: All the threats keep me awake at night,
20 sir. I wish they did not.

21 Senator Nelson: Thank you.

22 Senator Inhofe: Thank you, Senator Nelson.

23 Senator Cotton?

24 Senator Cotton: Thank you, Mr. Chairman.

25 Thank you, General, for testifying once again in front

1 of our committee.

2 I want to return to something you said a few moments
3 ago. You mentioned the Vladimir Putin first started talking
4 about the use of nuclear weapons on the battlefield 18 years
5 ago. Is that right?

6 General Hyten: Yes, sir. I think it is worth going
7 through that entire history because it goes across multiple
8 administrations. It really talks about where Russia has
9 been for the last 18 years. In April of 2000, he announced
10 that the new doctrine of use of low-yield nuclear weapons on
11 the battlefield was part of the Russian doctrine. He also
12 announced a 50 percent increase that year in the budget for
13 nuclear capabilities. 6 years later, he announced that
14 Russia was going to modernize their entire nuclear arsenal
15 and build new weapons and they were going to be 70 percent
16 done by 2020. Dmitry Rogozin in 2015 came out and said we
17 are not going to 70 percent done. We are going to get 100
18 percent done by 2020. This has been a continuing pattern of
19 behavior that creates a threat to the United States that we
20 have to respond to. That is the work that we have been
21 doing, and that is what the Nuclear Posture Review does.
22 And I think it is a very measured response to the threat
23 that has been presented to us, much more measured than the
24 speech Vladimir Putin gave on the 1st of March.

25 Senator Cotton: So it is often perceived that Vladimir

1 Putin and his senior general staff's rhetoric on this is a
2 response to U.S. actions, especially post-2014 in their
3 Crimea invasion. But what you are saying is he first
4 started raising this in less than a year after he had taken
5 over leadership in Russia.

6 General Hyten: Almost immediately upon his first
7 election in 2000, he made this.

8 Senator Cotton: I think that is very telling. Now,
9 sometimes talk is cheap with politicians, but when that talk
10 is backed up by a substantial commitment of national
11 resources, you can usually accredit it. Would you say that
12 Russia has engaged in a substantial commitment of their
13 national resources to modernize their nuclear force over
14 these last 18 years?

15 General Hyten: An enormous of their national treasure.

16 Senator Cotton: And that threat is primarily driving
17 the 2018 Nuclear Posture Review for our country.

18 General Hyten: The Nuclear Posture Review is very
19 consistent with previous, but it addresses the threat
20 specifically.

21 Senator Cotton: Let me ask you this broad question
22 before you get into any details. So we have been doing
23 nuclear posture reviews for a while. We have been a nuclear
24 power for 73 years. Is there a single operating concept or
25 capability in the 2018 Nuclear Posture Review that is truly

1 innovative or not reflective of 73 years of tradition in
2 this country?

3 General Hyten: It is all consistent with what we have
4 been looking at from nuclear capabilities really since the
5 beginning of the nuclear age in August of 1945.

6 Senator Cotton: So let us now be specific on a few
7 points.

8 First, it has been this country's position for 73 years
9 that we would not foreswear the first use of nuclear
10 weapons. Is that correct?

11 General Hyten: That is correct.

12 Senator Cotton: And it remains so today.

13 General Hyten: And it remains so today.

14 Senator Cotton: Second, we have talked some about the
15 low-yield submarine-launched warhead. While that specific
16 capability may not have existed to this point on a
17 submarine, as you have testified before, we have had lots of
18 other low-yield weapons and we continue to have low-yield
19 air-launched or bomb warheads. Correct?

20 General Hyten: We used to have low-yield submarine-
21 launched weapons too. As I think Senator Inhofe talked
22 about, we did not maintain those going into the previous
23 Nuclear Posture Review.

24 Senator Cotton: Is that low-yield submarine-launched,
25 or is that sea-launched cruise missiles?

1 General Hyten: It was low-yield submarine-launched at
2 that time.

3 Senator Cotton: But we have also had sea-launched
4 cruise missiles before.

5 General Hyten: We have had sea-launched cruise
6 missiles before. None of those capabilities are new. They
7 are reintroducing previous capabilities that we felt were
8 needed to deter our adversaries and we believe we need to
9 deter those adversaries again.

10 Senator Cotton: Again, driven primarily by the threat
11 that Russia has posed by both the rhetoric and the reality
12 of their nuclear modernization, as you have testified today,
13 not just in the last year, not just in the last 9 years, but
14 going back 18 years across three prior administrations, the
15 Clinton administration, the Bush administration, and the
16 Obama administration.

17 General Hyten: That is true, but it is also important
18 to add China and North Korea into that equation because they
19 drive the threat as well.

20 Senator Cotton: I think that is an important point.
21 Almost all strategic discussions, certainly strategic arms
22 control negotiations revolve around the bilateral threat
23 between the United States and Russia. China is rapidly
24 modernizing its nuclear forces. Much of that happens in a
25 very clandestine fashion. So it is hard to say just how

1 dire that threat has become. Certainly when you add Russia
2 and China together, we do face the potential threat of
3 nuclear overmatch in the future.

4 And I have to say we do not have a good history of
5 estimating nuclear weapons programs. We usually, in the
6 last 73 years, have gotten it wrong when you look at
7 countries like the Soviet Union, like China, like India,
8 like Pakistan, and erred on the side of caution saying that
9 it would take them longer to develop those threats.

10 So I think it is very important what you are doing at
11 Strategic Command, what the entire administration has done
12 with this new Nuclear Posture Review to counteract those
13 threats that we face and to keep this country safe from ever
14 having to face a nuclear war. And the best way to do that
15 is to have nuclear overmatch against all of our adversaries.

16 Thank you.

17 General Hyten: Thank you, sir.

18 Senator Inhofe: Thank you, Senator Cotton.

19 Senator Shaheen?

20 Senator Shaheen: Thank you, Mr. Chairman.

21 General Hyten, thank you for being here and for your
22 constant vigilance.

23 I want to go back just quickly to a question that
24 Senator Nelson posed about Iran's nuclear capabilities,
25 recognizing that you are looking at it only from the nuclear

1 perspective, and I share your concern about their other
2 destabilizing activities. But in your assessment, are we
3 not better off with an Iran that does not have nuclear
4 weapons than we would be with an Iran that does have nuclear
5 weapons?

6 General Hyten: I would prefer nobody had nuclear
7 weapons. That would make my job a whole lot easier.

8 Senator Shaheen: I certainly agree with that. But on
9 the issue of Iran --

10 General Hyten: Would I prefer Iran without nuclear
11 weapons? Absolutely. I would prefer Korea without nuclear
12 weapons.

13 Senator Shaheen: Thank you.

14 General Hyten: I do not think nuclear weapons will
15 ever go away. But I believe in nonproliferation, and the
16 more nuclear weapons proliferate, the more difficult the
17 world is.

18 Senator Shaheen: Thank you very much.

19 I want to go back to something you said at a hearing in
20 2017 when you were before this committee because I asked you
21 about cyber efforts and specifically whether you think we
22 have a strategy that incorporates both a defensive and
23 offensive strategy with respect to cyber attacks. And I
24 wonder if you can discuss whether we have made any progress
25 since that hearing in 2017 on these issues.

1 General Hyten: So, ma'am, we have made progress.

2 Senator Shaheen: Can you talk a little bit about what
3 that is?

4 General Hyten: We have made progress in moving forward
5 and taking the fight to the adversary that is in the Middle
6 East right now. But in my opinion, we have not gone nearly
7 far enough. I think we have to go much further in treating
8 cyberspace as an operational domain. Similar to the
9 discussion we were having earlier about space as a
10 warfighting domain, cyberspace needs to be looked at as a
11 warfighting domain. And if somebody threatens us in
12 cyberspace, we need to have the authorities to respond.

13 I always find it odd that we will give young soldiers,
14 sailors, airmen, and marines lethal authority to operate far
15 from home in harm's way to apply lethal force against an
16 adversary using a set of rules of engagement, but we will
17 hesitate to give a four-star admiral the authority to
18 conduct cyberspace operations because we are concerned he
19 will not follow the rules of engagement. We need to have
20 specific rules of engagement in cyber that match the other
21 domains that we operate in, but then we need to delegate
22 that authority all the way down so we can deal with threats
23 that exist that challenge the United States.

24 Senator Shaheen: Well, I agree with that. So what do
25 we need to do in Congress to make that happen? Do we need

1 to give you express legislative authority? Do we need to
2 delineate who has got those authorities?

3 General Hyten: I always hesitate to advise Congress on
4 what you should do. That is your responsibility.

5 But I will tell you when I look at, what would be
6 helpful to me is statements like we have had the last 2
7 years in space where space is a warfighting domain, and we
8 need to develop responses to the warfighting domain. What
9 that has done is it allowed us to push the envelope inside
10 the Department. We are not there yet. We are going to be
11 coming back in space with a number of different things about
12 declassification of certain capabilities, additional
13 authorities, those kind of things. But stating it is a
14 warfighting domain similar to land, sea, and air was a huge
15 step forward for us to move forward. I think we need
16 similar things in cyberspace.

17 Senator Shaheen: Well, does, to some degree, the
18 Nuclear Posture Review not do that because it suggests that
19 a response to a massive cyber attack might be the use of
20 nuclear force? I mean, I do not agree with that, but it
21 does sort of lay that out, that that is a potential
22 response.

23 General Hyten: I think it is clear that you could have
24 catastrophic attacks on the United States through space or
25 cyber and that we need to have the ability to respond to

1 that and a means of our choosing in a domain of our
2 choosing. People always ask me in space and cyber, how do
3 you deter in cyber? How do you deter in space? How do you
4 fight and win a war in space or cyber? You do not. War,
5 conflict, deterrence is against an adversary, not against a
6 place. You have to take the place out of it and focus on
7 the adversary. What is the adversary doing? How do I deter
8 that adversary? That is the piece that we have to go down,
9 focusing back on an adversary.

10 And that is what you see in the Nuclear Posture Review,
11 focusing on adversary threats. How do we respond to that?
12 And then hopefully that allows room for our diplomats to sit
13 down with our adversaries and say is this the world you
14 really want to live in.

15 Senator Shaheen: Well, thank you. I am out of time.
16 Can I just ask one more question, Mr. Chairman?

17 You talked about the progress, so to speak, that Russia
18 has made in nuclear weapons and their military might. And
19 this is a country with an economy that I think is about the
20 size of Italy that has been under sanctions for a number of
21 years since they invaded Ukraine. And that has done all of
22 this military buildup despite those things. So what are
23 they doing right to allow them to do this, and what lessons
24 can we take from that?

25 General Hyten: Well, "right" is in the eye of the

1 beholder.

2 Senator Shaheen: Right. You are right. I do not
3 really mean to say "right." But what have they done to be
4 successful in this arena?

5 General Hyten: So they have decided that that is the
6 most important investment they have to make as a nation, and
7 they have put the vast majority of the resources they have
8 left into that. Oh, by the way, North Korea has done the
9 same thing. That is a prioritization in Russia and North
10 Korea.

11 Senator Shaheen: Thank you.

12 Senator Inhofe: Thank you, Senator Shaheen.

13 Senator Rounds?

14 Senator Rounds: Thank you, Mr. Chairman.

15 General, first of all, thank you for your service to
16 our country and thanks for the opportunity to visit with you
17 today on some of these key issues.

18 I would like to follow up a little bit with where
19 Senator Shaheen was going. I want to talk about our policy
20 versus the policies of our near-peer competitors.

21 Let us just start out with the treaties that we have in
22 place right now. With regard to INF, are we in compliance
23 with the INF today?

24 General Hyten: We are in compliance with the INF
25 today.

1 Senator Rounds: Would you say that Russia is in
2 compliance with the INF today?

3 General Hyten: They are not.

4 Senator Rounds: Would you say that we have not only
5 Russia to be concerned with with regard to similar weapons
6 but also a near-peer competitor in China as well?

7 General Hyten: I agree that all weapons have be looked
8 at on the global perspective.

9 Senator Rounds: Do you see any limitations on China
10 with regard to the INF?

11 General Hyten: They do not have any limitations in the
12 INF, and they have built significant numbers of
13 intermediate-range ballistic missiles that if they were in
14 the INF, they would be contrary to that treaty.

15 Senator Rounds: So with regard to our near-peer
16 competitors, we have a deal with Russia. We do not have a
17 deal with China. We are bound by the deal with Russia. We
18 are honoring it; they are not. China, on the other hand,
19 has no obligations to comply with it, and so they are free
20 to move forward with their weapons development and
21 deployment in place.

22 Is it fair to say that that puts us at a competitive
23 disadvantage, similar to having one hand tied behind our
24 back?

25 General Hyten: I think Admiral Harris testified to a

1 similar thing the other day. It makes his job much more
2 difficult.

3 But there is no one-size-fits-all when it comes to
4 deterrence. There is no one-size-fits-all. You have to
5 look at all the adversaries separately and then you look at
6 the impacts of any decision with those adversaries. I
7 believe that we are better off if Russia would come into
8 compliance with the INF and we would be in compliance with
9 the INF in the overall scheme of the world. However, we
10 have to make a decision in the near term. If they do not
11 come into compliance with the INF, how long will we continue
12 to, as you said, tie our hands?

13 Senator Rounds: And I think that is being recognized
14 in your posture position at this time.

15 Let me go on from there because what we have talked
16 about now -- we discussed the triad, the air, land, and the
17 sea. I think you made a very clear statement about both
18 cyber and also about space.

19 With regard to cyber, do you believe that our near-peer
20 competitors in cyber -- that they have the same
21 identification of what the norms are with regard to how we
22 operate in cyberspace as we do?

23 General Hyten: No, sir, they do not.

24 Senator Rounds: In other words, if I could shortcut it
25 a little bit, they do not see any problem with attacking us

1 in cyberspace today while we probably do not take as active
2 a role in attacking their infrastructures they do in
3 attacking our infrastructures today?

4 General Hyten: I think that the restrictions on Russia
5 and China in particular are much less than the restrictions
6 we put on ourselves.

7 Senator Rounds: And that is a policy decision on our
8 part. Is it not?

9 General Hyten: That is a policy decision on our part.

10 Senator Rounds: What about with regard to space?
11 Clearly any one of our weapon systems right now is dependent
12 upon our ability to see and to hear and to monitor what
13 other people are doing. Do they have the same norms with
14 regard to operations in space as we do?

15 General Hyten: There are no such things as norms of
16 behavior in space.

17 Senator Rounds: So are they more aggressive with
18 regard to the deployment of militarily designed or systems
19 that are designed with military purposes as we are?

20 General Hyten: So I do not want to talk about that in
21 an unclassified session. I would be glad in a classified
22 forum to go into details of what they are doing, but all I
23 can tell you is that they are being very aggressive in
24 establishing what they perceive as norms that we see that I
25 cannot talk about in here at the current time.

1 Senator Rounds: Would it be fair to say that the eyes
2 and ears that we have in space are at risk today from our
3 near-peer competitors?

4 General Hyten: Today they are not at risk, but I am
5 concerned in the near term they would be at risk. Today we
6 have such an enormous capacity that the capabilities that
7 our adversaries are building cannot challenge it just
8 because of the sheer capacity that we have. But in the not
9 too distant future, they are going to build the capabilities
10 that will allow them to challenge that across the board, and
11 we have to make sure we stay ahead of that threat.

12 Senator Rounds: Let me go to one other line of
13 questioning for just a minute. The Air Force has recently
14 announced their plans to retire the B-2 by the early 2030s,
15 sustain the B-52 through 2050, and move forward with
16 procurement of 100 B-21's. Were you involved -- was
17 STRATCOM involved in making the determination of the overall
18 bomber requirements?

19 General Hyten: I was involved in the discussions.

20 Senator Rounds: Do you believe that 75 B-52's and 100
21 B-21's will be sufficient to conduct a nuclear deterrence
22 mission while supporting conventional bomber missions as
23 well?

24 General Hyten: I believe that is the minimum
25 capability required.

1 Senator Rounds: Has the Department begun planning for
2 basing the B-1's -- I am sorry -- the B-21's.

3 General Hyten: The B-21's? I know that the basing
4 process is underway. I think that is an Air Force issue.
5 That is something that they will come to me, STRATCOM, when
6 they come to the Congress as well. But that is an Air Force
7 issue that they have to work. But I know that process is
8 underway because, well, I am an Air Force officer. So I do
9 stay in touch with my service.

10 Senator Rounds: I understand. Thank you, sir.

11 Thank you, Mr. Chairman.

12 Senator Inhofe: Thank you, Senator Rounds.

13 Senator Heinrich?

14 Senator Heinrich: Thank you, Chairman.

15 Welcome, General Hyten.

16 I want to say that I appreciate that you have long
17 expressed your frustration about our inability as both
18 government and military to move more quickly in terms of
19 acquisition, as well as in terms of decision-making. And I
20 certainly agree that we need to be more agile and responsive
21 across the board. I think that applies to space systems.
22 It applies to helicopters. It applies to our nuclear
23 programs.

24 Does it concern you that the NNSA conducted an analysis
25 of alternatives on pit production that chose to ignore the

1 Nuclear Weapons Council's previously endorsed plan to meet
2 our nation's nuclear stockpile requirements and that it also
3 took 3 years for that analysis to move forward?

4 General Hyten: It does not concern me they conducted
5 an analysis of alternatives. I think that is a smart thing
6 to do. But it does concern me it took 3 years. I do not
7 think any AOA should take 3 years. We take 3 years in the
8 Department of Defense a lot too. I do not know why that is,
9 Senator. I do not know why we spend so much time. It used
10 to be we could build something in 3 years, but now we like
11 to study things for 3 years.

12 But like I said earlier, Lisa Gordon-Hagerty, the new
13 Administrator of NNSA -- she called me day one and said we
14 are going to get you the answer. I do not have the answer
15 yet on where we are going to go. As a member of the Nuclear
16 Weapons Council and as the STRATCOM Commander, my job is to
17 state the requirement. The requirement is 80 pits. And,
18 oh, by the way, the first element of that is 30 pits at Los
19 Alamos. That is regardless of whatever the AOA comes out.
20 We have got to get to 30 pits at Los Al first.

21 Senator Heinrich: Do you think it would have been
22 appropriate and smart for them to at least have considered
23 the pathway that was chosen a few years ago as a response to
24 the fact that NNSA was not moving fast enough at the time?

25 General Hyten: So I think they are doing that in part

1 of their engineering analysis now. I have not seen the
2 results of that yet. I will see that shortly. I think Lisa
3 Gordon-Hagerty has committed to this body to come back in
4 the near future.

5 Senator Heinrich: I have had some productive
6 conversations with her.

7 Can you talk a little bit about what any additional
8 slip would mean in terms of our life extension programs?

9 General Hyten: I am very concerned about any because
10 basically all the new weapons that we just talked about,
11 Columbia, sea-launched ballistic missiles, which is Trident,
12 the GBSD, the new ICBM, the LRSO -- all of those require
13 weapons. Plutonium pits that are 100 years old are not a
14 good thing for this country. We do not know how to
15 characterize that. We do not know the material interaction
16 of all those pieces. We have to make sure that we have a
17 modern -- if we are going to be a nuclear nation, we have to
18 have plutonium pit production.

19 So I am concerned that we have now pushed that just
20 like everything else so everything will deliver just in
21 time. Anytime we have something that delivers just in time,
22 I get very nervous.

23 Senator Heinrich: Well, I share your concern.

24 And the NDAA, Mr. Chair, that was just signed into law
25 actually requires the Nuclear Weapons Council to certify no

1 later than May 11th of this year that NNSA's recommendation
2 actually meets requirements. So we have certainly got to
3 get this thing back on track and get it on track quickly.

4 I want to shift gears for just a minute to some of the
5 developments around what was formerly called Operationally
6 Responsive Space. It is now the Space Rapid Capabilities
7 Office. It certainly received significant priority in
8 resources in this year's budget request.

9 Can you talk a little bit about the importance of
10 responsive space in general and describe how the newly
11 designated Space Rapid Capabilities Office will contribute
12 to our nation's resilience in that domain?

13 General Hyten: So the key, when you look at the
14 budget, especially when you look at all the elements,
15 including the classified side, is the beginning finally of
16 building a resilient warfighting architecture for space.
17 That is the path we are starting down to right now. The
18 Space Rapid Capabilities Office will be a key piece of that
19 because there will be certain elements that will be small,
20 resilient that we need to go fast with. They will be the
21 perfect place to do that. We have to give them the
22 authority and responsibility, the funding, and let them go
23 do that. But like I talked about with Senator Nelson
24 before, that is the good news.

25 The challenge we have now is we have not done it. We

1 have not done anything. It is just sitting right there.

2 And I think, Senator, you have been involved in that
3 discussion with me for at least the better part of a decade.

4 And we have never quite got there. Everything is lined up
5 now. It is right there. Everybody understands the need.

6 The administration, the Congress, the Department understand
7 the need. We have put a budget in place that starts down
8 that starts down that path. Now we have to do it.

9 Senator Heinrich: I could not agree more. I think for
10 the first time we actually have that alignment. So let us
11 take advantage of it.

12 General Hyten: Yes, sir.

13 Senator Heinrich: Thank you, sir.

14 General Hyten: Thank you.

15 Senator Inhofe: Thank you, Senator Heinrich.

16 Senator Ernst?

17 Senator Ernst: Thank you, Mr. Chair.

18 And, General Hyten, very good to see you. Thank you
19 for your leadership of Strategic Command, and for the men
20 and women that serve with you in STRATCOM, we thank them for
21 their service as well.

22 You have acknowledged over and over again today that
23 space is becoming an increasingly contested and militarized
24 domain. And while we continue to hold that technological
25 advantage in space, our adversaries are rapidly catching up

1 to us. They are modernizing and developing their own space
2 capabilities.

3 So I do appreciate your efforts to streamline the Air
4 Force's space acquisition process, which has significantly
5 hampered our ability to rapidly develop and deploy our
6 critical capabilities. I do believe more needs to be done
7 to ensure the U.S. can overmatch our near-peer competitors
8 and adversaries in space.

9 So the only way to solve a problem is to understand
10 exactly what we are up against. And you have discussed what
11 you can today in an open setting. But would you agree that
12 the threats that we see in space are greater and more
13 complex than they were in the year 2011?

14 General Hyten: Significantly greater. And I think
15 tomorrow you will see in the closed hearing how all of that
16 comes together because in the closed hearing, you will see
17 the budget played out into the future against the threats
18 that are now coming out. And you will understand the
19 integration of all those pieces together. So weather
20 permitting, I sure hope we get together tomorrow so you can
21 see that.

22 Senator Ernst: Absolutely. And given that the last
23 national security space strategy was developed in 2011, do
24 you believe it would be worthwhile for the DOD to develop a
25 modernized strategy to face today's threats?

1 General Hyten: So if that is a yes or no question,
2 which it sounded like, I will say yes. But I will tell you
3 that the Air Force, the services, the National
4 Reconnaissance Office and my command have worked together to
5 build what I think is an integrated strategy. The challenge
6 with it is it is so classified we can share it with only a
7 very few people. We will be able to share it with you
8 tomorrow.

9 I think the work we have to do is actually figure out
10 what really needs to be classified in the future, how do we
11 do that because we need to be able to plan with the other
12 combatant commands, plan timing and tempo of our operations.
13 All those pieces have to come together, and unless we have
14 things that we can talk about in forums like this, it is a
15 very difficult problem to do. So I think we have a very
16 good strategy now. The problem is not that many people know
17 it. So we are going to have to work that issue.

18 Senator Ernst: And I do appreciate that. You can see
19 the level of concern that is coming from those of us on the
20 Armed Services Committee here in the Senate. We do hear it
21 from our public as well. While they might not have access
22 to the same level of information, they do have a concern
23 about it. So we look forward to getting that information.

24 On to the Nuclear Posture Review. The 2018 NPR
25 stresses the importance of nuclear command, control, and

1 communications, so our NC3 modernization, promising
2 upgrades, new technology, and better governance and planning
3 across the commands. What are the greatest challenges to
4 sustaining and modernizing the Department's NC3
5 capabilities?

6 General Hyten: So the biggest challenge is the
7 integration of all those new weapons platforms I was
8 describing before. Our nuclear command and control today is
9 secure and reliable, but it operates on the old weapon
10 systems, the old platforms, the old structure. We talked
11 about in 2030, the new submarine, the new bomber, the new
12 ICBM, new capabilities are going to come on line and they
13 are going to have to fit into a new nuclear command and
14 control architecture. And we have not directly defined that
15 for the Congress or for our nation yet, and we are going to
16 have to do that. And if you think about 2030, it sounds
17 like a long time away, but it is only 12 years. And so this
18 year, we have to make some critical decisions on
19 governments. The Chairman and the Secretary are involved in
20 that right now. And we have to get after defining what that
21 issue is.

22 Senator Ernst: So you would characterize this as that
23 we do not have sufficient and capable acquisition prepared.

24 General Hyten: So I would say that the nuclear command
25 and control today is fine. We can talk about that in a

1 classified forum, but it is good. But we have to have an
2 acquisition plan that delivers the nuclear command and
3 control in 2030 that will match all the weapon systems. And
4 we have not matched that yet. The Air Force has done a good
5 job in establishing the right structure. The Navy has done
6 a good job establishing the right structure. But there is
7 another element, which is the national piece, that is not as
8 well defined yet, and how all those pieces are going to come
9 together is probably the biggest question. So we understand
10 the problem. We have clearly understand what the problem
11 is. Now we have to explain to ourselves and then to you the
12 approach to get there in the future.

13 Senator Ernst: I appreciate that. My time is expired
14 but, General, I do want to thank you again for your
15 leadership in this area and appreciate the fact that you are
16 very forward thinking. We really do need that at such a
17 critical time. So thank you to you and for the men and
18 women that serve with you. Thank you.

19 General Hyten: Thank you, ma'am.

20 Senator Inhofe: Thank you, Senator Ernst.

21 Senator Warren?

22 Senator Warren: Thank you, Mr. Chairman.

23 And thank you, General Hyten, for being here.

24 General, we just passed a significant deadline for the
25 New START treaty which requires both the United States and

1 Russia to limit the number of deployed nuclear warheads and
2 platforms. And according to the terms of the agreement,
3 both Russia and the U.S. were required to certify by
4 February 5th of this year that we have met those caps.

5 General, are you confident, based on the verification
6 mechanisms we have in place, that the Russians have lived up
7 to their end of the agreement so far?

8 General Hyten: Again, a yes or no question. The
9 answer is yes. There are some caveats. There are still
10 disagreements on both the Russian and American side about
11 certain elements of their bomber force, our bomber force.
12 But we certified on the 5th. They certified. We believe,
13 given the current mechanisms, that we are in compliance.

14 Senator Warren: All right, good. Thank you, General.

15 Last year, you told Senator Kaine that you continue to
16 support the New START limits, and I understand that New
17 START applies only to strategic weapons not to the entire
18 nuclear arsenal. And I share your concerns about Russian
19 verification in the INF Treaty that there are some areas
20 where we have concerns. The Nuclear Posture Review calls
21 for two new low-yield warheads to be developed in our own
22 nuclear arsenal.

23 General, you said that you do not support increasing
24 the number of strategic weapons. As part of developing
25 these two new low-yield options, do you support increasing

1 the overall size of the nuclear arsenal?

2 General Hyten: No, ma'am. So here is what we will do.
3 We will take each of the sea-launched ballistic missiles,
4 the Ohio class submarines that we have. We will pull a
5 missile out. We will take the large warhead off. We will
6 put a small warhead on, put it back on the submarine, and
7 put it out to alert. So the total numbers of weapons that
8 we have will be greater, which is kind of an interesting
9 piece is that we will have the same number of weapons, lower
10 total yield, and somehow that is creating a destabilizing
11 structure which is an interesting dynamic.

12 Senator Warren: Thank you, General. I appreciate the
13 detail on this.

14 And if I can, just one more question on this. New
15 START expires in February of 2021, but the agreement
16 includes an option for a 5-year extension. What conditions
17 would you want to see in place for us to extend New START?

18 General Hyten: So that is a question for the State
19 Department. Again, I am not a diplomat. I am not in the
20 White House.

21 My desire and what I present to the State Department
22 and to my leadership in the White House is that if we can
23 create conditions for stability across nuclear weapons
24 across the board, that makes my job easier. My job is to
25 defend the nation against nuclear threats, space threats,

1 all the threats that we have. And knowing what our
2 adversaries have and being able to verify that is hugely
3 important. I would like to be able to do that across the
4 entire spectrum of capabilities. But the most critical is
5 the strategic limits that are in the New START treaty.

6 Senator Warren: Good. Well, I appreciate that,
7 General. I have no illusions about Vladimir Putin. I think
8 he is a thug and a bully. And I think we will continue to
9 disagree with him more than we agree, including on nuclear
10 issues. But Russia and the United States still control
11 strategic nuclear arsenals capable of blowing up the world
12 many times over. So if it is possible to continue to make
13 progress and, as you say, more stability in this one area,
14 then I think we need to continue to have that conversation.

15 With my remaining time, I would like to ask one other
16 question and pick up on Senator Ernst's point and ask you
17 about plans to modernize the nuclear command, control, and
18 communications system, the NC3. Last month, Senator Reed
19 and I visited Hanscomb Air Force Base in Massachusetts to
20 meet with the program executive office for NC3. We have got
21 some really talented people up there doing critical work.
22 But I am worried because everyone I have talked to agrees
23 that the Air Force Materiel Command, which is responsible
24 for acquisition side of NC3 recapitalization, is
25 understaffed for this mission.

1 So can I just ask, General? Will you commit to working
2 with me and with this committee and with General Pawlikowski
3 to advocate that NC3 is appropriately staffed so that it can
4 move forward as it needs to?

5 General Hyten: I will commit to do that, Senator.

6 If I could, just one addition to that is that we
7 actually have really good people assigned to that job right
8 now. The problem really is that you can create the slots
9 and put people in those slots, but this is such a
10 complicated problem, that it takes years to build the
11 expertise that you have. So just because you get a smart
12 person and put him in the chair, it does not mean you have
13 solved the problem. We actually have to get training for
14 them and build that expertise up because we took our eye off
15 that expertise, and now we have to rebuild it.

16 Senator Warren: Well, I understand that. And your
17 point about we took our eye off this is absolutely spot on.
18 The systems that comprise NC3 are aging, and they are far
19 too critical to be left to chance. We need to make sure
20 that this system is secure and that it is resilient, and we
21 need the best acquisitions approach to it to make sure that
22 we can get this done on time. And I hope we can continue to
23 work together on that.

24 General Hyten: Yes, ma'am.

25 Senator Warren: Thank you, General.

1 Thank you, Mr. Chairman.

2 Senator Inhofe: Thank you, Senator Warren.

3 Senator Tillis?

4 Senator Tillis: Thank you, Mr. Chairman.

5 General, thank you for being here and for your decades
6 of service and dedication.

7 One question I would like to start with -- it was maybe
8 an NDAA or two ago that we had a discussion about retiring
9 some of the outdated weapons in our arsenal. How are we
10 doing with that, and is there anything more that we need to
11 do for some of the outdated weapon systems, some that are
12 just either outmoded or potentially dangerous?

13 General Hyten: So the stockpile -- you are talking
14 about the nuclear weapons here. The nuclear stockpile is
15 secure. But as you said, a few years ago, we started
16 looking at some of the old weapons, and slowly and surely
17 started removing those from the stockpile. In order to get
18 to what we have actually done, we have to go to a classified
19 forum.

20 But I think that is a smart thing to do because we need
21 to make sure that the stockpile is there for two reasons:
22 to support the fielded forces that we have but to also
23 support a potential violation of the New START treaty or a
24 breakout of that treaty so that we have the ability to go
25 forth. I mean the Minuteman missiles today, for example,

1 only have one warhead on top of each of the missiles that we
2 have deployed but has ability to put three on top. We need
3 to have those extra weapons in case there is a problem with
4 our adversaries in Russia or China that we need those
5 capabilities. So we have to make sure we maintain the
6 stockpile at the right level, but we should not maintain
7 anything greater than that. So we have been making good
8 progress on that.

9 Senator Tillis: The 2-year spending bill. How is that
10 affecting -- what kind of time horizon do we really need for
11 you? You have got some long-term execution horizons for
12 your work. The 2-year spending bill helps, but can you tell
13 me specifically in an open setting how that has been helpful
14 to your command?

15 General Hyten: We do not have the bill yet. That is
16 the biggest concern I have. But assuming that we do, what
17 we will do for the first time is we will have stability for
18 18 months, and stability is the most important thing. You
19 know, all the things we --

20 Senator Tillis: 18 months seems like a long time
21 around here, but it is amazing that you consider that
22 positive. But we all know that is not enough time for your
23 line of business.

24 General Hyten: The most important thing is a budget is
25 a budget on the first of every year. That is the most

1 important thing. Whether that budget comes through a 2-year
2 budget or an 18-month, but having a budget on the first of
3 the year. And when I look back at the history and the folks
4 that used to go fast, the Shrevers, the Rickovers, the
5 biggest thing -- they always started with a budget on the
6 first of the year, and because of that, they had the ability
7 to make decisions and flex accordingly. And when you do
8 not, not only do you not go fast but you actually waste huge
9 amounts of money. Both of those things bug me.

10 Senator Tillis: So is it not fair to say -- I know you
11 do not want to give Congress advice, but if we come up short
12 on these spending decisions, then some of the dates that you
13 have talked about and some of the capabilities that will
14 come on line will also shift to the right?

15 General Hyten: And since I have almost no margin in
16 some of those programs, that scares the ever-living heck out
17 of me.

18 Senator Tillis: On the INF with Russia, the ideal
19 world would be that Russia is actually complying. But if
20 they do not, at what point -- is there a sufficient level of
21 compliance where, even though they are cheating in certain
22 areas, it is worth having, or at what point do we have to
23 say we have got to take the handcuffs off?

24 General Hyten: Well, you have seen in the budget for
25 fiscal year 2019, we have proposed starting research and

1 development on the ground-launched cruise missile. Research
2 and development is not in violation of the treaty, but
3 testing and deployment of that capability would be. But
4 nonetheless, we have said it does not look like they are
5 going to come back in compliance, and we are going to start
6 down that path.

7 President Putin yesterday said he did not want an arms
8 race. Of course, on the 1st of March, he showed nuking
9 Florida. So I am not sure exactly what the message is
10 there, but I can tell you that if we have to build
11 intermediate-range missiles to respond to the threat, I have
12 no doubt that this country knows how to do it. We have done
13 it before. We can do it again. And we proposed starting
14 the research and development in 2019 to start down that
15 path.

16 Senator Tillis: Do you agree that if we do not take
17 that threat seriously, that some have testified before the
18 committee they put us in a position of -- I think the phrase
19 was used -- we could be in a position of either surrender or
20 suicide?

21 General Hyten: That is the Kissinger quote, and I
22 agree with that. I think we need a low-yield nuclear
23 weapon, very small numbers. I can tell you how many we need
24 in a classified session. It is not many. But I think we
25 need that to deter our adversaries to make sure we do not

1 get into that point where the only decision for the
2 President is suicide or surrender.

3 Senator Tillis: Well, thank you, General. And I for
4 one will be doing everything I can to make sure that we
5 provide you funding so that you can do your job the way I
6 know you can do it. Thank you.

7 General Hyten: Thank you, Senator.

8 Senator Inhofe: Thank you, Senator Tillis.

9 Senator Peters?

10 Senator Peters: Thank you, Mr. Chairman.

11 And thank you, General Hyten, for being here today and
12 for your testimony. And as always, thank you for your
13 service as well.

14 We have heard from several members here today questions
15 related to the low-yield submarine-launched ballistic
16 missile, as well as the nuclear-capable sea-launched cruise
17 missile. So my question relates to the discrimination issue
18 that some people have raised, that with these particular
19 capabilities, an adversary may not be able to identify that
20 a low-yield SLBM is actually a low-yield weapon that has
21 been fired and it could possibly trigger escalation thinking
22 something more is coming at them.

23 In fiscal year 2007, the Navy considered a conventional
24 Trident modification where Trident submarines would carry
25 conventional warheads, as well as nuclear warheads. And at

1 the time, Congress rejected funding for that modification.
2 Former Ted Stevens, a former Senator here, said -- and I
3 quote -- a country that picks up or identifies a launch
4 might legitimately worry whether the weapon carries a
5 nuclear or conventional payload. This could be a
6 provocative action if taken, which was part of his comments
7 in rejecting that idea.

8 So my question to you is, with a low-yield warhead, is
9 the discrimination problem not still there? Is it more
10 dangerous? What should we do about that?

11 General Hyten: So there are a million ways to go down
12 that. It is a very complicated answer. I will try to be
13 brief.

14 The first thing is that from detection to creation of
15 the explosion is less than 30 minutes. It is a very short
16 period of time. If somebody does detect that launch, they
17 will see a single missile or maybe two missiles coming.
18 They will realize it is not an existential threat to their
19 country and therefore they do not have to respond with an
20 existential threat. That is what I would recommend if I saw
21 that coming against the United States.

22 But I think the first thing you have to realize is
23 that, first of all, it is a deterrence weapon. The first
24 use of that weapon is to make sure that nobody use that kind
25 of weapon against us.

1 The second piece is that if we do have to respond, we
2 want to respond in kind and not further escalate the
3 conflict out of control. And so an adversary, Russia in
4 this case, will see a weapon coming perhaps -- I can talk
5 about that in a classified forum as well. They will see it
6 coming, but they do not have to respond right now and they
7 will not have time to respond because they will not want to
8 commit suicide.

9 So all of those pieces, when you look at all the pieces
10 coming together, actually if you are talking about a
11 rational actor, will not be an issue in terms of it. So
12 deterrence weapon first and then a response weapon like in
13 kind to keep the conflict from escalating worse. It
14 actually makes it harder for an adversary to use the weapon
15 in the first place, and if it does use it, it allows you to
16 respond appropriately.

17 Senator Peters: The key is a rational actor.

18 General Hyten: The key is a rational actor. A
19 rational actor is the basis of all deterrent policy.

20 Senator Peters: Right.

21 There have also been a number of questions related to
22 NC3 systems that you have answered. My question is about
23 the priorities. Where does modernizing NC3 fit in with the
24 modernization efforts of our broader nuclear enterprise? It
25 seems to me that it is essential that we have secure and

1 reliable command and control in place prior to new weapons,
2 but how would you balance those priorities?

3 General Hyten: So the way I have talked about it, it
4 used to be the big four. The big four were bomber, ICBM,
5 cruise missile, submarine. It is now the big six, bomber,
6 ICBM, cruise missile, submarine, plus NC3, plus nuclear
7 weapons. Those six elements have to come together for our
8 nuclear infrastructure and for our nuclear deterrent to
9 continue to be viable in the future. All six of those have
10 to come together in the 2030 time frame for the future.
11 They all come together today. We are fully ready today, but
12 to make sure it comes together in the future, we have to be
13 working all six.

14 Senator Peters: Simultaneously.

15 General Hyten: Simultaneously.

16 Senator Peters: Earlier you testified that the sea-
17 launched cruise missile is not a bargaining chip. But last
18 month, Secretary Mattis testified at the House Armed
19 Services Committee that the submarine-launched cruise
20 missile will -- I quote him -- give our negotiators
21 something with which to negotiate. Could you clarify that
22 for us, please?

23 General Hyten: Absolutely. I think the Secretary said
24 it exactly right. I do not like calling anything a
25 bargaining chip. That capability is against the threat.

1 However, that capability also gives our negotiators
2 something to talk about. If you do not have something to
3 talk about, it is very hard to sit down and negotiate. But
4 it is not a bargaining chip because it is to counter the
5 threat. I think the only thing he did not like and I do not
6 like is using the term, "bargaining chip." But it does give
7 our negotiators things to work with, which is a good thing.

8 Senator Peters: Thank you, General.

9 Senator Inhofe: Thank you.

10 Senator Scott?

11 Senator Scott: Thank you, Mr. Chairman.

12 Good morning, General. Thank you for your service to
13 the country as well.

14 General Hyten: Thank you, sir.

15 Senator Scott: Russia's strategy to escalate to
16 dominate is something this committee has heard about over
17 the last 3 weeks several time. Senator Fischer mentioned it
18 this morning. General Scaparrotti talked about it in my
19 office when we met a few weeks ago as well. And to me, it
20 is chilling to think that Vladimir Putin sees the preemptive
21 opportunity as a real one and a way to cement the gains that
22 he is making as he tries to grab more territory and frankly
23 intimidate as many of his neighbors. Eastern Ukraine comes
24 to mind as does the possibility of Russia seeking to build a
25 land bridge through Lithuania to its enclave Kaliningrad.

1 I am confident the administration will use all
2 available resources, whether it is diplomatic, military, and
3 economic means, to counter such a strategy if we find
4 ourselves or our allies in need of assistance.

5 What we have learned, though, is that Russia truly
6 respects strength. I am interested in what kind of strength
7 we should have to put Russians' ambitions in check, and that
8 being the recently completed Nuclear Posture Review proposes
9 returning two capabilities you have already talked about
10 with Senator Peters, both the sea-launched ballistic
11 missile, as well as the cruise missile.

12 My question for you is do you have all that you need in
13 order for us to develop a complete low-yield nuclear program
14 for missiles?

15 General Hyten: So, first of all, as the Commander of
16 U.S. Strategic Command, I have everything I need today to
17 deter Russia from doing anything against the United States
18 of America. We are fully ready against any threat that
19 exists today, without a doubt.

20 Senator Scott: Very good.

21 General Hyten: What my concern is will that be the
22 case for the commander after commander after commander after
23 me as we go down looking in the future. And in that case,
24 we have a lot of work to do in order to make sure that those
25 capabilities come on line. We believe that in order to

1 deter Russia from using nuclear weapons on the battlefield,
2 we should deploy a low-yield nuclear weapon on our ballistic
3 missile submarines. We believe, to respond to a number of
4 threats both in Russia and China, that we should have a sea-
5 launched cruise missile capability in order to respond to
6 that. We know how to do all of that stuff. It is not new.
7 It is work that we have done before both in the Department
8 of Defense and the Department of Energy. We know exactly
9 how to do it. We just have to go do that work.

10 But the most important thing -- and I think Senator
11 Reed said it earlier. The most important thing is the
12 continuing modernization of the triad because that is the
13 foundation of our nation's defense, and that is the strength
14 that will continue to deter Russia into the out-years.

15 Senator Scott: As we look at the potential of those
16 who succeed you or come after you, is congressional
17 authorization as it relates to low-yield nuclear weapons
18 essential or not necessary?

19 General Hyten: That is really a question for lawyers
20 not for a combatant commander because it is so important to
21 me I talk to lawyers. And they have told me that
22 congressional authorization is required. Therefore, the
23 Nuclear Weapons Council and I have talked to the Office of
24 Management and Budget. The Department of Energy is working
25 with them. I think they will have an approach to come look

1 for authorization to begin that right away so we can start
2 down that path. It is already in our 2019 budget
3 submission. It was not in the 2019 Department of Energy
4 budget submission. That is the Department of Energy piece
5 that will require authorization, and I think that will come
6 in a fairly timely way.

7 Senator Scott: Senator Tillis mentioned it earlier and
8 you commented on it very clearly that the continuing
9 resolutions that have presented real hurdles for our
10 military are measurable in real dollars. I met with the
11 Secretary of the Navy, and he said that over the last
12 several CRs, it has cost the Navy in quantifiable dollars
13 about \$9 billion. That to me seems astounding that as tight
14 as things have been -- and frankly, we are hopeful for the
15 \$165 billion that we are looking for to being deployed to
16 help our men and women in uniform. The fact of the matter
17 is that short-term budgeting has got to be an obstacle that
18 is preventable, number one, and number two, a major source
19 of angst for folks in your position.

20 General Hyten: So I worry about it for a number of
21 reasons. I cannot even describe the impact on morale to the
22 workforce because when it happens, the message that is sent
23 -- I know it is not intentional because I talk to each and
24 every Member of Congress, and they all respect the military.
25 But the message that is sent is they do not care, is that

1 the Congress does not care, the nation does not care when
2 they do not get a budget. When the civilians employees have
3 to sign a piece of paper that says, yep, I will go home, I
4 will do no work, it is so deflating to the workforce that it
5 is hard to describe what the impact of that is.

6 And then the inefficiencies that we put into the
7 overall conduct of the B-21 program, any new program that
8 comes up that has a funding increase required that we cannot
9 do, we incorporate all kinds of inefficiencies into that
10 process.

11 And then I still do not have a problem today conducting
12 my mission, but I really worry about the long-term impact
13 for continuing to do that. And I know that if we do not get
14 routine budgets, that the schedules now that deliver just in
15 time will not deliver in time because we will not have an
16 efficient program delivering them.

17 So I worry about that in a lot of ways. I know each of
18 the members here do, but as a body, it is so essential that
19 the Congress come together and pass a defense appropriations
20 bill.

21 Senator Scott: Thank you. Certainty and
22 predictability are absolutely essential for the success of
23 our military.

24 Senator Inhofe: Thank you, Senator Scott.

25 Senator Donnelly?

1 Senator Donnelly: Thank you, Mr. Chairman.

2 Thank you, General, for being here.

3 In your written testimony, General, you highlight the
4 need to prioritize and accelerate development of hypersonic
5 capabilities, and I could not agree more with you. Is the
6 U.S. leading the way in development of hypersonic glide
7 vehicles or are we behind the curve relative to Russia and
8 China?

9 General Hyten: We are ahead in some areas, behind in
10 other areas. So as a whole, I would say it is a
11 competition, and it is a competition I believe that we
12 should have a goal of winning that competition, not tying,
13 not losing, but winning the competition. So that means the
14 areas we are behind in -- and I can talk about those in a
15 classified setting -- the areas they are ahead in we should
16 accelerate further. We need to make sure that that becomes
17 a priority for our nation to understand what that is, and
18 then we have to figure out how to respond to it. And the
19 first way to respond to it is to be able to see the threat,
20 which right now is challenging. So we have to build
21 capabilities to see what the threat is as well.

22 Senator Donnelly: Thank you.

23 In terms of that competition, as you look at Russia and
24 China, is it that as we look forward, are we moving further
25 ahead or are they closing in on us in terms of capabilities?

1 General Hyten: They are closing in. I think we are
2 still ahead. We are ahead significantly on the conventional
3 side. I think we have stability with Russia on the nuclear
4 side. We have an advantage with China on the nuclear side.
5 But they are gaining ground quickly, especially when you
6 look at space and cyber.

7 Senator Donnelly: The Navy successfully demonstrated a
8 conventional prompt strike missile last year that could
9 become a sea-based capability in the future. What are the
10 next steps for the development of a sea-based CPS
11 capability?

12 General Hyten: The next step -- you have seen it in
13 the budget. The Navy has been given the program now. The
14 Navy has to decide who is going to lead the program. So
15 there is a joint task force underway involving the Navy, the
16 Joint Staff, my command to look at the future of that
17 program and to define it in 2019 so that we can execute the
18 budget that we have put together. That work will be
19 underway this summer and we will report out. Admiral
20 Richardson, the CNO, is the lead on that. I talked to him
21 about it the other day. He is committed to make sure that
22 that comes across right because STRATCOM and other combatant
23 commands have a valid need for that capability.

24 Senator Donnelly: General, we have a new bomber, a new
25 air-launched cruise missile, the life extension of our

1 current ICBMs, a new ICBM, a new SSBN, warhead life
2 extensions in our nuclear command and control systems. The
3 Nuclear Posture Review adds to this potentially another
4 warhead modification, a new submarine-launched cruise
5 missile, any necessary modifications to the subs carrying
6 the SLCM, and any warhead modifications necessary to arm it.

7 Can you give us a list from first to last of how you
8 rank these because our concern is we do not have a budget
9 that can accomplish even the portion that we all see as
10 absolutely essential? And so we know there are things we
11 need to do, and I was wondering if you have a list of how
12 you put these in place.

13 General Hyten: I do not have a list, Senator.

14 Senator Donnelly: Is it that they are all critical?

15 General Hyten: They are all critical. The most
16 critical is the modernization of the triad, the big six that
17 I talked about with Senator Peters a while ago. That is the
18 most important piece of it. But everything in the Nuclear
19 Posture Review that we talk about, everything that is in the
20 budget is in response to a threat. So I cannot sit in front
21 of the Senate, I cannot sit in front of Congress, I cannot
22 sit in front of the President and say, yes, sir, because of
23 that threat, we do not need this capability because the
24 threat exists.

25 The only way I can change my recommendations to you is

1 if we can change the threat, and I hope some day that threat
2 changes. I hope it changes in Russia, China, North Korea,
3 Iran. I hope those threats change, but if they do not
4 change, I will sit in front of you next year and advocate
5 for those capabilities because they are all in response to
6 an existing threat to this nation.

7 Senator Donnelly: In light of how critical all of
8 those are and the budget challenges that we have as well,
9 now more than ever we need to be sharing information,
10 services, and parts across the services to control cost and
11 risk in this undertaking. Can I secure your commitment to
12 find commonality between the services and industry to try to
13 reduce that cost and risk, that we are not reinventing the
14 wheel in effect?

15 General Hyten: So I am a combatant commander. So I
16 need the capability. However, I am also a taxpayer. So I
17 look for any way we can come up with commonality. And I
18 think there are ways to do that. But I will also point out
19 that we have to be careful not create single point failures
20 in the nuclear enterprise. So if we have everything common
21 on the ICBM side and the SLBM side, that is actually not a
22 good thing because now if one thing fails, we have lost two
23 legs of the triad. So we have to be careful as we walk
24 through that.

25 But I am working with Strategic Systems Program and

1 Admiral Benedict and Admiral Richardson to try to figure out
2 with the Air Force where elements of commonality should be.
3 And we have an effort going on inside the Nuclear Weapons
4 Council to define the strategy for modernization in the
5 future so we understand what those pieces are.

6 Senator Donnelly: General, thank you for your service.
7 Thank you, Mr. Chairman.

8 Senator Inhofe: Thank you, Senator Donnelly.

9 Senator Kaine?

10 Senator Kaine: Thank you, Mr. Chair.

11 Thank you, General Hyten. I appreciate your being here
12 today and your great service.

13 I was looking in your written testimony because I saw a
14 phrase that interested me, and now I cannot find it.

15 General Hyten: I am sure it was brilliant.

16 [Laughter.]

17 Senator Kaine: It was brilliant. It said there is no
18 cyber war, there is no space war, there is just war.

19 General Hyten: That is correct. It is one of the few
20 things I get frustrated about is when I get a question how
21 are you going to fight and win a war in space. How are you
22 going to fight and win a war in cyberspace? It occurred to
23 me a couple of years ago there is no such thing. There is
24 just war. In war, there may be an element of it that
25 extends into space. There maybe an element that extends --

1 but war is against an adversary. And so if you have to deal
2 with the adversary and if we get attacked in space, for
3 example, is the United States' response going to be a
4 response in kind in space? In many cases, that might be the
5 exact wrong response. We may want to respond in another
6 domain.

7 Senator Kaine: But we ought to respond.

8 General Hyten: But we ought to respond, but it should
9 be focused on the adversary and what the adversary holds
10 dear. And if we hold space dear, maybe we will respond in
11 some way that holds something the adversary holds dear.
12 There is just war. There is just conflict.

13 Senator Kaine: General, on page 3, you go over in your
14 testimony global security environment, and you have this
15 phrase in your paragraph about Russia. In June 2017, as
16 part of an effort to destabilize Ukraine, the Russian
17 military launched the most destructive and costly ever cyber
18 attack in history. The effects of this attack spread
19 globally and included devastating damage to U.S. businesses.

20 Is that war?

21 General Hyten: I believe it is. I believe that war
22 extends into cyberspace. I believe that our adversaries
23 have figured out that that is part of the structure. War is
24 against a nation state, and you attack the thing the nation
25 state holds dear. And certainly I would hope that everybody

1 in America holds our economic structure dear and holds our
2 ability to live comfortably dear, holds our power grids
3 dear, all those kind of things that could be attacked
4 through cyberspace.

5 Senator Kaine: Should we hold our election systems as
6 dear as we hold our economic capacity?

7 General Hyten: I believe that any attack against our
8 nation should be considered an attack that we have to
9 respond to.

10 Senator Kaine: Including the Russian attack of 2016
11 against the election.

12 General Hyten: I actually have talked to Admiral
13 Rogers. I understand I believe it was. But I do not know
14 exactly the relationship inside Russia about how that
15 happened. All those kind of pieces are still to be worked.

16 Senator Kaine: If it was attributed to the Russian
17 Government rather than just rogue elements, is it an act of
18 war? We are not talking about cyber war, space war is an
19 act of war.

20 General Hyten: So it is the job of the United States
21 Congress to declare war.

22 Senator Kaine: What if somebody takes action against
23 us? We have not declared war on Russia. We had not in
24 2016. But when they took that action against the Ukraine,
25 which you said was an act of war -- I just asked you about

1 that -- because it effected the attack of a sovereign
2 nation, on a sovereign nation, how about -- I agree we had
3 not declared war on Russia, but was Russia's effort to
4 undermine the American electoral system, if it can be shown
5 that it was with governmental imprimatur rather than rogue
6 elements, would that be an act of war?

7 General Hyten: So it would be an act of war by
8 definition, but would we declare war? I would think not. I
9 would think, however, that the United States would want to
10 respond in some way to an attack on our nation.

11 Senator Kaine: So it would be an act of war by the
12 Russians against us. Obviously, the administration,
13 Congress has the ability to decide what to do. I think that
14 is important.

15 We had a hearing with Cyber Command, a very strong
16 hearing with Admiral Rogers, a couple weeks back, and we
17 were grappling with this. One of the worries that I think
18 we have with a broad portfolio not only in Armed Services
19 but we serve on other committees -- we are dealing with the
20 American election system. We are dealing with power grid.
21 We are dealing with all kinds of things -- is how do we
22 protect the country. Admiral Rogers said, well, the
23 protection of the election system really is more about
24 States run elections. And Senator McCaskill said, you
25 cannot expect the Secretary of State of Missouri to go head

1 to head against the nation state of Russia if they want to
2 attack the American election.

3 So we are depending upon our defense, DHS, and others
4 to protect us, but we also have to be clear because if we
5 are unclear what it is, then we will likely be unclear what
6 our response should be.

7 General Hyten: I think that is the challenge we have
8 in cyberspace today. So I have given you my best military
9 advice, my personal opinion. But as a nation, we have not
10 made that decision yet.

11 Senator Kaine: Well, I would just say you call it out
12 pretty clearly about what an attack on Ukraine is. I looked
13 in that paragraph to see any reference to Russian attacks
14 directly against the United States, and I did not see any.
15 The one I saw was an attack against the Ukraine in June 2017
16 that affected American businesses. When I asked you about
17 it, you said you thought that kind of attack of nation
18 against nation vis-a-vis Ukraine was an act of war. And I
19 agree. We have to decide how seriously we will treat it.

20 On our side there has been some ambiguity about it, and
21 I will say on the side of the last administration and this
22 administration, there is real ambiguity. I do not know of a
23 mayor or a governor who believes that the Federal Government
24 is really going to have their back to protect their
25 electoral system in 2018. They have not seen the signal

1 sent that we are going to have their back. And I think it
2 something we should send.

3 Mr. Chair, I am over my time. Thank you.

4 Senator Kaine: Thank you, Senator Kaine.

5 Senator Cruz?

6 Senator Cruz: Thank you, Mr. Chairman.

7 General, welcome. Thank you for your service. Good to
8 see you again.

9 In your written testimony, you stated that, quote, we
10 cannot be successful in this endeavor by investing solely in
11 active missile defense capabilities. We must strengthen and
12 integrate all pillars of missile defense, including the
13 capability to defeat adversary missiles before they launch.

14 Building on this point, as you know, currently
15 America's missile defense systems are limited to ones that
16 intercept missiles during the mid-course when the missile is
17 coasting in outer space and in the terminal phase, once it
18 has entered back into the atmosphere. But the Missile
19 Defense Agency has noted, quote, intercepting a missile in
20 its boost phase is the ideal solution for a ballistic
21 missile defense since destroying a missile during this phase
22 of its flight precludes the deployments of any
23 countermeasures and also prevents the missile warhead from
24 attaining the velocity necessary to reach its intended
25 target.

1 As you know, the greatest challenge in targeting during
2 boost phase is that a missile is only in boost phase for a
3 very few short minutes at the beginning of the flight. This
4 requires sensors that are able to quickly detect a missile
5 launch and relay targeting information. A study conducted
6 by the Hudson Institute and a senior review group comprised
7 of two former Missile Defense Agency directors, two former
8 NORTHCOM commanders, the former Under Secretary of Defense
9 for Policy, among others stated that, quote, an SBI
10 capability would dramatically augment U.S. terrestrially and
11 sea-based defensive capabilities, reduce the demand on
12 current systems, and provide the United States with the
13 optimal vantage point for destroying enemy missiles
14 regardless of their launch or target location, whether on
15 land, at sea, in the air, or in space.

16 Given the metastasizing nuclear threat from North
17 Korea, given Iran's relentless pursuit of nuclear weapons,
18 the growing development of anti-access/area denial
19 capabilities in the Persian Gulf and the South China Sea,
20 and great power competition in space, the case for urgently
21 pursuing a space-based intercept capability has never been
22 stronger.

23 Recent investments from China and Russia in missile
24 technology like hypersonic glide vehicles that circumvent
25 our current missile defense architecture further underscore

1 the potential value of a space-based layer for the boost
2 phase.

3 General, understanding that the MDR is forthcoming, can
4 you share some of your views on the path forward for
5 developing the architecture necessary to make boost-phase
6 defense a reality here?

7 General Hyten: So as the Commander of STRATCOM, I have
8 been on the record as supporting the requirement for boost-
9 phase intercept for the entire time I have been in command,
10 and I have supported that for many years now. I would love
11 to drop a missile back on somebody's head that launched it.
12 It is really that simple. I think there are multiple ways
13 to do that.

14 I think the most important piece of the puzzle that you
15 described is the sensor architecture that you need in order
16 to target it. I am a huge supporter of building space-based
17 sensor elements to be able to target against all of those
18 capabilities, as well as hypersonic capabilities, other
19 capabilities in the boost phase to get after a number of
20 those issues.

21 The actual technical solution I am agnostic for. In my
22 past, I have worked space-based interceptor solutions and
23 spaced-based sensor solutions. I am convinced that space-
24 based sensors are absolutely required. I am not convinced
25 at this time that the space-based interceptor is required,

1 but the requirement is there. I will advocate for that
2 requirement. I think there are technologies that we can
3 talk about in a classified session that can meet that. I
4 think space is an element of that overall architecture, but
5 the most important thing is the requirement for boost phase
6 and left-of-launch. And I think the missile defense review
7 will talk about that in more detail.

8 Senator Cruz: What specifically is required? What is
9 needed to get this accomplished, to make boost-phase
10 intercept a reality?

11 General Hyten: So I think that the Department has to
12 decide to integrate the number of different programs that
13 are out there. I think the leadership in the Department
14 right now is the perfect leadership to do that. I know Dr.
15 Mike Griffin. I know that he has looked at that technology
16 in the past. He has only been in office now a few weeks,
17 but that has been important to him for a long time. I think
18 Secretary Lord, Secretary Shanahan, I think the Secretary of
19 Defense support the boost-phase construct.

20 So I think what we are going to have to do this year is
21 we are going to have to align all of the elements that are
22 out there and make sure we realize it is not just the
23 interceptor -- it is coming up with the entire approach to
24 dealing with boost-phase intercept -- and get after that.
25 And like I said the missile defense review will get to it in

1 much more detail.

2 Senator Cruz: So what can or should this committee do?

3 General Hyten: I think the key is look at the missile
4 defense review. The missile defense review will describe
5 the approach of the nation and the Department on how to do
6 that. And then we will have a discussion about, okay, what
7 is good, what is bad, where do you disagree, and we will
8 have that discussion as we go through the year. But we
9 really need the missile defense review to start that
10 discussion.

11 Senator Cruz: Very good. Thank you, General.

12 Senator Inhofe: Thank you, Senator Cruz.

13 Senator Blumenthal?

14 Senator Blumenthal: Thanks, Mr. Chairman.

15 Talking about the boost phase intercept, you think this
16 technology is doable and feasible and should be pursued.

17 General Hyten: Senator, I think the technology is
18 actually pretty straightforward. I think the policy
19 discussions are much more complicated because in order to
20 attack a missile in the boost phase, you have to commit to
21 dropping something on adversary territory. Now, if we are
22 in the middle of a war or the middle of a conflict, that is
23 really not a complicated decision. But if we are not and we
24 want to make that decision, that is a very complicated
25 policy discussion. And we have not had a lot of discussion

1 about the policy impacts of making a decision like that.

2 But from a technical perspective, I think the technology is
3 there.

4 Senator Blumenthal: Thank you, General.

5 I have a question about helicopters. This issue is one
6 that you and I have discussed.

7 General Hyten: Yes, sir.

8 Senator Blumenthal: In fact a year ago, as you may
9 recall, I asked you about your frustrations with the Huey
10 replacement program, and you said -- and I am quoting -- of
11 all the things in my portfolio, I cannot even describe how
12 upset I get about the helicopter replacement program. It is
13 a helicopter, for gosh sakes. We ought to be able to go out
14 and buy a helicopter and put it in the hands of the people
15 that need it, and we should be able to do that quickly. We
16 have been building combat helicopters for a long time in
17 this country. I do not understand why the heck it is so
18 hard to buy the helicopter.

19 Do you still have the same frustrations with the Air
20 Force's continued delays in fielding a replacement
21 helicopter?

22 General Hyten: I had a feeling somebody was going to
23 quote me on that today, and I had a feeling it was going to
24 be you.

25 So I have been working to try to get a helicopter in

1 the hands of the folks in the missile fields for over a
2 decade. That is where my frustration comes from. And so
3 that frustration will not go away until the helicopter is in
4 the hands of the people.

5 But the good news is the leadership, Dr. Roper, Dr.
6 Griffin, Ms. Lord, Secretary Shanahan -- they have taken it
7 very seriously. We are in the middle of a source selection
8 now. I hope contractor war is not imminent. There is a
9 protest going on inside the source selection which limits
10 how much I can talk about it. But the leadership of the Air
11 Force, the leadership of the Department has taken it very
12 seriously, and we are in the middle of a source selection
13 now which is a good thing.

14 Senator Blumenthal: Can you give us a date when you
15 think it will be done?

16 General Hyten: I cannot give you a date because of the
17 protest right now. That is the piece that is still
18 frustrating me. I would like to sit in front of you and
19 give you a date saying here is where it is going to be.

20 The good news is that my air component commander,
21 General Robin Rand, has put a number of adjustments into the
22 Huey force in terms of fuel, in terms of armament, in terms
23 of arms to allow them to do the job until that helicopter
24 comes into being. So the operational risk that I was
25 concerned about significantly last year has really been

1 eliminated in the near term. But I do not have a date where
2 I can tell you, Senator, and I wish I did.

3 Senator Blumenthal: But that is still a concern that
4 this aircraft, even with that short-term measure, still is
5 incapable of meeting requirements to protect our ICBM fleet.
6 Correct?

7 General Hyten: Well, especially the movement of
8 nuclear weapons. That is the key. I can tell you in a
9 classified session what we have done in terms of arming, in
10 terms of fueling to allow us to adequately protect the
11 weapons. And so I am comfortable with that protection
12 system that is in there right now. But the Huey is still
13 ancient and it has got to be replaced. And it has got to be
14 replaced, and the sooner we can replace it, the better.

15 So I will continue to be demanding of my Air Force to
16 deliver that capability. And I can tell you the Chief, the
17 Secretary, and the acquisition leadership have all committed
18 to getting there as fast as we can. I hope that contract
19 award is soon.

20 Senator Blumenthal: I am concerned about the triad and
21 American naval superiority. I attended the commissioning of
22 the USS Colorado over the past weekend, a proud moment as
23 all these commissionings and christenings are. And our
24 undersea superiority is more important than ever for all the
25 reasons that you have outlined so well in your testimony.

1 I am concerned about the ramping up, which I think has
2 to come in the construction of both the Ohio class
3 replacement, the Colombia, and the Virginia class, which
4 requires the defense industrial base to be strong, worker
5 training, and worker skills.

6 Would you agree that the worker training grants that
7 are provided by the Federal Government play an important
8 role in our national strategic superiority, that industrial
9 base has to be trained, and the Federal Government has a
10 role in funding it?

11 General Hyten: The shipyards are a critical national
12 asset to America. It is one of our strengths. And that
13 workforce is essential to us being able to build Colombia,
14 to be able to build Virginia. And I think it is the
15 responsibility of all of us, including the Federal
16 Government, to make sure that that workforce, which is a
17 strategic asset, is supported across the board.

18 Senator Blumenthal: And when people talk about
19 spending on our military security and our military budget,
20 really our national security depends on that defense
21 industrial base, as you just said.

22 General Hyten: Every worker that is at a shipyard that
23 is working on the Colombia is part of our national security
24 infrastructure.

25 Senator Blumenthal: Thank you.

1 Thanks, Mr. Chairman.

2 Senator Inhofe: Thank you, Senator Blumenthal.

3 And thank you very much, General Hyten, for your
4 patience and your straightforward answers. We appreciate
5 you very much.

6 With that, we are adjourned.

7 [Whereupon, at 11:16 a.m., the hearing was adjourned.]

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