

Stenographic Transcript
Before the

COMMITTEE ON
ARMED SERVICES

UNITED STATES SENATE

TO RECEIVE TESTIMONY ON THE
DEPARTMENT OF DEFENSE BUDGET
POSTURE FOR NUCLEAR FORCES IN
REVIEW OF THE DEFENSE
AUTHORIZATION REQUEST FOR FISCAL
YEAR 2022 AND THE FUTURE YEARS
DEFENSE PROGRAM

Wednesday, May 12th, 2021

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4 YEARS DEFENSE PROGRAM

5
6 Wednesday, May 12, 2021

7
8 U.S. Senate

9 Committee on Armed Services

10 Subcommittee on Strategic

11 Forces

12 Washington, D.C.

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14 The committee met, pursuant to notice, at 4:33 p.m. in
15 Room SR-232A, Russell Senate Office Building, Hon. Angus
16 King, chairman of the subcommittee, presiding.

17 Committee Members Present: King, Warren, Manchin,
18 Rosen, Kelly, Fischer, Cotton, Rounds, Sullivan, Cramer, and
19 Tuberville.

1 OPENING STATEMENT OF HON. ANGUS KING, U.S. SENATOR
2 FROM MAINE

3 Senator King: This is a hearing of the Department of
4 Defense budget posture for nuclear forces in review of the
5 Defense Authorization Request for Fiscal Year 2022 and
6 Future Years Defense Program. First I want to thank our
7 witnesses for appearing at today's hearing.

8 The Dept of Defense's efforts to maintain a safe,
9 reliable, and effective nuclear deterrent are at the basis
10 of all of our defense strategies. Let me also thank Ranking
11 Member Fischer for her work with me on the Strategic Forces
12 Subcommittee. Two weeks ago, Senator Fischer and I visited
13 Minot Air Force Base and the U.S. Strategic Command.
14 Together we saw the two land legs of our strategic triad,
15 the Minuteman III and the B-52 heavy bomber. We both went
16 down in the silo, on the Minuteman III silos, and I have to
17 say, as an Easterner I have never seen a place so flat in my
18 life. Your dog could run away in Minot, North Dakota, and
19 it would take 3 days before you would lose sight of it.

20 Both of these arms of our triad are increasingly
21 showing signs of age -- we saw that ourselves -- for a
22 nuclear deterrent mission that constitute what former
23 Secretary Ash Carter refers to as "the bedrock of every
24 mission of the Department of Defense." At Strategic Command
25 we received an in-depth brief on the planning and use of

1 nuclear weapons and the development of those weapons by our
2 near peers.

3 As the Department continues the task of modernizing the
4 triad, I hope at today's hearing we can help the
5 subcommittee to understand the key risks, given that this
6 effort will span multiple administrations and serve well
7 into the 2070s. I note that we often focus on cost, which is
8 clearly important, but perhaps the bigger policy issues to
9 consider are whether the triad we are modernizing today will
10 continue to effectively deter our adversaries, as their
11 capabilities, characteristics, and intentions evolve in the
12 future. These non-monetary risks pose existential threats
13 to our nation and should serve as our North Star, to ensure
14 we continue the bipartisan approach we have maintained on
15 this singularly important topic.

16 Let me conclude by thanking General Ray for his 36
17 years of service to our nation. I understand you will
18 relinquish command of the Air Force Global Strike Command
19 and retire this summer. I wish you the best in your future
20 endeavors.

21 After Senator Fischer's opening statement, each
22 witnesses will have 5 minutes, and then we will alternate
23 among our members for question rounds of 5 minutes each.

24 Senator Fischer?

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1 OPENING STATEMENT OF THE HONORABLE DEB FISCHER, U.S.
2 SENATOR FROM NEBRASKA

3 Senator Fischer: Thank you, Chairman King, and welcome
4 to all of our witnesses today. I appreciate you being here
5 with us.

6 This is a budget request hearing, and so I want to
7 associate myself with the concern expressed by many in
8 Congress that we are in the second week of May, more than
9 halfway through the fiscal year, and we still do not have a
10 budget proposal from the administration. This limits our
11 ability to conduct oversight, and increases the likelihood
12 of a continuing resolution. None of us would like to see
13 that happen. That is especially concerning because many of
14 the program that we will be discussing here today are
15 replacing capabilities that will begin aging out over the
16 next decade and are expected to be delivered just in time.

17 As we have been hearing for many years, there is no
18 margin for further delay. I hope the Department is thinking
19 ahead and preparing to request anomalies for these programs
20 so that the fragile modernization schedule is not disrupted
21 by a CR.

22 Thank you, Mr. Chairman.

23 Senator King: Hopefully we can have the budget as soon
24 as possible so that these hearings can do their job.

25 We have with us Ms. Leonor Tomero, Deputy Assistant

1 Secretary of Defense for Nuclear and Missile Defense Policy;
2 Mr. Andrew Walter, Deputy Assistant Secretary of Defense for
3 Nuclear Matters; General Timothy Ray, Commander, Air Force
4 Global Strike Command; and Vice Admiral Johnny Wolfe,
5 Director, Navy Strategic Systems Programs.

6 Ms. Tomero, you are going to lead off. Thank you.

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1 STATEMENT OF LEONOR TOMERO, DEPUTY ASSISTANT SECRETARY
2 OF DEFENSE FOR NUCLEAR AND MISSILE DEFENSE POLICY

3 Ms. Tomero: Thank you, Chairman. Chairman King,
4 Ranking Member Fischer, and distinguished members of the
5 committee, thank you for the opportunity to testify today.
6 May I request permission to submit my written statement for
7 the record and provide brief opening remarks.

8 Senator King: Without objection.

9 Ms. Tomero: Thank you. Let me begin with the threat.
10 The United States faces a complex global security
11 environment where strategic competitors are expanding and
12 modernizing their nuclear capabilities to achieve strategic
13 advantage. China, Russia, Iran, and North Korea have all
14 demonstrated the capability and intent to advance their
15 interests. China is rapidly becoming more capable and
16 assertive, and its nuclear modernization is concerning.
17 China's comprehensive modernization of its convention and
18 nuclear capabilities are adding new dual-capable systems
19 that threaten the United States and its allies and partners.

20 Moreover, we are confronted with multifaceted
21 deterrence challenges across domains, which add increased
22 escalation risks, all making deterrence more challenging.

23 The Department is beginning a set of strategic reviews
24 that will include U.S. nuclear posture and policy. This
25 process will be informed by security and fiscal environment.

1 It will align and be closely integrated with the U.S.
2 National Defense Strategy. The Department began the NDS
3 review on May 3rd, and plans to deliver it to Congress by
4 January of 2022.

5 As reflected in a recent speech 10 days ago at
6 INDOPACOM, and in a recent Washington Post op-ed, Secretary
7 Austin's priority has been to focus on integrated deterrence
8 to address threats and opportunities to strengthen
9 deterrence across conventional, cyber, space, hybrid, and
10 nuclear domains. We are contributing to that work.

11 With regard to deterrence policy, as Secretary Austin
12 also stated, nuclear deterrence is the Department's highest
13 priority mission. Our nuclear forces remain essential to
14 ensure that no adversary believes it can ever employ nuclear
15 weapons for any reason, under any circumstances, against the
16 United States or our allies and partners without risking
17 devastating consequences.

18 We plan to begin a specific review of our nuclear
19 posture and policy soon and will process with its analysis
20 this summer and fall. In the coming months, in line with
21 the Interim National Security Strategic Guidance and the
22 goal of reducing the existential threats posed by nuclear
23 weapons, we will also explore what steps can be taken to
24 reduce the role of nuclear weapons in our National Security
25 Strategy, while continuing to ensure our strategic deterrent

1 remains safe, secure, and effective, and that our extended
2 deterrence commitments to our allies remain strong. Our
3 upcoming strategic reviews will play a critical role in this
4 effort.

5 We must sustain and modernize the nuclear triad to
6 maintain credible deterrence in the face of 21st century
7 threats. The President's FY 2022 discretion request
8 supports the ongoing nuclear modernization programs while
9 ensuring that these efforts are sustainable. Our reviews
10 will assess the U.S. nuclear modernization programs to
11 ensure that they deliver on time and are aligned with
12 policy.

13 Importantly, the reviews will include a renewed focus
14 on strategic stability, including risk reduction and arms
15 control. President Biden has already demonstrated his
16 commitment to re-establishing U.S. credibility and
17 leadership on arms control by extending the New START Treaty
18 for 5 years, which provides stability, predictability, and
19 transparency and maintains its verification measures. We
20 must look to build on this foundation.

21 We are harnessing our greatest strategic advantage, our
22 network of allies and partners, both globally and
23 regionally. We will engage and consult with our allies to
24 ensure robust extended deterrence and credible assurances.
25 Extended deterrence remains a critical element of our

1 regional and strategic stability.

2 Mr. Chairman, let me conclude by thanking the
3 subcommittee for its previous support for nuclear deterrence
4 and the opportunity to testify, and I look forward to your
5 questions. Thank you.

6 [The prepared statement of Ms. Tomero follows:]

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Senator King: Thank you. Mr. Walter.

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1 STATEMENT OF ANDREW WALTER, DEPUTY ASSISTANT SECRETARY
2 OF DEFENSE FOR NUCLEAR MATTERS

3 Mr. Walter: Chairman King, Ranking Member Fischer,
4 members of the subcommittee, thank you for the opportunity
5 to join my colleagues to testify before you today regarding
6 matters related to the U.S. nuclear enterprise.

7 With the understanding that the administration is
8 embarking on the review of nuclear policies and posture that
9 Secretary Austin discussed during his confirmation hearing,
10 and my colleague just mentioned, I will provide a few
11 framing comments on the strategic environment and current
12 program of record from my perspective in my responsibilities
13 for certain programmatic and technical matters in the
14 Department.

15 While the U.S. nuclear deterrent is and will remain
16 safe, secure, effective, and credible, the strategic threat
17 environment in which it must do so has worsened considerably
18 over the past decade. China, in particular, is pursuing and
19 fielding major quantitative and qualitative improvements to
20 its nuclear capabilities that significantly change the
21 strategic threat they pose to the United States and our
22 allies and partners.

23 For its part, Russia is completing its longstanding
24 plan to modernize its legacy nuclear forces, and is
25 aggressively pursuing new, advanced nuclear capabilities.

1 Both China and Russia are also actively pursuing
2 advancements in ballistic missile defense and air defense
3 systems.

4 At the same time, the systems and infrastructure that
5 comprise the United States' nuclear deterrent were largely
6 built during the Cold War and are increasingly difficult to
7 sustain. As Secretary Austin has said, quote, "Although
8 effective today, U.S. nuclear deterrence systems remain
9 dependent on aging systems that have been extended far
10 beyond their original service lives, and the tipping point
11 where we must simultaneously overhaul these forces is now
12 here," close quote.

13 These combined developments are resulting in long-
14 lasting challenges that require the United States to focus
15 and maintain long-term attention and resources on ensuring
16 we have a modern and credible nuclear deterrent. And to be
17 clear, this focus must be on the entire U.S. nuclear
18 deterrent. This includes not just the nuclear weapons and
19 their delivery systems but also the nuclear command,
20 control, and communications system, the supporting
21 infrastructure across both the Department of Energy and the
22 Department of Defense, and the people in both Departments
23 who are the true backbone of the nation's deterrent.

24 As we do this, we must be mindful that our current
25 timelines for nuclear modernization programs are 10 to 20

1 years from concept to capability, and the capabilities
2 produced will be in the field for 3, 4, even 5 decades.
3 While both Departments continue to seek opportunities to
4 shorten delivery time frames and find efficiencies, we know
5 that programmatic decisions made today have repercussions
6 that last for decades. This is why the nuclear enterprise
7 always seeks to anticipate future threat environments and,
8 more importantly, to create flexibility and resiliency
9 across the nuclear deterrent.

10 The four largest acquisition efforts in the Department
11 of Defense's current nuclear modernization program -- the
12 Columbia class submarine, the B-21 bomber, the ground-based
13 strategic deterrent, and the long-range standoff cruise
14 missile -- were all started 5 to 10 years ago. We are
15 beginning to see these programs come to fruition, and all
16 are currently on track.

17 But the successful execution of these programs, and
18 complementary programs in the National Nuclear Security
19 Administration, requires enduring commitment over long
20 timelines. As President Biden's 2010 nuclear posture review
21 stated, quote, "An effective strategy must be sustained over
22 time with support from a long succession of U.S.
23 administrations and Congresses," close quote. This
24 sustained national commitment will ensure that no adversary
25 ever believes it can carry out a strategic attack on the

1 United States or our allies for any reason, under any
2 circumstances, without risking devastating consequences.

3 This committee is a central stakeholder in that
4 commitment. I thank you for the committee's longstanding
5 and continued bipartisan support, as you mentioned, Mr.
6 Chairman, for our nuclear deterrent mission and for the men
7 and women, both in and out of uniform, across the nuclear
8 enterprise.

9 On behalf of these national security professionals, as
10 they continue to work to ensure the U.S. nuclear deterrent
11 continues to keep the peace for generations to come, thank
12 you. I look forward to your questions.

13 [The prepared statement of Mr. Walter follows:]

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Senator King: Thank you, Mr. Walter. General Ray.

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1 STATEMENT OF GENERAL TIMOTHY M. RAY, USAF, COMMANDER,
2 AIR FORCE GLOBAL STRIKE COMMAND

3 General Ray: Good afternoon Chairman King, Ranking
4 Member Fischer, distinguished members of the subcommittee.
5 Thank you for inviting me to appear before you today and
6 represent the men and women of Air Force Global Strike
7 Command.

8 After nearly 3 years as the Commander of Air Force
9 Global Strike Command, and as the Joint Force Air Component
10 Commander, which is the operational air commander to U.S.
11 Strategic Command, I have had a front row seat in the
12 opening stages of the long-term strategic competition
13 unfolding around us. During this time, it has become
14 abundantly clear we must bring about significant transition
15 in how we do our job -- how we lead, how we think, how we
16 operate, and especially how we develop our combat
17 capabilities, both legacy and future systems.

18 As we transition from two decades of counterterrorism
19 operations to the long-term strategic competition, we face
20 potential adversaries within increasingly more capable and
21 abundant military technologies, matched with their own
22 determined regional and global ambitions. Air Force Global
23 Strike Command and Air Force's Strategic Air have a central
24 role in delivering what the nation needs -- a safe, secure,
25 reliable, effective, affordable long-range precision strike

1 force, both nuclear and conventional. As the only force of
2 its kind, this force is not only for the American people but
3 for our allies.

4 Part of presenting the long-range precision strike
5 force needed is fostering the right climate and culture for
6 the best of America's sons and daughters. Our airmen are
7 the linchpin of the force our nation needs most, and as we
8 modernize we must also prioritize the development of the
9 right leaders with the ability to lead any airman from any
10 walk of life, to build the unity and the trust our units
11 need to prevail in any challenge.

12 While our adversaries focus on the division of our
13 American public, we must labor to instill in all of our
14 teammates the dignity, respect, diversity inclusion that
15 are critical to the paths of unity and trust. Without it,
16 we miss out on the tremendous talent from every corner of
17 our country, the innovation and the boldness we need.

18 American public's trust in the nuclear forces as safe,
19 secure, reliable is a non-negotiable requirement, and must
20 remain a bedrock of how we operate. What must change,
21 however, is the manner in which we train, prepare, sustain,
22 and modernize. The Air Force nuclear arsenal must evolve
23 beyond a collection of aging programs, and must be grounded
24 in relevant operational concepts and modern capability
25 development techniques. This results in affordable

1 acquisition programs and it improves sustainment practices
2 and dynamic training underwritten by robust and survivable
3 nuclear command and control.

4 Transitions are difficult, but we have a unique
5 opportunity to partner with Congress, the combatant
6 commanders, the Office of the Secretary of Defense to
7 advance affordable and innovative solutions supporting the
8 long-range precision strike mission. The effort we
9 undertake will ensure our intercontinental ballistic missile
10 and bomber forces are ready and adaptable for the challenges
11 of the 21st century.

12 Lastly, I want to thank you for your continued support.
13 I cannot articulate enough how credible the on-time funding
14 is to restoring readiness. Predictable, reliable, and
15 flexible budgets, with the right authorities to drive the
16 competition, are critical to our future success.

17 Chairman King and distinguished subcommittee members, I
18 want to thank you for your dedication to our great nation,
19 to your very thoughtful approach to these very difficult
20 challenges, and certainly for the opportunity to appear
21 before the committee. I look forward to your questions.

22 [The prepared statement of General Ray follows:]
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1 Senator King: Thank you, General. When I got home
2 from the trip my wife said, "What most impressed you? Was
3 it the missiles or the bombers?" I said, "No. It was the
4 people." The young men and women that we met in Minot were
5 exceptional people, and when I say young, I mean, early 20s,
6 with enormous responsibility. But I hope you will take that
7 back. Senator Fischer, I am sure you agree. That was the
8 highlight of the trip, I think, for me, so please convey
9 that.

10 I know we have airmen. How about all those females.
11 Are they still airmen? What is the --

12 General Ray: Yes, sir. They are airmen.

13 Senator King: All right. I just wanted to be sure.

14 General Ray: Female airmen, and just as tough as the
15 rest of them.

16 Senator King: I got that impression. Thank you.

17 Admiral Wolfe, please. Thank you.

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1 STATEMENT OF VICE ADMIRAL JOHNNY R. WOLFE, JR., USN,
2 DIRECTOR, NAVY STRATEGIC SYSTEMS PROGRAMS

3 Admiral Wolfe: Chairman King, Ranking Member Fischer,
4 and distinguished members of the subcommittee, thank you for
5 the opportunity to testify on the Department of the Navy's
6 budget priorities for nuclear forces. I would like to thank
7 this subcommittee for its continued support of the Navy's
8 nuclear deterrent mission, and I respectfully request my
9 written statement be submitted for the record.

10 Senator King: Without objection.

11 Admiral Wolfe: As you heard from Admiral Richard last
12 month, nuclear deterrence underwrites every U.S. military
13 operation and capability on the globe, and serves as the
14 backdrop for both our national defense and the defense of
15 our allies. That nation's nuclear triad of intercontinental
16 ballistic missiles, strategic bombers, and ballistic missile
17 submarines serves as the bedrock of our ability to deter
18 major power conflict, assure our allies and partners achieve
19 U.S. objectives should deterrence fail, and hedge against an
20 uncertain future.

21 The Navy has provided unwavering and singular mission-
22 focused support to the sea-based leg of the triad for over
23 six decades. We must maintain today's deterrent while
24 modernizing for the future. This falls into four concurrent
25 lines of effort for the Navy.

1 First, we must maintain the current D5LE missile
2 inventory and provide the necessarily operational support to
3 sustain Ohio-class submarines through their service lives.
4 This is being accomplished through an update to all of our
5 sub systems. All of our life-extension efforts remain on
6 track, and our current program will support the deployment
7 of all existing warheads. We must also recapitalize or
8 strategic weapons facilities to continue to support and
9 sustain SSBN operations that enable our continuous at-sea
10 presence.

11 Second, we must continue to work with our partners at
12 PEO Columbia to assure that the transition between Ohio-
13 class and Columbia-class submarines stays on schedule. For
14 SSP, this requires a seamless transition of the current D5LE
15 weapons system and missile inventory onto the new Columbia
16 class. During this time of transition, we will ensure that
17 the Navy's portion of the nuclear triad remains credible by
18 introducing the W93/Mark 7 to rebalance the stockpile of W76
19 and W88s and meet STRATCOM requirements.

20 Third, it is imperative that we start the work on a
21 future missile and corresponding weapons system now. This
22 next generation of the current D5LE missile, a missile in
23 service since 1989 and boasting a remarkable history of 182
24 successful flight tests, is called D5LE2. D5LE2 will yield
25 multiple benefits in missile performance to include

1 extending its service life. D5LE2 is required to completely
2 outload the Columbia-class SSBNs and ensure that Trident
3 remains credible in the face of a dynamic threat
4 environment. A D5LE2 missile must be developed, tested, and
5 produced with the lead time sufficient to deploy on
6 Columbia-class hull number 9 no later than FY 2039. It will
7 then be backfitted for the first eight hulls of the class.

8 Lastly, one of the greatest advantages the United
9 States has is its alliances and partnerships. As the U.S.
10 Project Officer for the Polaris Sales Agreement, I will
11 continue to support the UK's sovereign deterrent for today's
12 Vanguard-class submarines and their successor, the
13 Dreadnought-class.

14 For decades, U.S. policy has recognized that the
15 independent British nuclear deterrent adds to global
16 security. Under the 1958 Mutual Defense Agreement and the
17 1982 Polaris Sales Agreement, the United States has provided
18 assistance and material, consistent with international law,
19 to the UK deterrent program. Without this assistance, the
20 cost and schedule risks to maintain the UK's independent
21 deterrent would rise significant, thus creating additional
22 challenges for the UK in sustaining its nuclear contribution
23 to NATO alongside the U.S.

24 None of these four lines of effort are possible without
25 an investment in our people, our infrastructure, and our

1 industrial base. Military, civilian, government, and
2 contractor, the men and women of SSP are working hard to
3 deliver a safe, secure, and effective strategic weapons
4 system today that will serve us well into the latter half of
5 this century. They remain my number one priority in order
6 to ensure continued program success.

7 Nuclear modernization will take time to complete, so
8 work towards these ends must start now, and it cannot be
9 delayed. It is only through your continued support that the
10 Department's top modernization priorities can be achieved.

11 As the 14th director, it is my highest honor to
12 represent the men and women of SSP, comprising approximately
13 1,700 sailors, 1,000 Marines, 300 Coast Guardsman, over
14 1,300 civilians, and over 2,000 contractor personnel. It is
15 my most critical goal to ensure that they are poised to
16 execute the mission with the same level of success, passion,
17 and rigor, both today and tomorrow, as they have since our
18 program inception in 1955.

19 Thank you for the opportunity to testify today on
20 behalf of the men and women who make deterrence of major
21 power conflict their life's work. I look forward to your
22 questions.

23 [The prepared statement of Admiral Wolfe follows:]

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1 Senator King: Thank you, Admiral. We will now proceed
2 to 5-minute question rounds, and let me begin.

3 Ms. Tomero, you caused a disturbance in the force by an
4 interview with a Japanese newspaper, where you referred to
5 the modernization programs as "costly," but I note that you
6 went on to say, quote, "nuclear deterrence continues to
7 remain the number one priority for the Department of
8 Defense." Do you want to expand on that, because as you
9 know it raised some furor.

10 Ms. Tomero: Senator, thank you. Chairman, thank you
11 for the question and the opportunity to clarify that
12 interview. The interview with a Japanese newspaper was
13 heavily editorialized. My comments and remarks during the
14 interview were about the upcoming reviews, the importance of
15 extended deterrence, and the issues that would be looked at
16 as part of these review, including looking broadly at
17 nuclear modernization, at our declaratory policy. And
18 again, the intent was to assure our allies, and particularly
19 Japan in this instance, that we would consult with them and
20 that extended deterrence remains strong.

21 I am happy to provide the transcript of the interview
22 that more accurately reflects what my remarks were, and
23 during the interview I did not talk about reductions or
24 express concern about cost. It was as an answer to a
25 question about the \$1.2 trillion nuclear modernization. My

1 answer was some of these programs are very expensive, as a
2 statement of fact, not as a concern.

3 Senator King: I think it would be helpful to supply
4 the transcript. None of us are familiar with the phenomenon
5 of giving an interview and not having it come out exactly as
6 we thought. We never heard of that before.

7 Ms. Tomero: I would be happy to. And again, to
8 reiterate, nuclear modernization of the triad will be one of
9 our top priorities.

10 Senator King: Thank you. Now, there is a statement in
11 your prepared remarks that caught my attention, and I just
12 wanted you to clarify it. It is in the middle of page 5.
13 It says, "We will begin to explore those steps that can be
14 taken to reduce the role of nuclear weapons in our National
15 Security Strategy, while continuing to ensure our strategic
16 deterrent remains safe."

17 Those steps that can be taken to reduce the role of
18 nuclear weapons -- can you amplify on that a bit?

19 Ms. Tomero: Yes, sir. So that was the direction
20 coming out of the National Security Strategic Guidance, the
21 Interim Guidance, that the United States would reduce the
22 role of nuclear weapons. And so we will be looking at
23 options to do that, and present options to be considered,
24 and decided as appropriate. And it is really in the context
25 of the Strategic Guidance saying that we have to look at

1 reducing the existential threat of nuclear weapons.

2 Senator King: I appreciate that. Will the budget that
3 we are about to receive show any substantial change in the
4 priorities in terms of modernization?

5 Ms. Tomero: Sir, what I can quote at this point is the
6 discretionary budget that came over from OMB, the guidance
7 that was submitted to the Appropriations Committee, saying
8 that there would be support for nuclear modernization and
9 sustaining our nuclear forces. At this point I cannot go
10 into the details --

11 Senator King: I understand.

12 Ms. Tomero: -- of what the FY 2022 budget will cover,
13 and I understand the delay is causing some frustration. But
14 I am really happy to come back and brief in more detail and
15 meet with you and your staff.

16 Senator King: Thank you. We will follow up.

17 General Ray, I only have a minute left so we may want
18 to come back to this. But the question is, how much longer
19 can we life-extend the Minuteman III, and your view on the
20 practicality of that approach as opposed to developing the
21 ground-based strategic deterrent?

22 General Ray: Sir, thank you for the question. We are
23 out of time. There are several key components that needed
24 to be --

25 Senator King: I am not out of time.

1 [Laughter.]

2 Senator King: You mean we are out of time -- I have
3 got 27 seconds.

4 General Ray: Sir, I will talk as long as you want me
5 to. But there were several decisions that would close out
6 the gaps that we needed for the Minuteman III extension --
7 2015, 2016 decisions needed to be made to start programs for
8 our propulsion system rocket engines, our missile guidance
9 sets, and for our boosters. That is now 6, 7, 8 years
10 beyond, because we made the decision to go with GBSD through
11 the JROC and through the analysis of alternatives and the
12 milestone decision authorities making that decision at the
13 OSD level. We did not go backwards. So you actually are
14 out of time. You will buy a gap, a significant gap, in ICBM
15 capability if you were to go backwards now, and I can come
16 back to that, sir.

17 Senator King: Thank you. I think we almost certainly
18 will. Senator Fischer.

19 Senator Fischer: Thank you. Thank you, Mr. Chairman.
20 General Ray, I would like to follow up a little bit where
21 Senator King was headed in talking about the analysis that
22 we are looking at on the pursuit of the GBSD as a
23 replacement.

24 The Air Force compared costs with the Minuteman and the
25 GBSD in 2019, and again more recently. What is current

1 estimated cost difference between pursuing GBSD and trying
2 to life-extend the Minuteman?

3 General Ray: Ma'am, thank you for the question. The
4 bottom line up front is it is a \$38 billion difference with
5 GBSD being the least expensive and more effective option in
6 every category that we analyzed it on. So we were given six
7 criteria, classified criteria. No version of the Minuteman
8 III ever, in that discussion, satisfactorily met those in an
9 affordable fashion. GBSD did, and the cost of the Minuteman
10 III life extension continues to go up. It was \$5 billion
11 difference back in 2016, \$20 billion difference --

12 Senator Fischer: We would still end up with something
13 that does not do the job for us in the future.

14 General Ray: Exactly, ma'am. And so GBSD is going in
15 the right direction, doing everything we want it to do --
16 more affordable, meets all my criteria that I need. The
17 Minuteman III becomes increasingly more difficult to
18 sustain. I can provide more details about what that means.

19 Senator Fischer: We are looking at program costs that
20 you just spoke about. Are there additional costs that are
21 not included there?

22 General Ray: Ma'am, I think when we give the numbers I
23 believe it does include the de-mil of the Minuteman III,
24 which is one of those costs that we need to account for.

25 Senator Fischer: Okay. One of the big drivers of the

1 difference in cost between the GBSD and the Minuteman are
2 the sustainment costs. Is that correct?

3 General Ray: Yes, ma'am. I was just at the depot last
4 week, at Hill, talking to the team, simply on the propulsion
5 system and not the rest. We have about 330 parts that we do
6 not have a source for, that we are trying to get. And we
7 are going to get -- probably 40 to 50 percent we will never
8 get a bid from industry to go fill those parts.

9 Senator Fischer: I thought it was really helpful for
10 myself and Senator King where we saw the level of effort
11 that is required to maintain the facility. When you do
12 maintenance you need to deploy a security team around them
13 because the warhead is potentially exposed. Is that
14 correct?

15 General Ray: Yes, ma'am.

16 Senator Fischer: Can you explain how with the GBSD
17 that would be different, and what it will mean for
18 sustainment costs?

19 General Ray: Yes, ma'am. Because the Minuteman III
20 was built as a single system, every time you need to work on
21 anything below the warhead you have to unstack it, which
22 means you expose the warhead. With the GBSD, the way it is
23 being constructed, we expect two-thirds reduction in the
24 number of times we expose the weapon, and two-thirds
25 reduction in the number of convoys. Moreover, we think that

1 95 percent of the work that we would do would require less
2 than 6 hours with only a handful of people, compared to most
3 of the jobs are 10, 12, 14, and do require a heavier
4 security footprint.

5 Senator Fischer: And that definitely will reduce risk
6 because there is less exposure of the warhead, for one
7 thing, right?

8 General Ray: Emphatically.

9 Senator Fischer: And you reduce the number of times
10 that people are there, so the demands on your personnel,
11 that they are accessing the missile. Is that correct?

12 General Ray: Yes, ma'am. We will be able to reduce
13 the number of people that we have to commit to this mission.

14 Senator Fischer: Okay. I was just at a Commerce
15 Committee markup today on a bill looking at threats from
16 China, from a research viewpoint, basically. As the Global
17 Strike Commander, when you look at the acceleration that the
18 Chinese are doing with their nuclear program, with their
19 modernization, and their growth, what does that mean to you,
20 in your position?

21 General Ray: Ma'am, we are in the air component
22 commander to U.S. Strategic Command. It means I have a much
23 more difficult job balancing all the requirements. It
24 absolutely underscores the need to have a modernized triad.
25 So the GBSD has got to be how I answer a growing number of

1 threats. You heard some of my teammates here talk about
2 growing capabilities with ballistic missile defense.
3 Certainly that trend is going to continue. As I bring on
4 cruise missiles, it has to be able to survive. So it is a
5 fundamentally different set of problems that I need to
6 operate in, and there is no margin that remains in any of
7 the current systems that will let me carry a couple of
8 decades out.

9 Now I do believe the beauty of all the systems that we
10 are fielding is that they are built to be in this game for a
11 long period of time. We have a modular design, open mission
12 systems, digitally engineered, so in recent discussions we
13 have been able to explain to a lot of those who are very
14 savvy in the acquisition world how we will absolutely change
15 the game to keep these systems modernized and relevant.
16 There is no margin remaining in the Minuteman III or in the
17 current systems that we have. Thank you.

18 Senator Fischer: Thank you, General. Thank you, Mr.
19 Chairman.

20 Senator King: Senator Warren, via Webex.

21 Senator Warren: Last month, DoD announced that it is
22 moving forward with the development of the next-generation
23 Interceptor, a new weapon system which is going to be added
24 to the current generation of ground-based interceptors. The
25 Cost Assessment and Program Evaluation Office estimates that

1 the United States will spend a total of \$18 billion on 31
2 interceptors. That is almost half a million dollars for
3 one, just one, of these missiles, and that price goes up
4 when you consider that 10 of the 31 missiles will only be
5 test units.

6 The Northern Command has already warned this committee
7 that North Korea could overwhelm our missile defense system
8 within the next few years, so it is not at all clear to me
9 that spending billions of dollars on additional interceptors
10 is the right call.

11 Ms. Tomero, given NORTHCOM's concerns, do you believe
12 that spending \$18 billion on just 21 interceptors that may
13 be overwhelmed in a few years is a responsible way to spend
14 taxpayer dollars?

15 Ms. Tomero: Senator Warren, thank you for the
16 question. The administration recently awarded two contracts
17 for these interceptors, and it for the development phase of
18 the interceptor. So there are several critical decision
19 juncture that will happen along the way that will inform the
20 way forward.

21 Senator Warren: I appreciate that, but that is not the
22 question I am asking. I am just asking whether or not we
23 ought to be spending that much money for 21 interceptors,
24 that we are already being warned will be overwhelmed.

25 Ms. Tomero: The intent, Senator, is to provide an

1 effective, limited missile defense capability against
2 threats from rogue states. And so the intent is to improve
3 that capability --

4 Senator Warren: I guess the question I am asking is
5 whether or not we think this is effective.

6 Look, I understand that your job here is to make the
7 case for these weapons, but it is also unclear NGI will
8 represent any significant upgrade to our system of defense
9 against intercontinental ballistic missile threats. Joshua
10 Pollock, a senior research associate at the Middlebury
11 Institute of International Studies said, and I want to quote
12 him here, "This is a staggering expenditure for such a
13 modest capability," end quote.

14 Now I understand that \$18 billion is a drop in the
15 bucket when it comes to DoD's budget, but that is more than
16 what the government spends fighting the opioid crisis that
17 killed nearly 100,000 people last year. I am also worried
18 that the price tag could go up, just like we have seen with
19 previous missile defense programs. So let me ask, is it
20 possible that the price tag for NGI could further increase
21 as DoD moves along in its development?

22 Ms. Tomero: Senator, we will closely track this. I
23 guess there is always a possibility that costs might
24 increase. What we are planning to do is provide the
25 incentives, especially starting with two awards, which is

1 unusual for the Missile Defense Agency to have competition
2 and including have incentives on having the most efficient
3 system that we are able to have providing value and
4 providing incentives on cost. We have that competition and
5 we will be able to make that determination in FY 2024 time
6 frame.

7 Senator Warren: Well, and you started this by saying
8 costs might go up, because that is exactly what has happened
9 in the past. The redesigned Kill Vehicle program was meant
10 to upgrade our existing missile defenses before it was
11 cancelled in 2019, after more than a decade of development.
12 The program's cost more than tripled through the development
13 phase. But the Government Accountability Office found that
14 DoD repeatedly ignored warnings of major issues with the
15 project.

16 So let me just ask, this is kind of a simple yes or no.
17 Would you agree that more transparent, more methodical, more
18 rigorous acquisition practices could drive the cost of these
19 interceptors and other projects down, rather than keeping
20 them absurdly expensive?

21 Ms. Tomero: Senator, we certainly support the
22 incentives and have an approach that we believe will drive
23 competition and will maximize the opportunities to deliver
24 an effective system that delivers on time and on cost.

25 Senator Warren: Well, I will just point out that the

1 GAO has repeatedly warned about the continued use of high-
2 risk acquisition practices that use short development
3 timelines to justify spending outrageous amounts of money.

4 Look, I think spending nearly half a billion dollars on
5 a single missile, that is barely an upgrade on the existing
6 system, is absurd. This is just another example of
7 irresponsible and out-of-control defense spending that
8 wastes taxpayer dollars. We should be prioritizing smart
9 investments in capabilities that actually advance our
10 national security and not spending billions of dollars on
11 what are, at best, marginal improvements.

12 Thank you, Mr. Chairman. I yield back my time.

13 Senator King: Thank you, Senator. Now Senator Cotton.

14 Senator Cotton: Thank you, Mr. Chairman.

15 General Ray, you testified in response to Senator
16 Fischer's question that China is significantly accelerating
17 its nuclear modernization. Is that correct?

18 General Ray: Yes, sir.

19 Senator Cotton: Does China just tell us the pace at
20 which it is accelerating that modernization? Does it throw
21 open its research labs and its military bases to let us know
22 how it is accelerating?

23 General Ray: Sir, they do not.

24 Senator Cotton: Okay. So we get that from
25 intelligence assessments.

1 General Ray: Affirmative.

2 Senator Cotton: Do you think it is more likely, in
3 retrospect, when you look back in 5 or 10 years, that those
4 intelligence assessments will have overestimated the pace at
5 which China is expanding and the volume of weapons they are
6 producing, or that we underestimated, and China was actually
7 moving faster and getting more weapons systems in place that
8 we currently believe?

9 General Ray: Senator Cotton, thank you for that
10 question. I believe that I can only talk about the last
11 probably 3 or 4 years, and I will tell you we underestimated
12 the pace.

13 Senator Cotton: And that has been the common pattern
14 of such assessments in the nuclear age, going back 75 years,
15 correct, that we usually undershoot the mark of what our
16 adversaries are trying to do?

17 General Ray: Sir, that could be true going that far
18 back. I know that with a good arms control agreement that
19 is verifiable and enforceable you have access or the ability
20 to see where the Russians are going is much more
21 understandable. We have no such agreement with the Chinese.

22 Senator Cotton: All right. Thank you, General Ray.

23 Ms. Tomero, so we have heard from General Ray that the
24 People's Liberation Army is undertaking this massive nuclear
25 buildup. Do you believe that is the result of any U.S.

1 missile defense deployments?

2 Ms. Tomero: Senator, I think there are several drivers
3 for China's nuclear modernization. I would be happy to come
4 talk to you about it in a classified setting.

5 Senator Cotton: So you believe that China may be
6 responding to U.S. missile defense deployments?

7 Ms. Tomero: Again, I think it is important to
8 understand the drivers for China's nuclear modernization
9 program. We want to make sure that we have got effective
10 nuclear deterrence against China, and that we clearly
11 communicate that we have deterrent capabilities against
12 China. Part of that is understanding what drives their
13 modernization programs, and again, I am happy to come talk
14 about it in a classified setting.

15 Senator Cotton: Ms. Tomero, I have been on this
16 committee and the Intelligence Committee now for 8 years. I
17 have never seen a single product that suggests that China is
18 responding to U.S. missile defense deployments. So could
19 you or the Joint Staff please provide me, by document
20 number, sometime in the next 2 weeks, any product that
21 suggests that may be the case?

22 Ms. Tomero: Sir, we will definitely provide you
23 products that show --

24 Senator Cotton: Thank you, and in a classified
25 setting. I understand.

1 Ms. Tomero, should the United States adopt a no-first-
2 use policy?

3 Ms. Tomero: Sir, thank you for that question. The
4 declaratory policy will be looked at as part of these
5 reviews. We will do it in consultation with the rest of the
6 Department, with the military, with the interagency. We
7 will plan to start consultation with allies more broadly on
8 extended deterrence. And so we will look at the pros and
9 cons of our current policy, potentially of alternatives, but
10 at the end of the day, this is the prerogative of the
11 President.

12 Senator Cotton: I am glad that we are going to consult
13 with a lot of people. So you are open -- you believe that
14 it is at least an open possibility we should adopt a no-
15 first-use policy? I am asking for your view. You are a key
16 member of what is going to be a nuclear posture review. Do
17 you believe we should adopt a no-first-use policy?

18 Ms. Tomero: Thank you for your question. My role is
19 to inform options and inform a decision, and it is not about
20 my personal view. Again, this is going to be looked at
21 across the Department and across the interagency.

22 Senator Cotton: Well, I am not asking your personal
23 view in the sense of like your taste about the matter. I am
24 asking your considered policy judgment, having worked on
25 these issues, for, I think, a couple of decades now. Do you

1 think the United States should adopt a no-first-use policy?

2 Ms. Tomero: At this point, Senator, before we have
3 even begun specific reviews, we are not going to foreclose
4 options. We are going to look at what our current
5 declaratory policy is, evaluate risks and benefits, and I
6 would be happy to come discuss considerations and, of
7 course, decisions made once the review is concluded.

8 Senator Cotton: And what about a sole-purpose policy?

9 Ms. Tomero: Again, that relates to declaratory policy
10 and what changes might or might not be made.

11 Senator Cotton: My time has expired. Thank you. I
12 have to say, I am now troubled by the direction of this
13 nuclear posture review.

14 Senator King: Thank you, Senator Cotton. Senator
15 Manchin on Webex.

16 Senator Manchin: Thank you, Mr. Chairman. This will
17 be to Mr. Walter and Ms. Tomero. Recently my office met
18 with Northrop Grumman's Chief Information Officer to discuss
19 the measures that are being put into place to develop a
20 secure nuclear command and control and communications, an
21 NC3 system, with the modernization of the ground-based
22 strategic deterrent, as we are all beginning to realize just
23 how vulnerable we are from the cyber domain. I am concerned
24 with the cybersecurity, the entirety of our current and
25 eventually modernized nuclear enterprise.

1 So my question would be, what goals has the Department
2 set internally with our private industry partners to ensure
3 that the NC3 systems remain as secure as possible?

4 Ms. Tomero: Senator, I agree that NC3 and having a
5 robust NC3 underpins most of our nuclear deterrent. I would
6 respectfully defer that question to my colleague, Andrew
7 Walter, since it is an acquisition question. Thank you.

8 Senator Manchin: Well, I will have a second part.
9 Maybe you can answer one part of this. I am sure the
10 Department has been considering instituting a zero trust
11 concept for our nuclear network. Can you discuss what that
12 will actually look like for the cybersecurity professionals
13 that are monitoring these systems and what resources will be
14 available for them to verify every single user?

15 Ms. Tomero: Sir --

16 Mr. Walter: Thank you, Senator. The Department takes
17 the cybersecurity of the nuclear deterrent force
18 extraordinarily seriously. Our legacy forces remain and are
19 secure, often based on just how old they are and not
20 connected to external systems.

21 As we look towards the modern systems, such as the
22 ground-based strategic deterrent and other systems,
23 cybersecurity is a paramount priority and requirement within
24 the system, and providing the GBSD program office and
25 Northrop Grumman sufficient resources to ensure that it

1 remains so throughout its life of 30, 40 years, potentially.

2 I would like to ask General Ray to chime in on the
3 specifics for the system.

4 General Ray: Yes, sir. Thank you for the question and
5 the opportunity to comment. Sir, what we have done as the
6 air component to Global Strike, to Strategic Command, as the
7 team that builds this, is we have documented what we
8 believe, at a very high level of classification what the
9 roadmap should be. Cybersecurity is one of the critical
10 pieces when we designed the GBS, when we looked at that.
11 Cyber operators are part of this conversation, and I could
12 tell you, watching the software development approach that we
13 are taking is the leading edge capability. I have seen
14 first-hand the Kubernetes containerized software approach.
15 We have had the red team multiple times try to break into
16 the developmental software, and they cannot.

17 And so, sir, we see this as a central issue and it will
18 be part of how we deal with encryption, how we deal with AI
19 and quantum and all those things going forward. Over.

20 Senator Manchin: Thank you, General. To both of you,
21 again, in the past this subcommittee has heard about needing
22 improvements in our satellite system, such as the advanced
23 extremely high frequency satellites in orbit and production.
24 These efforts are related to, and often tied directly to,
25 the Missile Defense Agency, and now the Space Development

1 Agency as our nuclear defense and employment are tied
2 together. Some have been critical of this move as it could
3 be interpreted as a duplication of effort and reductive to
4 the need of interoperability within our forces.

5 So given that you come from the different services and
6 both require access to our satellite network, do you feel
7 there is a united effort between the Missile Defense Agency
8 and the Space Development Agency to ensure that seamless
9 access is being maintained across the DoD enterprise? Both
10 of you. Either one who wants to start on that one can say.

11 Mr. Walter: Sir, thank you for the question. Between
12 the Missile Defense Agency and the Space Development Agency
13 there are often regular conversations regarding the
14 requirements needed in the satellite constellation. I would
15 have to take for the record the specifics for what those
16 consultations are and how we are ensuring there is no
17 duplication of effort, but that is a priority across the
18 acquisition system, to ensure that we are acquiring the
19 right capabilities without duplicating in different program
20 silos.

21 Senator Manchin: General?

22 General Ray: Sir, at this time the team's application
23 of AHF is not directly impacted by that particular
24 relationship. So I am grateful to say that we have what we
25 needed in terms of this for the here and the now.

1 Senator Manchin: So it is working.

2 General Ray: Sir, from where I am sitting at this
3 time, yes, sir, it is.

4 Senator Manchin: That is good to hear. Thank you
5 both. I yield my time, Mr. Chairman.

6 Senator King: Thank you, Senator. Senator Rounds.

7 Senator Rounds: Thank you, Mr. Chairman. First, let
8 me begin by just saying thank you to all of you for your
9 service to our country and your continued dedication.

10 I am just curious. General Ray, let me just begin with
11 you. I think I understood you correctly but I want to
12 confirm this. With regard to the GBSD and the cost
13 comparison between moving forward with the GBSD versus a
14 service life extension on the Minuteman III, there would
15 actually be cost savings by moving forward with the GBSD as
16 opposed to the Minuteman III? Is that correct?

17 General Ray: Yes, sir, it is.

18 Senator Rounds: And how much did you say that was?

19 General Ray: Sir, the current figure here in 2021 is
20 \$38 billion.

21 Senator Rounds: That is \$38 billion --

22 General Ray: Billion. Yes, sir.

23 Senator Rounds: -- estimated at this time, in 2021
24 dollars.

25 General Ray: Through the life of 2075, and I believe

1 it is fair to offer that parameter.

2 Senator Rounds: Very good. Thank you.

3 Admiral Wolfe, there has been a discussion about
4 whether or not we need all three portions of the triad to
5 continue on. There has been a debate out there. Some
6 people say you only need two out of the three. I would beg
7 to disagree with that, but I think it would be fair to hear
8 from you and from General Ray, at least a concurrence as to
9 how these three pieces fit together and what it means to
10 adversaries who look at us, recognizing if you had two
11 versus three.

12 Could you share, just briefly, the reason why we need
13 three in the triad?

14 Admiral Wolfe: Yes, sir. Thanks for the question,
15 Senator. So I would tell you I absolutely agree, all three
16 legs of the triad are critical to the deterrent mission that
17 this nation needs. And I will let General Ray talk about to
18 the value of the intercontinental ballistic missiles and the
19 bombers. But from a submarine perspective, right, we are a
20 sure second strike, I would tell you that if one of the
21 other two legs went away, that makes the Navy's mission even
22 more critical. It puts more demand on the submarine force.
23 It puts more strain.

24 I would also tell you that as we -- and General Ray and
25 I were talking about this before this hearing -- because we

1 are trying to do this very smartly, we leverage what we are
2 doing in this very small, critical, industrial base, when we
3 talk about critical electronics that are radiation hard, and
4 we talk about niche capabilities that just are not required
5 anywhere else. When that goes away, with one leg, I would
6 submit to you not only does it increase our risk with the
7 industrial base, it is going to cause our costs to go up.
8 And I would say that STRATCOM would have a much, much more
9 difficult mission as well, to make sure that the deterrence
10 from the adversaries' eyes remain strong.

11 Senator Rounds: This is all about deterrence, isn't
12 it?

13 Admiral Wolfe: Yes, sir. It is absolutely all about
14 deterrence. It is not about what we think it is about, what
15 our adversary thinks, and what they think is acceptable.

16 Senator Rounds: Thank you. General Ray?

17 General Ray: Yes, sir. I agree with my colleague
18 about the interrelated benefits, the survivable dimension,
19 the flexible responsive piece, certainly the flexible
20 visible piece of the bomber and, of course, the responsive
21 dimension of the ICBM. It does present a great deal of
22 challenges for our would-be adversaries.

23 But as the air component commander to Strategic
24 Command, as we think through these scenarios and these
25 options, having a range of options that let us give the

1 national leadership the tailored approach to this problem,
2 the fewer resources you have, the more challenging it
3 becomes.

4 Senator Rounds: Definitely about deterrence, though.

5 General Ray: Absolutely, sir. It is about a
6 competitive dimension in this very strategic environment.

7 Senator Rounds: It is not a secret the challenges that
8 we have are not just one country. Right now they are
9 basically two major near-peer competitors, and a third and a
10 fourth that are rogue. Is it fair to say that China and
11 Russia are both considered to be near-peer competitors, that
12 we basically have to have deterrence in place for today?

13 General Ray: Sir, I think there was a lot of thinking
14 about the Chinese a few years ago, that they would have a
15 minimalist deterrent approach, basically a counter-value
16 approach. Everything I have seen from their warhead
17 production, the diversity of the delivery systems, and how
18 they are deploying things, they are no longer playing that
19 game. They are playing a counter-force game, to hold our
20 resources at risk, and their accelerated pace is very
21 disturbing.

22 Senator Rounds: If we stop from one, is there a
23 possibility that as you wargame this, to be able to show
24 appropriate deterrence you have to be in a position to
25 respond to one or two adversaries, at or about the same

1 time. Fair enough to say? Just a quick yes or no. I am
2 accurate in that?

3 General Ray: Yes, sir, it is, and because I have ICBMs
4 to offer as options, I can be more tailored in my approach
5 to provide the very limited number of bombers to the
6 theaters that they might help.

7 Senator Rounds: Mr. Chairman, I am out of time but I
8 have to follow up with one question, if I could, please.

9 Ms. Tomero, you have a role to play in determining
10 treaty determinations and negotiations in the future. Would
11 it be fair to say that as we look at deterrence here it is
12 critical that we recognize the need to look at deterrence
13 with the possibility of defending against not one but two
14 adversaries at the same time, in order to provide
15 appropriate deterrence?

16 Ms. Tomero: Yes. That is the first piece of what the
17 review will begin to look at, is the threats, and, of
18 course, as I mentioned, we are very concerned about the
19 Chinese, increasing threat from China, and the novel systems
20 and [inaudible] systems from Russia. And so those will
21 underpin the reviews.

22 Senator Rounds: And so that would be included in your
23 recognizing that as you discussed, treaties and the need for
24 the full deterrence that both of these two officers have
25 shared today, and you are in agreement with them?

1 Ms. Tomero: Absolutely.

2 Senator Rounds: Thank you. Thank you, Mr. Chairman.

3 Senator King: Senator Rosen, via Webex.

4 Senator Rosen: Well, thank you, Chairman King and
5 Ranking Member Fischer for holding this very important
6 hearing, and to our witnesses for your work and service and
7 for being with us today. I would really like to just focus
8 in on nuclear testing, waste disposal, our nuclear
9 stockpile, some of those issues.

10 Ms. Tomero, as you know, in 1993, Congress created the
11 Stockpile Stewardship Program. It is a science-based
12 program to ensure the mission-critical readiness and
13 reliability of our nation's nuclear stockpile. Congress
14 asked NNSA with ensuring, and I quote, "that the nuclear
15 weapons stockpile is safe, secure, and reliable, without the
16 use of underground nuclear weapons testing," end quote.

17 The subcritical and physics experiments conducted at
18 the Nevada National Security site, the only facility in the
19 nation where subcritical experiments can be executed,
20 combined with advances in nuclear modeling reduced the need
21 for explosive testing while ensuring the safety and
22 effectiveness of the United States nuclear stockpile.

23 Last year, after it was suggested by the prior
24 administration that they were considering resuming explosive
25 nuclear testing, Senator Cortez Masto and I introduced

1 legislation requiring congressional approval before any
2 future explosive nuclear tests could take place. Nevadans,
3 let me tell you, do not want to return to a time when
4 explosive nuclear testing puts the health and safety of our
5 residents in jeopardy, and the states around us.

6 And so, Ms. Tomero, as you well know from working with
7 former Nevada Senator Harry Reid, former Congresswoman
8 Shelley Berkley, and from working on the House Armed
9 Services Committee when I served on it, Nevada also does not
10 want to become the nation's nuclear dumping ground for
11 nuclear waste, including defense nuclear waste.

12 So, Ms. Tomero, could you discuss the potential
13 consequences of resuming explosive nuclear testing at the
14 site, and could you include, if you might, potential
15 environmental impacts and, of course, the potential
16 strategic implications, please?

17 Ms. Tomero: Thank you, Senator. It is the objective
18 of this administration to support the continued moratorium
19 for nuclear testing as a policy position, and my
20 understanding is we have the nuclear lab directors look at
21 the need for testing and look at what would be required to
22 sustain reliable, effective, and safe nuclear stockpile
23 every year. But for the details on whether we would have to
24 resume nuclear testing for technical reasons, I would refer
25 that to my colleague, Andrew Walter.

1 Mr. Walter: Thank you, ma'am. I think the Stockpile
2 Stewardship Program you mentioned is one of the great
3 success stories of the last 30 years in the nuclear
4 enterprise. The Stockpile Stewardship Program has invested
5 in the workforce at NNSA, the scientists and engineers and
6 technicians, as well as the key capabilities needed to
7 certify the stockpile's safety and reliability, in the
8 absence of nuclear explosive testing.

9 During the Cold War, nuclear explosive testing was used
10 to do that. We have invested in the means to do that
11 without explosive testing, and the lab directors continue to
12 certify that currently nuclear explosive testing is not
13 needed.

14 I think for Nevada, one of the key capabilities the
15 National Nuclear Security Administration is investing in
16 today is the enhanced capabilities for subcritical
17 experiments in Ula, and this is a critical capability where
18 the lab directors at NNSA will use to gather the data they
19 need from subcritical experiments to continue to certify the
20 stockpile and ensure the designs we use in the future remain
21 safe and reliable.

22 So I think ECSE, in the Nevada Test Site, the Nevada
23 National Security Site, is just incredibly important to
24 maintaining that unbroken record since the 1990s of not
25 doing nuclear explosive testing.

1 Senator Rosen: Thank you. I appreciate that. I would
2 like to quickly just ask my final question here. Ms.
3 Tomero, do you share the concerns of the former Secretaries
4 of the Air Force that transporting tons of nuclear waste,
5 including defense nuclear waste, around or through Nevada
6 test sites, through probably over 300 congressional
7 districts across this nation, through the Nevada Test Site,
8 through the Training Range, which is the crown jewel of the
9 Air Force, to Yucca Mountain, would be detrimental to our
10 strategic testing, training, and military readiness? And I
11 can just take a yes or no answer, a quick answer. My time
12 is up, please.

13 Ms. Tomero: Senator, I understand the concerns that --
14 I would be happy to get you an answer for the record as it
15 goes beyond the lanes of my policy job jar.

16 Senator Rosen: Thank you. I appreciate that. My time
17 is up.

18 Senator King: Thank you, Senator Rosen. Senator
19 Cramer.

20 Senator Cramer: Thank you, Mr. Chairman. I might just
21 say, every time I go to Minot I am impressed with those same
22 young men and women, and they do get younger every time.
23 But one of the things that impresses me the most is that
24 even the Southerners never complain about the weather in
25 Minot, and that takes incredible discipline.

1 Anyway, I want to dig in a little more to the
2 deterrence policy issue that the chairman brought up in
3 terms of clarifying your statement, and I noted you are
4 quoting the Interim Strategic Policy in a couple of places,
5 relating to what I think is a goal to reduce, or it seems to
6 be a goal to reduce our nuclear deterrence. And I want to
7 ask you, Ms. Tomero, I mean, how much risk are we willing to
8 accept to reduce our nuclear deterrence? The word "reduce"
9 is used a couple of times.

10 Ms. Tomero: Let me clarify. Having a strong nuclear
11 deterrence is one of our highest priorities, and so we will
12 continue to maintain strong and reliable nuclear deterrence,
13 which has been the cornerstone of our national security.

14 Senator Cramer: I just get concerned when the word
15 "reduce" is used several times in your testimony, and it
16 seems to conflict. So I hope we can get it clarified on the
17 right side of things.

18 I guess you would then testimony that you don't think
19 the deterrent is too great now for the global threats that
20 we face?

21 Ms. Tomero: Again, I think we need to maintain strong
22 nuclear deterrence, as we have for decades.

23 Senator Cramer: Okay. Let me back up a little bit.
24 Maybe, General Ray, you could answer this. If we were to,
25 say, go from 400 to 300, for example, ICBMs, just as an

1 example, because that gets talked about, would we need to
2 shore up some other conventional system, or how would we
3 fill a gap if there was a reduction of some type?

4 General Ray: Sir, thank you for the question. When I
5 think about how I would answer -- how much is enough I think
6 is one of those questions -- I remind myself of the series
7 of policy questions that underwrite everything. The first
8 one is, of course, are you a counter-value or a counter-
9 force construct? And I think because of our capabilities or
10 precision the number of threats that hold us at risk, that
11 we would prioritize those as the thing to deal with. And
12 obviously the enemy systems begin to shape that.

13 The second I ask is, no first use, launch under
14 warning, launch under attack, and how we go down that path.
15 And where we are, I think, is fitting for what we are
16 dealing with. If the policy changes then there are
17 ramifications, and then what we do with New START, does that
18 really answer all of our problems in the strategic
19 environment or is it a pragmatic take that we put a very
20 sensible fence around the things that we can control and
21 contain or work.

22 We should celebrate, as a nation, that when we put arms
23 control alongside very credible modernization, and put a
24 credible deterrent on the table, we have removed thousands
25 of weapons and we have become a better planet for that.

1 So when I just walk through these policy questions, the
2 next one, of course, is extended deterrence, which has a
3 very clear counter-proliferation dimension. I would turn
4 and go, what is your policy, and then what is the threat I
5 am up against, and how I would line those up. I think there
6 is the discipline that we all have to keep in light of what
7 we are dealing with, and particularly with the Chinese
8 growth.

9 You know, if I had to deal with the threats, I am sure
10 Admiral Richard would ask for me to think through the
11 sources. The idea of putting bombers back on alert is
12 something that we practice but we do not sustain, because we
13 have been fortunate enough to live in an environment, up to
14 now, to where we can afford to not have them on alert but
15 have them in a ready status. And it takes me a certain
16 number of classified hours to go back, sir. I do not have
17 the bomber crews. I do not have the tankers. I do not have
18 the bombers that go and meet all the combatant commands.
19 There is no allied bomber force. This is it. And so how we
20 would address that from the air component side, you would
21 have to make sure that Strategic Command had those other
22 resources to meet the targeting guidance.

23 Senator Cramer: Well, thanks for all that, and that is
24 a great explanation because I do worry, as I look at what
25 seems to be some direction, at least. And Ms. Tomero, I

1 understand that you do not want to take things off the table
2 in the middle of a discussion, and I can appreciate that.
3 But there are certain things that have been studied pretty
4 well, you know, to its limit, and one of them being the
5 viability of Minuteman III and the GBSD. And, you know, I
6 think it was Senator Cotton that went through, starting with
7 14, or maybe it was you, General Ray, started with 14 and
8 all the way through all the administrations, going back to
9 that, the Milestone A decision, Milestone B decision, all
10 those things that reviewed that. And I just wonder, is
11 there any reason to believe that any additional reviews
12 would do anything to overturn the mountain of evidence that
13 supports the conclusion that has already been drawn?

14 Ms. Tomero: Sir, let me just start by saying that
15 there is very strong support for modernization of the triad,
16 as Secretary Austin testified before Congress, as Deputy
17 Secretary Hicks testified. And so that will be a high
18 priority for our review, is to ensure that we continue to
19 modernize the triad. Of course, we will look at how the
20 programs are doing, what the program risks are, to make sure
21 that we have the capabilities we need, when we need them.

22 Senator Cramer: Thank you. Thank you, Mr. Chairman.

23 Senator King: Thank you, Senator. Senator Tuberville.

24 Senator Tuberville: Thank you, Mr. Chairman. Thank
25 you very much for all of your service. General Ray, thank

1 you. Getting ready to retire. You know, I tried that after
2 40 years of coaching, and after about a year my wife said,
3 "You either get a job or we are going to get a divorce," so
4 get ready for that.

5 [Laughter.]

6 Senator Tuberville: But thank you. You know, last
7 year or so I have been watching our hypersonic missiles
8 being developed, a lot of parts and product in Alabama. Mr.
9 Walter, how do you think the DoD program is responding or
10 planning to respond to the development of hypersonic
11 weapons?

12 Mr. Walter: Sir, hypersonics is a bit out of my lane,
13 as the DASD for Nuclear Matters. I would offer Vice Admiral
14 Wolfe has had more responsibilities in that area.

15 Senator Tuberville: Good.

16 Admiral Wolfe: Yes, sir. When you asked that
17 question, is that in relationship to our development or what
18 the adversary is developing?

19 Senator Tuberville: Our development.

20 Admiral Wolfe: Our development. Yes, sir. So in my
21 non-nuclear hat I am responsible for our Conventional Prompt
22 Strike Program, which is the hypersonic program with the
23 Army that we are ready to deploy. I would tell you that we
24 are focused on getting the Army's capability first, in FY
25 2023. We will follow that by Navy capability. I think you

1 have heard the CNO talk about our first priority is getting
2 to the new DDG-1000. And I think these weapons give our
3 combatant commanders a lot of capability that we do not have
4 today.

5 So the Department continues to push forward on these
6 programs. As a matter of fact, we were just over on the
7 other side of the Hill this afternoon, talking about all the
8 hypersonics programs. So the Department is committed and
9 moving forward with development of all those weapons.

10 Senator Tuberville: Thank you. General Ray, as the
11 Global Strike Commander, what does the notable acceleration
12 of Chinese nuclear modernization and growth mean to you in
13 that position?

14 General Ray: Sir, if I had to take something that kept
15 me up at night, this is it. It is a breathtaking pace that
16 they are keeping. The diversity and what I see is after
17 watching the Russians for many years they are playing a very
18 Chinese game, a very hybrid game, a very appropriate game
19 for where they are and where they want to achieve their
20 goals, you know, how they use hypersonics, dual-use systems,
21 their advances in the command and control area. And I have
22 to be very careful about the classification, but if you have
23 not been briefed, you know, at the right level of
24 classification we would be glad to help do that.

25 I will go back to a little bit of Admiral Wolfe's

1 question. The Air Force is working, as well, in
2 hypersonics, the ARRW, and ultimately the HACM, which is the
3 air-breathing cruise missile. We are hoping to have our
4 tests off the B-52 here by the end of the month.

5 Senator Tuberville: Thank you.

6 Ms. Tomero, the Biden administration has shared that,
7 where possible, they will pursue new arms control
8 agreements. How would this impact reduction agreements with
9 Russia and the START Treaty, set to end in 2026?

10 Ms. Tomero: Sir, as you know the START Treaty will
11 last for another 5 years, and provides legally binding
12 constraints, verifiable constraints on Russia's deployed
13 strategic weapons. But we look forward to building on the
14 extension, and, of course, having a follow-on arms control
15 that further address the systems that are not covered by New
16 START, and, of course, covering systems beyond New START's
17 expiration.

18 Senator Tuberville: Thank you. Thank you, Mr.
19 Chairman.

20 Senator King: I think we have a vote beginning, but I
21 think we have more time. If it is a 10-minute vote that
22 means we have about a half hour.

23 [Laughter.]

24 Senator King: If you were ever given 10 minutes to
25 live, you should say, "I would like it to be during a 10-

1 minute vote in the Senate."

2 So quick question. Admiral Wolfe, there were real
3 problems with the welds in the missile silos for the new
4 Columbia. Has that been corrected? Are we back on track?
5 Did we lose schedule?

6 Admiral Wolfe: Yes, sir. So you are correct. We did
7 have issues with the welds on the missile tubes early on.
8 What PEO Columbia has done is they have gotten to the root
9 cause of that. They have it under control. We did lose
10 some schedule margin. I would say that we did not lose
11 schedule in the overall delivery of the Columbia, the first
12 of class. PEO Columbia continues to monitor that and
13 continues to watch as all of the vendors are producing these
14 missile tubes and making sure that we are meeting not just
15 what we need for the Columbia class but also those same
16 missile tubes are being delivered to the UK for the
17 Dreadnought class as well, and we have revised the schedule
18 and we are tracking to that schedule.

19 Senator King: Thank you. General Ray, we have been
20 talking all day about deterrence, and deterrence rests upon
21 two things -- credibility and will. Would it undermine our
22 deterrent posture to not modernize, particularly for the
23 missile systems which are now going on 50, 60 years old? In
24 other words, would not modernizing itself send a signal that
25 would not be good in terms of our ability to deter our

1 adversaries?

2 General Ray: Sir, I think that is exactly the case. I
3 think our adversaries know exactly what we can and cannot
4 do, and they are busy preparing counters to those. To not
5 respond to that or let that be the status quo would be very
6 detrimental to our deterrent, or basically our capability.

7 Senator King: It just seemed to me that would be a
8 signal. We are not modernizing and therefore the
9 credibility of the deterrent diminishes.

10 Let's see. Mr. Walter, we have talked about NC3, and
11 Senator Manchin mentioned it. I really think instead of
12 talking about the triad we ought to be talking about the
13 quad, because without NC3, nothing else works. And if that
14 is a vulnerability, I am sure you have read, all the books
15 about World War III start with a cyberattack. And so it has
16 got to be absolutely bulletproof, and I guess cyber-proof.

17 Mr. Walter, reassure me.

18 Mr. Walter: Yes, sir. If I could take it a step
19 farther, when we speak about the nuclear deterrent we tend
20 to speak about five key components. As I mentioned in my
21 opening statement, there is the weapons, there is the
22 delivery systems, and that is what most people think about.
23 But the nuclear command and control system, the NC3 system,
24 underpins all of that, and allows the President to exercise
25 the options available.

1 Senator King: If we have learned anything in the last
2 year it is that our systems are vulnerable, even Defense
3 Department systems.

4 Mr. Walter: And many of our legacy, current systems in
5 the NC3 world, were also developed and deployed during the
6 Cold War. So they remain safe, secure, they remain
7 effective, but as we look to modernize them, the services
8 spend an awful lot of time with the oversight on ensuring
9 they remain so in the face of cyber challenges. We may not
10 even fully understand what cyber challenges we may face in
11 10 years from now.

12 If could just add the two other components to the five-
13 part nuclear triad, as I said, the infrastructure that
14 underpins all of it, including at the National Nuclear
15 Security Administration, and their ability to produce
16 weapons, and the industrial base on the Department of
17 Defense side; and then finally the workforce, the people,
18 which you mentioned and we have all mentioned.

19 Senator King: Thank you. Admiral Wolfe, I have heard
20 the argument that we do not need the missiles because the
21 submarines are invulnerable. They are stealthy. They
22 cannot be found. My concern is that that may be true today
23 but it may not be true in 5 to 10 years with the development
24 of technology. Ten years ago, we thought our space assets
25 were invulnerable. Now we know they are not. Comment in

1 that, please.

2 Admiral Wolfe: Yes, sir. So the Navy --

3 Senator King: I do not expect an admiral to say, "My
4 submarines are vulnerable," but --

5 Admiral Wolfe: No, sir. So what I would tell you is
6 the Navy continuously monitors, through intelligence sources
7 and others, what capabilities the adversary may be
8 developing, and we stay ahead of that. We have, within the
9 submarine force, security programs, and I would be happy to
10 talk to you at a more classified level if you would like,
11 about the things that we look at and the things that we
12 monitor. And as we look at new submarine development, all
13 of that is taken into account, and we design those systems
14 so that we can stay ahead of that.

15 Senator King: I appreciate that, but it is a question
16 of where you are putting all your eggs, and there are still
17 technological vulnerability 5, 10 years from now. But I
18 appreciate that you are cognizant of this risk.

19 Senator Sullivan.

20 Senator Sullivan: Thank you, Mr. Chairman. Thank you
21 to our witnesses. I want to get to the questions -- I know
22 that Senator Warren was asking some questions about missile
23 defense. And I want to give you -- and I am sure you are
24 familiar with this, but homeland missile defense has had a
25 history of being partisan. By that I mean Republicans,

1 George W. Bush, President Trump were very supportive of it.
2 Democrat administrations, not so much.

3 We worked hard, this committee worked hard, to make it
4 bipartisan. I had a bill, Advancing America's Missile
5 Defense Act of 2017, that had 20 Republican, 10 Democrat co-
6 sponsors, and it was the big missile defense build-up. So I
7 was surprised by Senator Warren's questioning, particularly
8 of you, Ms. Tomero, about, hey, maybe it is not so relevant,
9 maybe it is not so needed. I kind of thought we had moved
10 beyond that, but maybe history is repeating itself here. I
11 hope not.

12 Secretary Austin has said, in his confirmation, that
13 the defense of the homeland and missile defense is a central
14 component of DoD's mission, the relationship between missile
15 defense, U.S. nuclear arsenals are complementary and
16 mutually supportive. Deputy Secretary Hicks said, "Defense
17 of the homeland is top priority, and the homeland missile
18 defense system is an essential component to that mission."

19 So, Ms. Tomero, is that your belief as well? I know
20 Senator Warren said, "Well, North Korea might be able to
21 overwhelm us." I do not agree with that. It is a little
22 bit fatalistic. What is your view -- I think it is a strong
23 one -- on the importance of our nation's homeland missile
24 defense right now?

25 Ms. Tomero: Yes, I completely agree. Homeland missile

1 defense is a high priority.

2 Senator Sullivan: You have to turn your mic on.

3 Ms. Tomero: Yes, I completely agree, and can guarantee
4 that homeland missile defense is a high priority --

5 Senator Sullivan: Okay, so --

6 Ms. Tomero: -- limited homeland missile defense
7 against threats from rogue states that continue to grow,
8 especially from North Korea, and that will continue to be
9 our top priority, from a policy perspective.

10 Senator Sullivan: Great. You know, we just completed
11 -- it is ready to be turned on here any day -- the long-
12 range discrimination radar system, which will be the most
13 advanced ground-based missile discrimination radar anywhere
14 in the world. That is in Clear Air Station Alaska, as you
15 probably know. And we have dramatically built up the
16 missile fields.

17 However, as you know, we have 20 silos that are now
18 empty. That does not make sense. How quickly can we get
19 missiles, and the kill vehicles on top of those, into those
20 silos at Fort Greely right now that are empty? I think that
21 should be a priority of the Department. Is that a priority,
22 and how quickly can we do that? And do you agree with me,
23 that does not make any sense, 20 empty silos?

24 Ms. Tomero: I am aware that we are increasing and
25 improving our missile defense capability, and adding those

1 20 silos is part of the improvement.

2 Senator Sullivan: The silos are done. The silos are
3 ready. The silos just do not have missiles.

4 Ms. Tomero: Right, and so we are investing in a new
5 interceptor, as you mentioned. And so looking at ways to
6 continue to have a strong homeland missile defense and ways
7 to improve will be something we look at as part of the
8 missile defense review. But in terms of how fast and the
9 capability I would defer you to the Missile Defense Agency
10 to provide more details on the acquisition piece.

11 Senator Sullivan: Okay. Mr. Chairman, this is a big
12 issue, I think, for the country.

13 Senator King: And I believe we are having a hearing
14 just on that subject in several weeks, on missile defense.

15 Senator Sullivan: Great. Well, with that I yield my
16 time back. Thank you.

17 [Laughter.]

18 Senator King: But as usual, you were effective in
19 stating your case.

20 The vote has started, but I stole a second round, but
21 if any of my colleagues would like to ask follow-up
22 questions. Senator Fischer?

23 Senator Fischer: I am going to focus on nuclear,
24 although we do appreciate Senator Sullivan's passion for
25 missile defense, because it is an extremely important part

1 of our national security, so thank you, Senator.

2 Ms. Tomero, it is my understanding that your office has
3 asked CAPE to do an analysis on the Minuteman III life
4 extension. Is that correct?

5 Ms. Tomero: We have not.

6 Senator Fischer: Oh, you have not?

7 Ms. Tomero: No. We have been working with CAPE to
8 look at what past studies have been done on extending
9 Minuteman III, on the cost-effectiveness on looking at GBSD.
10 But no new studies are on the way. I expect that we will
11 continue to work with CAPE throughout the review.

12 Senator Fischer: So you have been in discussions with
13 CAPE on analysis, though, on the review. Right?

14 Ms. Tomero: We have, but no new analysis has been
15 tasked, and as I come up to speed in the Department in my
16 new role is understanding what past reviews had been done to
17 inform the way forward.

18 Senator Fischer: Have you coordinated with STRATCOM at
19 all on that, or the Air Force Global Strike Command, or Mr.
20 Walter's office in getting up to speed on it?

21 Ms. Tomero: I expect that they have access to the past
22 reviews, as my office would have. But going forward,
23 certainly we will coordinate closely with the Joint Staff,
24 with Strategic Command, with the components of Strategic
25 Command as well. And so I actually was just accompanying

1 Secretary Austin on his trip to Strategic Command. He was
2 there the day after your visit. And so close engagement
3 with Strategic Command will be a priority.

4 Senator Fischer: Okay. Yeah, I would hope you would
5 reach out to them, especially as you are preparing for a
6 nuclear posture review.

7 Ms. Tomero: Yeah. In fact, I stayed behind after the
8 Secretary's trip for 2 days of meetings and briefings at
9 Strategic Command, and I look forward to continuing our
10 close engagement.

11 Senator Fischer: As you are working your way into
12 that, will you be able to brief our staffs so that we are
13 kind of up to date on where you are headed? A lot of times
14 we get the book, and that is it. But it would be really
15 valuable if we could have information along the way, and not
16 just from your office but also with the different agencies
17 that you are working with on it, the combatant commands.
18 That would be very helpful if you would do that.

19 Ms. Tomero: Yeah, I look forward to engaging with you
20 and your staff over the summer, and I am also happy to, even
21 before we start, to listen to what your interests would be
22 and what you would like to see, as well.

23 Senator Fischer: Okay. Thank you. When we are
24 talking about treaties and New START, and we had the
25 extension with New START, do you think there would ever be a

1 time in dealing with the Russians, since that is who the
2 treaty is with, not the Chinese, do you think there would
3 ever be a time that the United States would have a proposal
4 for unilateral reductions?

5 Ms. Tomero: I am not aware of any proposals for
6 unilateral reductions.

7 Senator Fischer: Okay. Thank you. And one point I
8 would like to ask General Ray, when we visited with you up
9 in Minot, and you mentioned it in passing here, and I think
10 it is such an extremely important point. When we talk about
11 the triad and the importance of the triad to our national
12 security, I think we missed that connection that in many
13 ways we only have a dyad, because of the bombers being on
14 alert. How would you answer that?

15 General Ray: Ma'am, what I would say is that you have
16 a triad. It is in varying degrees of posture, based on the
17 current world threat that we have, that I would say is
18 becoming more dangerous. I have the ability to rapidly
19 bring up my bombers and put them on alert. I will say that
20 the more weapons generation facilities I have to do that
21 with allows me to do that late. You want to generate at the
22 last minute, not 5 minutes too early and not 5 minutes too
23 late. But I believe it gives a very visible and flexible
24 opportunity, that we have not had to leverage in the current
25 world environment. But it would become even more difficult

1 in the future.

2 Senator Fischer: Thank you. Thank you, Mr. Chairman.

3 Senator King: Thank you, Senator Fischer. Senator
4 Rounds?

5 Senator Rounds: Thank you, Mr. Chairman. And, General
6 Ray, I would be remiss if I did not follow up with that
7 other leg of the triad that Senator Fischer just brought up,
8 and that is the one with regard to our bombers. We have,
9 first of all, a fleet of B-1Bs which are not nuclear
10 capable, because of treaty determination, to begin with.
11 Second of all, we have the B-52, which is 70 years-plus old,
12 and the B-2, which is limited in numbers. The weapons
13 generations facilities are limited in number right now.

14 Ellsworth Air Force Base, which will be the home for
15 the B-21, will need a weapons generation facility, which may
16 very well mean with regarding infrastructure we will have to
17 find the resources. And I know that it is on target, but a
18 very critical part of the discussion. An item which we
19 sometimes just simply are taking for granted lately, and
20 which I do not want to because we talk about those areas
21 where we are not being successful or we are not satisfied.

22 But with regard to the development of the B-21, this is
23 probably one of the most advanced weapon systems ever
24 developed by mankind. I tell people it is a bad-ass weapon
25 of war and peace, but it is a system which clearly, as I

1 understand it, is on time and on target, with regard to the
2 budget.

3 Would you care to confirm that, and basically give us
4 an update on where that B-21 is at?

5 General Ray: Yes, sir. I was just out at Palmdale
6 last week, on Thursday, and I had a chance to go down the
7 line. It is on time. It is incredibly successful. Between
8 the GBSB and the B-21, these feature all the attributes that
9 you would want to have featured in a modern weapon system --
10 digital engineering, modularity in their design, open
11 mission systems, mature technology. The digital engineering
12 on both of those is giving us an unprecedented degree of
13 capability.

14 I believe when we briefed Chairman Smith a few weeks
15 about how we are going to bring this on, with a codified
16 methodology to rapidly bring on new techs when we had the
17 opportunity, it meant that we were never going to change the
18 requirements, because we had no incentive.

19 So the pledge I have, and, you know, when I talked to
20 Ms. Warden at Northrop Grumman, she knows full well I am not
21 going to change any requirements, and if the requirements
22 remain stable, we remain on cost, we remain on time, and I
23 think we have a tremendous ability to rapidly bring on for
24 the B-21 new radios, new weapons, new sensors, all those
25 things that give us velocity, but also lets us have a very

1 competitive sustainment game plan. And that applies to both
2 the B-21 and the GBSD.

3 Senator Rounds: Very good. Thank you. Thank you, Mr.
4 Chairman.

5 Senator King: Senator Tuberville?

6 Senator Tuberville: How long will it be until we have
7 somebody from Space Command in this room, General Ray, for
8 nuclear?

9 General Ray: Sir, I will be honest. I have no answer
10 to that question. I would have to go back to the Chief of
11 Staff of the Air Force and to the Chief of the Space Force.

12 Senator Tuberville: Do you think it is near future?
13 Just any guess?

14 General Ray: Sir, I am not going to speculate on that.
15 I will take your question for the record.

16 Senator Tuberville: Thank you.

17 Senator King: Thank you to all of our witnesses.
18 Thank you for your open and frank discussion today, and for
19 the work that you are doing for the country. With that,
20 this hearing is adjourned.

21 [Whereupon, at 6:03 p.m., the subcommittee was
22 adjourned.]

23

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25