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Subcommittee on Strategic Forces

COMMITTEE ON
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UNITED STATES SENATE

UNITED STATES NUCLEAR DETERRENCE POLICY

AND STRATEGY

Wednesday, April 28, 2021

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Committee on Armed Services
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The subcommittee met, pursuant to notice, at 4:35 p.m. in Room SD-562, Dirksen Senate Office Building, Hon. Angus King, chairman of the subcommittee, presiding.

Committee Members present: Senators King [presiding], Reed, Manchin, Rosen, Kelly, Fischer, and Tuberville.

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

Senator King: I am Angus King, the chair of the Subcommittee on Strategic Forces of the Committee on Armed Services.

We welcome our witnesses today. I welcome the chair of the feel committee, Senator Reed, who is with us.

First, I want to thank our witnesses for appearing today to give their views on nuclear deterrence policy and strategy.

Sitting at this witness table, you folks may not like hearing this, but is in excess of 150 years of experience within our government and academia on the role of nuclear weapons in our National Security Strategy.

Let me thank Senator Fischer for working with me on developing this hearing, which I feel is of up most importance. In preparation for the hearing, the subcommittee has received two classified briefings on the nuclear capabilities of other countries around the world and the authority of the President to deploy and use nuclear weapons. They were sobering briefings.

With this background, it is now time to begin a series of open hearings on nuclear deterrence policy and how the Department of Defense and Energy are ensuring our nuclear deterrent, which former Secretary Carter has called the

bedrock of every national security operation we take today, to be sure that it is modernized and able to deter nuclear threats to the United States.

As General Kehler has often said, a great paradox of nuclear weapons and our deterrent is that in order for nuclear weapons to never be used, they always must be capable and ready for use. There is no more serious topic before the Armed Services Committee than ensuring our nuclear deterrent is safe, sound, and effective.

We will open with 5-minute witness statements and alternate with 5 minutes of questions between each side of the table for each member. We do have a six o'clock, 6:00 p.m. hard stop, due to the President's address to the Congress tonight.

With that, let me turn to Senator Fischer, ranking member of this committee, and resident of Nebraska, for any comments that she might have.

STATEMENT OF HON. DEB FISCHER, U.S. SENATOR FROM NEBRASKA

Senator Fischer: Well, thank you, Senator King, and I join you in welcoming our witnesses.

Many of you have appeared in front of this subcommittee and the full Armed Services Committee before, so it is good to have you back with us today and to, again, be able to benefit from your wisdom and your council. Your testimony comes at a critical time. We have a new administration in place that will be reviewing United States' nuclear posture, as well as the modernization programs established by its predecessors.

Longstanding opponents to the United States' nuclear modernization are also renewing their arguments to delay and defer modernization, despite repeated testimony that these programs have no margin for additional delay and some are already late to need; meanwhile, the global security environment continues to shift toward multipolarity and as Admiral Richard testified last week, the nuclear arsenals of our adversaries continue to grow, including what he described as a breathtaking expansion of China's nuclear forces.

I look forward to hearing your assessments of these trends and what they mean for U.S. nuclear policy and posture.

Thank you, Mr. Chairman.

Senator King: Thank you, Senator Fischer.

We'll proceed around the table with each of you making an opening statement of approximately 5 minutes.

Mr. Franklin C. Miller, please.

STATEMENT OF FRANKLIN MILLER, PRINCIPAL, THE SCOWCROFT GROUP

Mr. Miller: Is this better? There we are.

Chairman King, Ranking Member Fischer, Senator Reed, members of the subcommittee, I am honored to appear before you begin.

The emergence of North Korea as a full-fledged nuclear weapons state and Iran's continued lurching progress toward adding a nuclear front end with already impressive ballistic missile force have undoubtedly made nuclear deterrence today more complicated. Those threats notwithstanding, the principal nuclear issue the United States faces today and for the foreseeable future is to deter Russian and Chinese adventurism; adventurism, which could well result in full-scale war with potential for nuclear use.

Both Vladimir Putin and Xi Jinping believe their nuclear arsenals have great value and have been engaged in major modification, and in China's case, expansion of those arsenals for at least the past decade, while the United States has been debating the need for new systems.

U.S. nuclear policy is virtually unchanged since the Kennedy years. Our nuclear weapons exist to serve to deter nuclear attack on ourselves and our allies, and as a last resort, to deter major non-nuclear attack. Our policy and programs seek to make clear to potential aggressor

leaderships that there will be no winners in a nuclear war and an act of armed aggression against us or our allies risks escalation.

The best description I have of nuclear deterrence is from the Scowcroft Commission Report in 1983. I quote, in order for deterrence to be effective, we must not only have weapons, we must be perceived to be able and prepared, if necessary, to use them effectively against the key elements of an enemy's power.

Deterrence is the set of beliefs in the minds of the enemy leaders, given their own values and attitudes about our capabilities and our well. It requires us to determine, as best we can, what will deter them from considering aggression, even in a crisis, not to determine what will deter us.

Conversely, over the past decade and a half, Russian nuclear strategy has evolved into one seeking, offensively, to menace and intimidate Moscow's neighbors, many of whom happen to be our allies. Chinese nuclear strategy remains, as it always has, opaque. But there is strong and emerging intelligence that Beijing is studying and adapting the Russian model. So, the difference between the U.S. approach to deterrence as a defensive tool and the Russian and Chinese leadership's approach as offensive tools to reshape the global and regional order is obvious.

Some analysts argue that deterrence of Chinese and Russian aggression no longer depends on nuclear weapons, but rather, upon space, cyber, advanced conventional forces, and technologies, such as artificial intelligence. That notwithstanding, we must understand that Xi or Putin, in any decision to use force against the United States or our allies, would have to take that decision in light of the backdrop of our nuclear forces.

In considering whether to commit armed aggression at any level, they must weigh the risk that, ultimately, such aggression could lead to nuclear war; a nuclear war which could lead to the destruction of Russia and China, as they treasure it, and that fact is crucial. This requires us to have a modern and credible nuclear deterrent, but we are at a critical juncture with regard to the viability of the U.S. strategic deterrent.

I hate to use the now overused word inflection point, but that is where we are. Remember that the foundations of today's Triad were laid in the late 1950s and early 1960s. Twenty years after that, the Reagan administration recapitalized the Triad. Twenty years after that, the Bush 43 administration should have undertaken a similar recapitalization, but it did not. And so, we find ourselves today relying on the fruit of the Reagan program, but that fruit is overripe.

We have a force which will, over the next decade, require modernization or retirement; there is little ground in between. The Triad has demonstrated its value over the past 60 years, but if we don't replace the Minuteman with GBSD, we will lose the Triad within a decade. The Ohio-class SSBNs, which carry our sea-based deterrent, will have to be retired beginning in about 10 years. Their replacement by a minimum of 12 new Columbia SSBNs must continue, but the Columbia program is a necessary, but not sufficient modernization. The Trident II D5 missile must be upgraded if it is to remain operational through the late 2040s, as planned. And the proposed W93 Warhead, just beginning concept development, is needed to rebalance the SOBM fleet and eliminate a looming and dangerous overreliance on the W76. Then, two long-range standoff weapons is required to replace the 1981-era air-launched cruise missile.

So, is it not too fine a point to make that whether we follow through on strategic deterrence is a test of both, capability and will; capability, which if not modernized, will be found lacking, and will to carry out the program on which deterrence rests. Consequently, I urge the committee to support the modernization of our nuclear forces by proceeding with the programs endorsed by the past two administrations.

Finally, while I don't have time in these remarks to address the narcissistic, self-indulgent, dangerous, and destabilizing suggestion that the U.S. adopt the no-first-use policy, I would be happy to respond to a question about that.

Thank you, sir.

[The prepared statement of Mr. Miller follows:]

Senator King: Thank you, Mr. Miller.

General Kehler?

STATEMENT OF GENERAL CLAUDE KEHLER, FORMER COMMANDER, UNITED STATES STRATEGIC COMMAND

General Kehler: Good afternoon, Mr. Chairman, Senator Fischer, Chairman Reed, distinguished members of the subcommittee.

I am very pleased to bring the prospective of almost 4 decades of military service and senior military command to the conversation, much of that in nuclear-related duty. I will be presenting my own views today.

Mr. Chairman, we face more complex security problems and greater uncertainty than we did during the decades of the Cold War. Twenty-First Century deterrence and extended deterrence policy and doctrine must now account for a wide variety of potential adversaries with differing motivations and objectives. New threats from long-range conventional and hypersonic weapons, cyber weapons, and anti-satellite weapons are growing. Many of these can arrive at our doorstep quietly and quickly.

Today, a strategic attack against the United States or our allies may begin covertly in cyberspace, instead of overtly, via ICBMs over the pole. In such an environment, it is attempting to question the continued role of our nuclear weapons and the need for major investment in our nuclear forces. I think the answers are clear, yes, strategic deterrence, based on nuclear weapons remains as

important today as it was during the Cold War, and, yes, it is critically important that we modernize the nuclear deterrent force and support the men and women who operate, secure, and maintain it.

So, here are a few points for you to consider. First, nuclear weapons are not gone from world affairs and they are not going to be gone anytime soon. Russia and China seek to change the international order and they are aggressively modernize, increasing, in some cases, their nuclear arsenals as the foundation of strategies designed to diminish our power and prestige, coerce our allies, and reduce our global influence.

North Korea has acquired nuclear weapons. Iran remains a country of interest and India and Pakistan present their own challenges.

Nuclear weapons continue to pose the gravest threat. It bears remembering that Russia has the capability to destroy the United States with nuclear weapons over the length of time it takes to conduct this hearing. China appears to be on a pathway to do the same.

My second point, nuclear deterrence remains foundational to our security and that of our allies. Today's nuclear force is smaller, postured less aggressively and is less prominent in our defense strategy than it was during the Cold War, but the principles of deterrence remain

the same. Our nuclear weapons prevent the actual or the coercive use of these weapons against us and our allies, but they also constrain the scope and scale of conventional conflict. They compel adversary leaders to ponder the consequences of their actions before they act, and because we extend our nuclear umbrella over them, they obviate the need for most of our allies to acquire their own. Strategic deterrence is the basis for our entire defense posture.

Nuclear weapons are but one tool we must bring to bear to sustain deterrence today, but no other weapon creates the same deterrent effect and we must be very careful that efforts to reduce their role, further reduce their numbers, or restrict their use does not encourage or incentivize adversaries to do the very things we are trying to prevent.

Third, the Triad remains the most-effective way to meet our Twenty-First Century deterrence objectives. Since the 1960s, our deterrence has been based on the familiar Triad that you know: the ballistic missile submarines, land-based ICBMs, and long-range bombers. Each leg contributes a primary attribute to deterrence; subs at sea are survivable, ICBMs are responsive, and bombers are flexible.

Together, the three legs present an enemy with insurmountable attack and defense problems and they provide the mixture of systems and weapons necessary to hold an adversary's most-valuable targets at risk with the

credibility of an assured response, if needed; that is the essence of deterrence.

My next point isn't very well understood, but, basically, we have been relying on a dyad of at-sea submarines and ICBMs to provide daily deterrence since the bombers were removed from nuclear alert in 1992. We still have a Triad with all its benefits, but only if the President orders are the bombers readied for nuclear use. Submarines and ICBMs, together, have allowed the bombers to be released for use in a wide variety of conventional missions with great effect.

Removing bombers from daily alert validated the importance of the subs. It also raised the importance of ICBMs as a mainstay of deterrence, as a hedge against unforeseen technical problems in the subs or advances in anti-submarine capabilities, and as an enabler for adjustments in the at-sea submarine force. Retiring ICBMs would create unprecedented and unacceptable risks as we go into an uncertain future, and in my view, would require returning bombers and tankers to nuclear alert.

Fifth, it is time to proceed with the bipartisan commitment to modernize the Triad, the supporting command control and communication systems, and nuclear weapon industrial base. Russia and China watch our nuclear forces and track our modernization efforts very carefully.

The credibility of the U.S. nuclear deterrent is based on demonstrated capabilities and the willpower to use nuclear weapons in extreme circumstances when vital national interests are at stake, and that capability will have to be clearly communicated to any potential adversary.

Triad platforms are well beyond their design and service lives and we are out of margin. Modernization of two legs has begun, but completing the comprehensive program is the most important step Congress can take to ensure our deterrent remains credible and our nation secure.

Finally, I urge caution as you consider changes to nuclear authorities or the nuclear-decision process. The legal and procedural implications of certain changes that have been proposed are significant with unknown impact on deterrence. Based on my experience, I believe the current chain of command is clear and the decision process strikes the right balance between Twenty-First Century security needs, safeguards, and positive civilian control over the use of the weapons.

Thanks for inviting me, and I look forward to your questions.

[The prepared statement of General Kehler follows:]

Senator King: Thank you, sir.

Dr. Bracken?

STATEMENT OF DR. PAUL BRACKEN, PROFESSOR OF MANAGEMENT AND PROFESSOR OF POLITICAL SCIENCE, YALE SCHOOL OF MANAGEMENT

Dr. Bracken: Good to be here. Thanks for holding these --

Senator King: I think you need to turn your mic on, sir.

Dr. Bracken: I think it is on.

Can you hear me? Good.

What I would like to do today is to give a big picture about nuclear weapons and the world, because any American strategies would have to fit into that context. When I look at the world, what I see is that the role of the bomb is increasing its grip on world order.

What I mean by this is that more and more countries are basing their fundamental security, their existence on nuclear weapons. All nine countries with nuclear weapons are now modernizing or expanding their forces. We even saw recently where Great Britain is increasing their warhead levels by 40 percent.

There are differences that have occurred in the environment, compared to the Cold War and we must take account of these. There are multiple decision-making centers. What does that mean?

That means that Beijing, Moscow, Pyongyang can take

decisions which are really going to affect our nuclear security and whether a nuclear war starts. I can imagine a wide range of possibilities for whom winds up with whom. As we saw in the Cold War, where we saw alliances flip, let's not forget that one of the alerts of the Cold War was China going on alert with its nuclear forces in 1969, but it wasn't against the United States; it was against the Soviet Union.

I use this as an example of a wide range of things that could happen and I could imagine a very wide band of possibilities. And one of my arguments today is we need to consider this wider band of scenarios and possibilities. I can consider this wide band almost a wide range of things, but there is one I can't imagine, and that is total disarmament. We are going to be stuck in this role for something like 50 years or more.

It is also my view that the quality of the discussion about deterrence has, in many respects, declined it what it was in the Cold War. It is my view that the level of deterrence we have against the surprise attack against the United States, the bombers, subs, and missiles, is excessively analyzed. I view it as a very remote possibility and it is distracting us from other scenarios.

The way I put it is that 90 percent of the research or the studies go into the surprise attack, "out of the blue"

attacks, okay, and the other 10 percent goes into accidental war, and you were discussing this, with unauthorized use of nuclear weapons, it is my understanding.

The significance of these trends is that we don't consider that the conventional modernization of the U.S. forces are investments into greater precision strike, into cyber, and into space. They will all occur in a nuclear context. Most of the wars that we are looking at, that the Pentagon looks at, we will be fighting on the doorstep of a major nuclear power, Russia or China, and this could not be more dramatically different than fighting ISIS or the Taliban.

This wider band of scenarios of how conventional interacts with nuclear forces is what needs a lot more consideration and if we miss some studies of a surprise attack or one more study preventing accidental war, I am not too bothered, because I don't think those probabilities are very big to begin with in the first place.

Let me just finish up making some remarks about Chinese nuclear strategy. Let me convey something I try to get across to my students at Yale. Any discussion of nuclear strategy in the United States or of another country like China, has to be done at, at least three levels.

We have the declaratory policy. That is what the President and the secretary say is going to happen and what

we will and won't do.

We have the operational level. What does the military train on? What do the war plans say?

Then we have what I will call the real policy. What would the President actually do in the event?

Focusing on any one of these, like declaratory policy, I think leaves a lot to be desired. In China's case, when I look at the modernization of their force, it is really substantial and troubling, in my view, not only as to its size, but its change in character. They are moving to mobile nuclear forces, submarines, bombers, and mobile missiles, and this means a tremendous amount of communications and sensor updates, links going back and forth. They have to track our targets and protect themselves, and this opens up the world to all kinds of intervention and, well, disruption with cyber, by both sides.

And the last thing I will say is in the case of the Chinese nuclear forces, let us not forget China is the only country in the world surrounded by five nuclear weapon states. Now, it is true that three of these countries, Pakistan, North Korea, and Russia, are allies. How would you like to have three allies like Russia, North Korea, and Pakistan?

To say the least, it presents problems for them. I am

quite convinced that many Chinese nuclear weapons have picked out targets in their three, quote, allied states, for the good reason that their allies, their friends, are more likely to bring catastrophe to China than the United States is.

So, I think we are entering a new world. The environment has changed so much that we really need a fundamental rethink of what our deterrence policies are for this world.

Thank you very much.

[The prepared statement of Dr. Bracken follows:]

Senator King: Thank you, Doctor. I appreciate that.

Next is Dr. Brad Roberts.

Dr. Roberts?

STATEMENT OF DR. BRAD ROBERTS, DIRECTOR, CENTER FOR GLOBAL SECURITY RESEARCH, LAWRENCE LIVERMORE NATIONAL LABORATORY

Dr. Roberts: Thank you, sir, and thanks to all of you for the opportunity to, again, join you for a conversation about nuclear policy and posture.

Let me also begin by underscoring that I am participating in my private capacity and, thus, the views I express are my own.

My core argument today is that the United States should have the nuclear forces its strategy requires, not the strategy our forces require. U.S. nuclear deterrent strategy has been remarkably constant over many decades. Now, to be sure, there have been many changes in the U.S. practice of deterrence and to the associated forces, especially since the end of the Cold War, as the role of nuclear weapons has become much smaller in our overall defense strategy.

But the fundamentals of nuclear deterrence, of deterrent strategy have remained intact, despite these changes to the practice of deterrence, and U.S. nuclear deterrence strategy seeks to accomplish four main goals: to deter threats to vital interests of the United States by being able to put at risk those assets most valid by adversary leadership. You have heard this many times.

The second goal is to respond if deterrence fails, in order, and with the hope of restoring deterrence at the lowest possible level of damage in a manner consistent with our political objectives.

A thirty objective of the strategy is to extend deterrence protection to our allies and partners, and thereby assure them.

And, lastly, a goal of our strategy, especially since the end of the Cold War, is to hedge against strategic surprise, whether technical, geopolitical, or both.

Now, especially since the end of the Cold War, every new administration has arrived wanting to move away from the Cold War, move away from Cold War forces, away from Cold War thinking, and there have been many advocates of big changes to the practice and to the underlying strategy of deterrence. That case for big change is usually made by those who see the current U.S. practice of deterrence as dangerously trapped in old ways of thinking and they advocate, instead, for a different strategy, sometimes called minimum deterrence or deterrence-only. There are various names.

And the regular process of renewing U.S. nuclear posture and policy through the 4-year reviews conducted by new administrations, provides a valuable opportunity to revisit these questions and retest policy assumptions in a

changing context. The latest version of the argument for change, big change, comes from Secretary of Defense William Perry, who, with his co-author, Tom Colina, makes four big arguments, five big arguments.

First, the United States has been prepared for a surprise Russian nuclear attack that never arrived and, in all likelihood, never will. Second, the greatest danger is not a Russian surprise attack, but a U.S. or Russian blunder, that we might accidentally stumble into war. Third, they argue if there is no significant risk of a disarming first strike, then there is no need to launch nuclear weapons first or quickly. There is no need for presidential sole authority, other than for in retaliation, no need for weapons on high alert, no need to launch weapons on warning of attack, no need for ground-based missiles at all, no need for weapons in Europe or Asia. Fourth, they argue that there is every reason to believe that once attacked with atomic weapons, a nation would respond with everything it has got. And, lastly, they argue that the Obama administration started an excessive program to rebuild the nuclear arsenal, which the Pentagon took over as a project to develop a plan to rebuild all parts of the arsenal, as if the Cold War never ended.

Now, I disagree with this analysis. I think it points us in the wrong direction and, thus, I disagree with their

recommendations. Let me offer four quick counterarguments. First, the threat of nuclear attack on the U.S. and its allies do not go away with a bolt out of the blue. We have a new threat facing us. We have the threat of regional conventional wars against nuclear-armed powers that could go nuclear as they face regime-threatening circumstances. Such wars present a series of particular nuclear risks, involving the limited use of nuclear weapons by our adversaries. Minimal deterrence offers no answer to these problems.

Responding with everything we have got to a Russian deployment of one or two or three nuclear weapons somewhere for limited effect is not going to be seen as anything other than national suicide, because we would expect a massive response to that. The adoption of minimal deterrence for these new problems would increase nuclear risk, not decrease it and would weaken the assurance of our allies.

Second, I disagree that an accidental stumble into war is the greatest danger. I have already said what I think the greatest danger is: the risk of a regional, conventional war against nuclear-armed adversaries, where they cross the nuclear threshold.

But of course we can't simply dismiss the risk of a miscalculation or a breakdown in our warning or command and control systems, but I am quite satisfied, as I hope you are, that this problem attracts the needed high-level focus

from DOD leadership. And I agree with the recent DOD statement that the U.S. alert system prioritizes surety over speed. So, I don't agree with the Perry-Colina problem statement.

My third counterargument is that minimum deterrence offers no answers to the problems of extended deterrence, the problems of multipolarity, Russia, China, North Korea, all at the same time, and to hedge, to be prepared for an unpredictable security environment.

Fourth, the modernization program and record is not excess to requirements or a simple replication of the Cold War force.

I have offered you three quick visuals in the written statement I submitted for the record, to make that point. So, my bottom line is, the longstanding deterrence fundamentals underpinning U.S. strategy are sound. The strategy is sound.

The alternative strategy is not sound. If implemented, it would increase nuclear dangers in various ways. The United States should maintain the forces required by this strategy. ICBMs contribute something unique to each of the four deterrence objectives I referred to. This requires them, modernization of the full Triad, without delay.

Thanks so much.

[The prepared statement of Dr. Roberts follows:]

Senator King: Thank you all very much for thoughtful testimony.

As I was sitting here, and I don't know why this didn't occur to me before, but 55 years ago, right now, I was writing my senior thesis in college on nuclear deterrence in the spring of 1966. I would give anything to be able to find that paper. I would probably be appalled if I read it but let me begin with several questions.

Mr. Roberts, let me follow-up on something that you mentioned. What is our doctrine with regard to, say, Russia using a tactical nuclear weapon in Eastern Europe in the context of an invasion of Ukraine or annexation of Poland or some other similar kind of action; in other words, do they feel, is there a deterrent to the use of a tactical nuclear weapon, because, as you know, Mr. Putin has announced to escalate to de-escalate strategy. I am wondering how deterrence, as we have been discussing it, fits into that scenario.

Dr. Roberts: Well, let me start the discussion. Well, the United States has a policy that says that we reserve the right to respond with nuclear weapons to, in circumstances where, in extreme circumstances, where the vital interests of the United States or an ally are in jeopardy. We don't describe those circumstances. We don't identify the national interests that we consider vital. We leave it

uncertain in a form of calculated ambiguity.

It makes it difficult for our adversaries to know exactly where our red line is and, frankly, we may not know exactly where our red line is until a conflict is unfolding and puts certain interests at risk.

Senator King: So, there is a deterrent, but it is ambiguous. I just want to comment on that scenario, because I think that is one of the ones that we have to think about.

Mr. Bracken?

Dr. Bracken: I don't think we have a doctrine for that.

Mr. Miller: I think that we, as exactly as described by Dr. Roberts, have the forces, and have made the pledge to defend our allies, and I think the Russians absolutely understand that, and that is why, while they are rampaging in Ukraine and in Georgia and taking Crimea, they threatened NATO, but they haven't done anything to act against it.

Senator King: Let me ask another question. I think it was mentioned, maybe, General Kehler, in your remarks. The essence, or not the essence, but one of the essential qualities of deterrence is credibility. Would you argue that the modernization program that is underway now and its continuation, is, in itself, part of the deterrent strategy in order to show that we are willing to invest in a credible, usable nuclear deterrent?

General Kehler: Absolutely, Mr. Chairman. I think if you go back and look at what makes up deterrence, it is convincing an adversary that they can't achieve their objectives or they are going to suffer unacceptable consequences if they try or both.

And in order to be credible, in creating that view, you have to have capabilities that they see as credible capabilities. This gets back to in order to prevent the use, you have to be ready to use them and you have to have the willpower, and that comes through declaratory policy and other things that we do and say.

Senator King: And they know the condition of our system. They know the age, and not doing this kind of modernization would, itself, be a signal that would undermine the credibility as a deterrent; is that correct?

General Kehler: I believe that is true.

Senator King: Okay. We have been talking about state actors. Technology is advancing a pace. What happens, I don't want to posit this as a likelier scenario, but it is certainly possible, but what happens when a non-state actor gets ahold of a nuclear weapon who is a suicide bomber, what do they care? Deterrence, mutually assured destruction has no relevance to them. How do we deal with that threat, because I think that is a threat that we are going to face, either through technological development in some cell in

wherever they are or through purchasing from a nuclear country that has less scruples about this than others. How do you apply the deterrence theory or, I guess, what is the theory to prevent a nuclear attack by a non-state actor?

Mr. Bracken?

Dr. Bracken: I think there is a lot that actually can be done, but it isn't in increasing deterrence of that; it is increasing intelligence. This is a real issue with India, Pakistan, clearly. It could be for other countries. I would also say it is one of the huge differences in the current environment, compared to the Cold War, where it was the sort of threat that you would see in James Bond movies, but that is about all. Today it is a very real threat because of the security of existing nuclear weapons in Pakistan, in India, and, perhaps, other places.

I think there should be, and there already is starting to be intelligence sharing, technology, and such, with other countries who face this threat. And those in DOD who are doing this, should be commended for taking the initiative there, in my view.

Senator King: This is a place where we have something in common with our nuclear rivals.

Dr. Bracken: Most of the major powers might not agree about a lot of things, but they do agree that they don't want a nuclear war, number one, and they agree that they

don't want a terrific attack on themselves or one of their allies, because it could drag them in. So, there is a real basis for a discussion here and that is a good thing.

Senator King: Yes, I agree.

Senator Fischer?

Senator Fischer: Thank you, Mr. Chairman.

Gentlemen, a recent independent assessment performed by the Institute for Defense Analysis concluded that, quote, the U.S. adoption of a no-first-use policy will not bring about a setting that is more conducive to positive behavior by adversaries or to strengthen relations with allies. It might have already constrained U.S. policy and procedure governing nuclear use. The weight of the evidence indicates significant potential for no-first-use to impart more harm than good, end quote.

Do you believe we should maintain the current declaratory policy and its element of calculated ambiguity?

Mr. Miller, let's start with you.

Mr. Miller: Yes, Senator, I do. I don't believe that no-first-use does anything except make its proponents feel good.

Those of you who understand college football remember Woody Hayes when he said with a forward pass that three things would happen, two of which were bad. With no further use, four things will happen and all of them are bad.

Particularly, after the last 4 years, our allies will doubt our commitment to their defense against massive Russian attack. Second, as a result of that, those allies who have the capability to develop their own nuclear weapons will go a little bit further down that road. Third, given the conspiratorial nature of the Chinese and Russian regimes, they will never believe that we have actually made that our policy. And, fourth, the Russian policy of first use and the Chinese policy, which is, as Admiral Richard told you, is very ambiguous, is not as a result of ours, but because they have gone in a certain direction that they think is their own.

So, no-first-use is just a terrible idea.

Senator Fischer: Okay. General Kehler?

General Kehler: Yeah, I think that a no-first-use policy makes us less secure, Senator, and I think that for a couple of reasons, and it is basically what Mr. Miller has said. First of all, I think that a no-first-use policy incentivizes our adversaries to act aggressively, to include, perhaps, starting a major, conventional, regional war, without facing the consequences of the ultimate risk, and that gets back to Senator King's question, as well.

And then I think it removes a pillar of security from our allies and that is a fundamental pillar for them. We use our nuclear weapons, unlike every other nuclear-armed

country, in that we extend that guarantee to our allies. And I think one other thing to be mindful of, no-first-use presumes that the United States will maintain massive, conventional superpriority and I don't think that is a good presumption.

Senator Fischer: Thank you.

Dr. Bracken?

Dr. Bracken: Yes. I take a very different view of no-first-use, and my view is that it needs to be very carefully studied and articulated, not rejected out of hand, as a kind of bad bumper sticker. There are a dozen different ways of looking at no-first-use.

Let's take one of them. The U.S. has a de facto, no-first-use of nuclear weapons today and we have had it since the late 1960s. There is no scenario you can find at the Pentagon that shows first use actually led to something. If you look at U.S. presidential behavior or secretarial behavior, it is strongly oriented toward a de facto no-first-use.

Secondly, no-first-use needs to be considered in a context of, like, when would you do it and over what time frame?

Let me give an example of one that I happen to support. The President declares no-first-use of nuclear weapons, comma, guaranteed second use. If anybody does use nuclear

weapons, we will guarantee that we will punish them with nuclear weapons. That is a variation.

Another variation is, we will not use nuclear weapons first in 5 years to give Japan and Germany and others, because the counter to this is that if the U.S. declares no-first-use, Japan and Germany will go nuclear tomorrow morning and this is absurd. Thank you.

Senator Fischer: I am running out of time.

I did want to point out, I agree with General Kehler and with Mr. Miller.

And Dr. Roberts I am sorry, I am cutting you off here, too, but the impact this has on our allies, I think is immense and we have always guaranteed their security with our nuclear deterrence, with our nuclear Triad. We have always provided that umbrella of safety to them.

And in this study from the Institute for Defense Analysis, that was always pointed out in there that our allies are not seeking any change in our declaratory policy.

So, thank you, Mr. Chairman.

Senator King: We will likely have a second round, so --

Senator Fischer: Oh, okay. Well, I have lots to go.

Senator King: I figured. I could tell.

Chairman Reed?

Chairman Reed: Thank you, Mr. Chairman.

As many have pointed out, particularly Professor Bracken, that the world has changed since the Cold War. Multiple countries now have nuclear weapons.

I think something else has changed, too, is the arms control has lost a lot of traction. And it used to be my impression, at least that every President who was elected, has as one of his major foreign policy objectives, is to secure an arms control agreement. Some are more superficial than real, but there is this constant effort, as we have to maintain it. And that was when we were in conflict with the Russians and, the Soviets rather, and the United States.

I still think we need a vigorous arms control effort, which I don't see being promoted anywhere. And I just wonder, I will start with Professor Bracken and go around the table.

Dr. Bracken: Yes, I absolutely agree with that. And for one thing, and it is something that Congress can do something about, is there is no arms control lobby inside the United States Government. We abolished the Arms Control and Disarmament Agency, which was a very valuable source of ideas and innovation.

But you are right, the problem today is the arms control concepts are ideal for the Cold War, but not for the second nuclear age that we are in. It has to be multipolar now, all right.

I can guarantee you, I mean, you can say all you want that China won't join this. China is very attentive to some arms-control issues, but it affects their security. And we can start dialogues. We could start the framework for that.

And if I had to say one thing the United States needs more desperately than anything else, it is a political and moral justification for our defense programs, which today, have only a military rationale. When we keep the pledge to use nuclear weapons first and we don't declare no-first-use, we are painting in big, 10-foot-high, red letters, nuclear weapons are really, really useful. We are using them and we are not building up conventional forces, as we should. You might try them, other countries. And they are, North Korea, Pakistan.

I will just say one more thing. We are going, in 10 years, we are going to have a world chockablock with nuclear weapons where we expect to be fighting in Asia or against Russia, and I don't think we have really taken that into account, that North Korea could have 150 nuclear weapons, Pakistan could have 300. It is going to be a different world.

Chairman Reed: Mr. Miller, and then I will come down to the General and Mr. Roberts.

Mr. Miller: Thank you, Senator.

Three things very quickly. One, I don't think

countries proliferate because we have nuclear weapons; they proliferate because they want to dominate the region or because one of their regional adversaries has nuclear weapons or they want to deter U.S. conventional forces, like North Korea.

Now, second, the problem with arms control is that we, Americans, always look at these things in an altruistic manner and the Soviets and now the Russians look at it in a very transactional manner, and we didn't have anything to trade, with regard to getting our arms around their short-range nuclear weapons.

I think that is essential. I think we need to get an arms control agreement about that. If there is a war in Europe, that is where things are going to start, we need to get our hands around that threat to our NATO allies, their nuclear weapons of shorter range.

And, finally, we don't have an honest partner. The Russians have broken eight different arms-control agreements and accords that we had with them during the 1980s and 1990s. And so, I mean, we are not going to reform Russian behavior, but we have to go into this thing with a very clear-eyed view of whom we are playing with.

Chairman Reed: General?

General Kehler: I think we have gotten the benefit out of arms control. If you just look at the sheer numbers of

weapons that were deployed in the Cold War and those that were deployed today and the process it took to get there, I think we had a successful process. I think that process benefited us in other ways. It was a dialogue. I think we learned a lot about what the Soviet Union and the Russians were doing; what they thought, how they felt, and vice-versa. I think that helps a lot.

However, I don't believe arms control at all costs. I do agree with Professor Bracken's point that arms control has to fit the Twenty-First Century. There are new things out there today that have to be included and I don't think they are of any value if they are not verifiable and the other partner decides to cheat.

But I still think there has been benefit out of it and I would like to see us have a process, at least, with a mindset that the objective here is to make us more secure, not to just have arms control for the sake of arms control.

Chairman Reed: Mr. Roberts, please.

Dr. Roberts: I think all three of the main actors from an arms-control perspective, the United States, Russia, and China, believe at this moment in the multipolar, multidomain, complex world that competition serves their interests more than cooperation in these areas. The case for Russia and China has already been made.

Let me just say from a U.S. perspective, we have

decided to compete in our strategic posture with North Korea. We have sought to put our missile-defense posture to stay ahead of the North Korean missile threat and to develop conventional strike capabilities that allow us to reenforce that posture, and we are not ready to give up that competition, because North Korea continues to grow and present a growing threat to the United States.

It is difficult to come to mutual agreement about normalizing a competitive relationship when the main contenders all believe they have something to gain from competition.

Chairman Reed: Thank you.

Just a comment, I think, as the General pointed out, there were some benefits just to the process of talking. You get a sense of where they might be going. You also might have had an indication of a change in mood; i.e., that they are planning something or something is going wrong. And I concur with the complexity that all you gentlemen have stated, but it might make sense to start, at least, with the major players, Russia, China, and the United States, and see if there is something there. I think, otherwise, we are missing an opportunity. Thank you.

Thank you, Mr. Chairman.

Senator King: Thank you, Senator.

Senator Tuberville?

Senator Tuberville: Thank you, Mr. Chairman.

Thank you, guys, for being here today. You know, Alabama is proud to be the missile defense host agency and arsenal.

It is concerning to me that after going around campaigning the last two years and going to Huntsville quite a bit, that I keep going to these places and we are the only ones that don't have a hypersonic missile. It is concerning every time I go there. I know it is on the drawing board, but you know how that is. Last week, you know, I shared my concern with Admiral Richard about Russia and China outpacing us.

General Kehler, if the U.S. were to sacrifice nuclear modernization, in order to focus on conventional modernization, what effect do you believe that this would have on the long-term, U.S. competitive relationship with Russia and China?

General Kehler: Senator, I have never believed that we should put conventional and nuclear modernization in competition with one another inside the Department of Defense. I think both of these are essential because the foundation of our deterrent is nuclear weapons, but they are not the only bricks in the wall. And so, without a strong conventional force, without the ability to project power, without the ability to match up, conventionally, then I

think we are in a far different place.

I believe that priority-wise, it is very important for us to prioritize nuclear modernization at this point, but I think we can't ignore the conventional forces either. And I think that sometimes we pit ourselves against ourselves here, and I would encourage us not to do that.

And by the way, I think this is affordable. I think the United States of America can afford this.

Senator Tuberville: Thank you.

Dr. Roberts, do you believe that if the U.S. were to majorly disarm our nuclear capabilities that China and Russia would do the same?

Dr. Roberts: Not a chance.

Senator Tuberville: Thank you. That is what I thought.

Dr. Bracken, what challenges does the U.S. face with China and Russia continuing to modernize their nuclear capabilities?

Dr. Bracken: Well, I think we face immense challenges if they continue to modernize their nuclear capabilities. Let me just give a couple of examples.

It looks increasingly likely that there will be breakthroughs in anti-submarine warfare against our nuclear weapon-carrying submarines. I am referring for robot trailing submarines when they leave port. And 10 years down

the road, something like quantum computing, getting into quantum ASW, highly technical. But it puts a threat on the submarines that we haven't seen, like, forever in the past before. So, I think it would be a really bad idea to give up the ICBM leg of the Triad.

The big thing with the future is going to be tracking mobile targets. That includes nuclear weapons.

You mentioned hypersonic missiles. The reason they are interesting in this scenario is because they could get on the target very quickly before it moves out of range.

Senator Tuberville: Thank you.

Mr. Miller, do you believe that any of the legs of the nuclear Triad are unnecessary?

Mr. Miller: No, sir. I think the Triad has had a mutually reinforcing effect since the 1960s and I think we need to stay with that.

Senator Tuberville: Thank you.

Nuclear-powered missiles, is that going to in the forefront in the future, anybody?

Mr. Miller: Russians have tried it with disastrous effects. It is a terrible idea.

Senator Tuberville: Anybody else?

Dr. Bracken: Yeah, they are really heavy and it is really inefficient.

Senator Tuberville: Thank you, Mr. Chairman.

Senator King: Senator Rosen, via Webex.

Senator Rosen: Well, thank you, Chairman King and Ranking Member Fischer, for holding this hearing for our witnesses being here today.

I want to talk a little bit about cybersecurity. Of course it is so important, and the nuclear command, control, and communications or NC3, the systems of the United States, we are all connected. We are a network of communications through data processing systems, and this potential really leaves us, and I don't have to tell you, open to, vulnerable to cyberattacks.

So, to all of the witnesses here, how concerned are you that the strategic rivals of the United States may try to infiltrate and harm the U.S. nuclear infrastructure and how do you think we can, what can we do to make ourselves more resilient against these cyber threats?

And I guess we can start with Mr. Miller.

Mr. Miller: Senator, let me defer to General Kehler. I think --

Senator Rosen: Thank you. Sorry. I can't see everyone on my screen, so I am just trying the first face that popped up.

General, please.

General Kehler: Well, Senator, this is General Kehler. And I would say, first of all, we have every right to be

concerned about cyber intrusions. And you can't pick up any news feed of any kind, whether it is written, or in your handheld, or whatever you get it from these days, you can't find any feed that doesn't talk something about cyberspace every day. And so, I think the world that we live in is a world where we have relied on our networks and those networks have vulnerabilities.

We need to make sure that as we both, upgrade the current nuclear command and control system, and there are some upgrades that are required, as we think about what is next, we need to take cybersecurity to the forefront of the requirements. And I believe from other work that I do since I have been retired, that that is the mindset inside the Department of Defense. I know that they have given, after I left STRATCOM, STRATCOM got the responsibility to have cyber protection wrapped into the nuclear command and control communications system, which is now under STRATCOM's purview.

So, I think that was a positive move. I do think we have every right to be concerned. I don't think this is one where we could ever slap the table and say we are done. I think this is an ongoing problem and I think that our system has to be able to be effective and resilient not by defeating the entire cyberthreat but acting in spite of the cyberthreat.

Senator Rosen: I think you are exactly right. I have some bills going forward to try to increase our cyber workforce, create a cyber reserve force for the military.

I appreciate that. I just have a few minutes left, so I am actually going to move quickly over to talk about the Nevada National Security Site, because in 1993, Congress created a stockpile stewardship program and that is a science-based program that ensures the mission-critical readiness and reliability of the nation's nuclear stockpile.

Congress taxed the NNSA with ensuring that the nuclear weapons stockpile is safe, secure, and reliable, without the use of underground nuclear testing. So, some critical tests, physics experiments are conducted, of course, in Nevada at our national security site, and this has reduced the need for explosive testing.

We want to prevent a resumption of explosive nuclear testing at all, but certainly without our approval, Senator Cortez Masto and I have some legislation for that.

But Dr. Roberts, could you speak quickly to the importance of the Nevada National Security Site to the nation and to the stewardship of our nuclear stockpile.

Dr. Roberts: Thank you, Senator.

I would like to be clear that I am here participating in my private capacity, and not to represent the laboratory or NNSA, but I do have a view on the subject, which is that

the test site is essential. The national security site is essential to maintaining our confidence and the credibility and effectiveness of our arsenal, and it provides other benefits to the nation, in terms of preparedness for the nuclear terrorism scenario that worries you, Senator King, that provides some verification, technology work on arms control.

But to its core function of maintaining and ability to return to testing at some point in the future, this is an essential component of having a hedge against a changing world. We have been fairly confident on a bipartisan basis that for the period since the end of the Cold War, we could reduce roles, numbers, functions, et cetera. But that has been because of our view of the security environment.

But our view of the security environment has changed radically in the decade since I was in the Pentagon and it is quite possible that future leadership will determine that some new testing is required, some new capabilities are required, and for that, we have to maintain some capacity to exercise those skills. So, I am -- back to you.

Senator Rosen: Oh, well, thank you for that. I still would argue that subcritical and physicists experiments that we are able to do at the Nevada National Security Site. We have advances in nuclear matter. They do reduce the need and might possibly eliminate the need for explosive testing,

and we can still do that while ensuring the safety of our nuclear stockpile.

I see my time has expired, Mr. Chairman. I yield back.

Senator King: We are going to have a second round between Senator Fischer and I for several questions.

I guess the short way to answer this question is, should one person in the United States have the sole authority to unleash what could be the end of civilization? Do we need to think about how our chain of command works?

And I think, General Kehler, you said it is fine. We want to keep it the way it is.

But I just want to pose that question. That is a question that I get from my constituents is, you mean one person has this sole decision?

Mr. Bracken, your thoughts? Should we be thinking about, for example, the decision to launch should be the President, the Speaker of the House, and the Chief Justice of the Supreme Court, two out of three, and I understand time constraints and all those kinds of things, but the alternative is, one person with this enormous responsibility.

Dr. Bracken: I think in emergency conditions, it almost has to be one person making that decision.

But let me go back to an earlier set of distinctions between declaratory policy, real policy, and operational

policy. STRATCOM works on operational policy with guidance from the declaratory policy. The real policy could be quite different and has been, historically, in the Cold War. We see huge differences of what the President said in top-secret instructions to the Pentagon than what they did in practice.

In the Cuban Missile Crisis, President Kennedy threatened all-out retaliation against the Soviet Union after earlier in the week, he had signed a set of doctrines which broke up into small packages, the nuclear strike force. So we really need to look at both, things that, really, the President would do.

Secretary of Defense Robert McNamara, who I have spoken to a lot about this and his relationship with JFK and LBJ --

Senator King: And the Cuban Missile Crisis.

Dr. Bracken: -- and the Cuban Missile Crisis, had an oral understanding with the presidents, both of them that, in the event of a massive attack on the United States, that they would do nothing for 2 or 3 days to see what would happen. We had enough forces at that time to retaliate to destroy the Soviet Union entirely.

So, there are a lot of interesting cases in here with this framework of what you declare, even though it might be top secret, and what a real President would do. I am of the view that no President would ever authorize launch on

warning. I don't care if you can get the head of the Air Force intelligence in here to say otherwise. I just don't believe it.

Senator King: Mr. Miller, do you have any thoughts on this question?

Mr. Miller: I think the current system works. Having worked at the Pentagon in these areas for 22 years and then 4 years in the White House, every time I talked with the Secretary of Defense or the President of the United States about these issues, it was always with, they would treat it with the most extreme gravity and understood the risks.

I don't understand how you come up with a triumvirate or some panel to vote. And I think that an adversary would exploit every opportunity to try to disrupt that conferencing and, thereby, to prevent a U.S. second strike.

And I personally, I mean, one can talk about historical recollections and reminisces, if an enemy hit us with the first strike and said, if you come back at us because you are not shooting, if you come back at us, we are going to destroy you utterly in 3 days, that is a very difficult scenario for a President.

So, it is not the best system in the world, but I can't think of what the best system is, Senator King.

Senator King: General, do you have any thoughts on nuclear command and control?

General Kehler: Yes, sir. First of all, I think that there are a couple of things that are really important when we are talking about nuclear weapons. One is clarity of command. We have to understand clearly who is in charge, and the United States has decided to put the authority in the hands of the nation's senior-most elected official.

I think this absolutely has to be civilian control. No question in my mind. And it seems to me, as though that is the place where this belongs, for clarity of command.

And then second, we have to be able to meet the time demands of a wide variety of scenarios. It isn't just the time urgent, both out of the blue, which I agree is the least likely of the things that we would face, but it is an entire range of things.

And so, I think there are two issues here for you to consider. One is the authority of the commander in chief, any commander in chief to order the use of military force, in this case, nuclear force. That question is a question been the Legislative and the Executive branches. How much authority will they command or --

Senator King: Remember, the Constitution bestows the power to declare war on Congress.

General Kehler: Absolutely. And so, the question about, you know, when does a President have to come to Congress, that is your turf. That is something that you and

the Executive Branch have to go and work out.

The second question, though, is about the decision process itself and what are the safeguards in the decision process. And so, can you have assurance that there are sufficient safeguards in there, that there can't be some mistake or accident or something from the sole authority here or even some nefarious activity, all of which I think is extremely unlikely. So, having said that, are there safeguards in the process that prevent that?

My belief is, yes, there are. Some are congressional safeguards. The Twenty-Fifth Amendment and other things --

Senator King: Another is the legal order safeguard.

General Kehler: Another is the legal order safeguard at the very end. And so, adding people to the decision at the top as go, no-go authorities doesn't necessarily give you the kind of safeguard you are looking for.

If it is the Vice President, what if it is a like-minded Vice President? If it is a Secretary of Defense, what if it is a presidential appointee unconfirmed by the Senate? If it is somebody else, if it is the Speaker of the House, you know, somewhere along the line here you are adding complexity --

Senator King: Sure.

General Kehler: -- you are introducing confusion. You are suggesting that there would be delay or, perhaps, a

paralysis. And, to me, as a commander, I would be very concerned about those kinds of problems seeping into the nuclear command and control business.

Senator King: Mr. Miller?

I think your microphone needs, or you need to get closer.

Dr. Roberts, any thought on the subject of command and control?

Dr. Roberts: No. I could add comments, but my thinking dovetails with what you have heard.

Senator King: Thank you.

Senator Fischer?

Senator Fischer: Thank you, Senator King.

You know, I am sitting here reflecting on the tone of this hearing. I have served on this subcommittee since I have been in the United States Senate. I have been ranking member and chairman and ranking member and I think this is one hearing that not only is so very informative, but also, really emphasizes the changes that we have seen just in the past several years on the threats that we face when we start talking about our nuclear arsenal and the needs for modernization and looking at the aging of our platforms and what we have to do there. So, I thank you, Senator King, for your seriousness in this committee, as well as our other committee members.

General Kehler, the ICBM force is often described as being on a hair-trigger alert. Is that an accurate characterization and what concerns would you have about attempting to reduce the alert status of our ICBMs?

General Kehler: Senator, there is no U.S. nuclear weapon on a hair trigger. ICBMs are not on a hair trigger. Submarines are not on a hair trigger. If bombers were on alert, they are not on a hair trigger.

At the end of the conversation, this is a human control process. Nothing happens automatically. Human beings are involved at every step of the way and we put great trust and confidence in training in those human beings.

There are layers of safeguards that surround all of these weapons, and as safeguards go, the ICBMs probably have the most of the safeguards that are out there in the system. That is not to diminish the safeguards anywhere else, but the ICBMs were designed to be as full-proof as human beings could make something, so I have the ultimate confidence in all of that.

The issue about hair triggers stems from this use-or-lose concern that existed in the Cold War when people said the Russians could successfully attack the ICBM force and destroy it on the ground, therefore, the United States was faced with a use-or-lose kind of decision. And that was taken seriously inside the Department of Defense and,

certainly, for much of the Cold War, that scenario dominated our thinking and our planning.

That is no longer the case. So, one thing is we have backed away from this sense of urgency that existed in the height of the Cold War when we thought we could go to war with the Russians at any moment. I think the world situation has dictated something different and I think part of the second nuclear age is a different world scenario that surrounds all these.

Second, we did a lot to address the use-or-lose concern, one of which was, download the ICBMs to single warheads, which makes them a less attractive target. We have also improved our warning systems to give ourselves more warning time up front with higher confidence. We have tried to keep our command and control up to date, et cetera, et cetera, et cetera. Our plans are different today. We have put most of our weapons in survivable platforms; that is, those submarines.

So, I think this notion of use or lose and any pressure that might have been felt about use or lose that concerned people about hair triggers and the ICBMs is no longer the dominating factor here.

Senator Fischer: Chairman Reed brought up about treaties and I think most of us support the idea of treaties, but I would ask if any of you would support any

kind of unilateral reductions of our forces in any kind of treaty setting as a condition, at any time at all.

Mr. Miller?

Mr. Miller: Senator, I would not, because --

Senator King: Your microphone is not on.

Mr. Miller: Sorry. I am technically challenged.

In the late 1980s, President George H.W. Bush reduced by about 90 percent, our shorter-range forces, our theater nuclear forces, air, land, and sea, and extracted a pledge from first, Gorbachev and then Yeltsin, that they would follow suit. They did not follow suit.

I don't see any reason to believe, as I said before, the Russians are extremely transactional. I think that that sort of a unilateral action would just indicate that we were backing away from deterrence.

Senator Fischer: Okay. General Kehler, any views?

General Kehler: I agree.

Senator Fischer: Okay. Dr. Bracken?

Dr. Bracken: I would say, no, I don't envision any and I would flip the question. The best way to lower the probability of nuclear war is to modernize the U.S. force.

Senator Fischer: Thank you. Dr. Roberts?

Dr. Roberts, include in your answer, I thought your comment about China would not participate in a treaty, that is the way I understood it, can you explain why you think

that way. I agree with you. I want to see if our reasons are the same.

Dr. Roberts: Well, the Chinese see arms control as a trick. It is a trick to draw them into a competitive 1980s, U.S.-Soviet arms race where we come with the expectation that they will spend their way to oblivion.

And they have insisted they don't have a nuclear relationship with the United States. We talk about the U.S.-China nuclear relationship, they reject that. They say, we have our bombs in the basement. If we have a war, then we will have a nuclear relationship.

But they are not willing to embrace the idea that there is a relationship with instabilities in it that needs to be managed. They see arms control as a way to ensnare them into a competitive relationship that they reject. And they see arms control as obliging them to engage in forms of transparency that they find not just uncomfortable, but dangerous. Their tradition of thinking about transparency is that the obligation for transparency falls unevenly onto two partners. It falls unevenly onto the stronger partner, because it is the stronger one who can harm the weaker one with some hidden intent. So, they reject the transparency.

So, for example, an idea that we discussed in the Obama era was to, we considered the possibility of inviting China to serve as an observer to New START implementation

activities, possibly one of many observers. And this was coming too close to setting an expectation that they might be obliged to accept some transparency at a future time. So, no restraint, no formal negotiated, verifiable, arms control measures with China.

Senator Fischer: Okay. Thank you.

Thank you, gentlemen, and thank you, Mr. Chairman.

Senator King: Thank you, Senator Fischer.

I want to thank all of you. The reason I wanted to have this hearing is that we are now a full generation beyond the end of the Cold War and those of us who lived through that period remember nuclear deterrence. We remember the tension and the relationship and the importance of having a nuclear deterrent.

And I think we need to remind ourselves today that it is still relevant. It is still important. And I think we need to realize that there are many people who really are scratching their heads and saying, why do we have these bombs, why are we doing this? So, I think that is what is so important.

Mr. Bracken, I wrote, the best way to avoid a nuclear war is to modernize our nuclear force. I think that is a very profound statement, and, to me, summarizes the testimony that we have heard today.

I do have a bit of homework for the four of you and

those who may be watching, and that is, I would like your thoughts on how do we deal with the threat of a terrorist coming into possession of a nuclear weapon, because deterrence in that situation is not going to be effective. Is it better intelligence? Is the nonproliferation? Is it working with some of our nuclear rivals?

No one has an interest in terrorists getting control of a weapon like this. So, I hope you will supply the committee with some further thoughts on that subject.

Again, I thank you all for your testimony. Thank you for joining us today, and I appreciate your continued interest and work on these critically important subjects.

I would like to thank Senator Fischer and I look forward to continuing to work with her on this most important strategic policy of the United States of America.

With that, the hearing is closed.

[Whereupon, at 5:50 p.m., the hearing was adjourned.]