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## P R O C E E D I N G S

MR. O'HANLON: Good morning, everyone, and thank you for being here. I'm Mike O'Hanlon with the Brookings Foreign Policy program. I'd like to welcome you today to a discussion on the future of nuclear weapons, nuclear deterrence, nuclear safety and arms control. And we have a fantastic panel to discuss this issue with, a wide range of views, but also a lot of serious thought and research behind all of them. So I'm sure we're going to have some very thoughtful points of agreement and disagreement, and look forward, as well, to your participation.

The way we'll proceed this morning, after I give brief introductions of all three, is that I'll pose a couple of fairly broad questions to get the conversation going in lieu of opening statements, and we'll have a little bit of conversation amongst ourselves and then go to you. I'd like to welcome all three panelists, although, of course, Steve Pifer is here at Brookings, we're colleagues, and did a short book together last year. But Keith Payne is the president of the National Institute for Public Policy, and a former deputy assistant secretary of defense working on the issues that we're talking about today. Also a member of the Strategic Command's Advisory Group on forces and doctrine, also a former member of a number of commissions on nuclear strategy, on missile defense, on nuclear

proliferation, and, most importantly, any new book requires a little bit of plugging and deserves it, and he's put out a new book this year, *Understanding Deterrence*, so I recommend that to everyone.

And, again, Keith, thank you for being here.

MR. PAYNE: Pleasure, thank you.

MR. O'HANLON: Steve is a former State Department foreign service officer who was ambassador to Ukraine, and in addition, spent a lot of time negotiating nuclear arms control issues during various phases of the last two decades or so, has been here now at Brookings for several years writing quite a bit on various aspects of nuclear arms control, and everything from the future of missile defense in Europe, broad issues and strategic arms control, questions of missile defense and numerous other matters, and has really been the main energy behind Brookings modern efforts in the last half decade or so on arms control.

Bruce Blair was a huge part of the Brookings intelligentsia on arms matters in sort of the latter phases of the Cold War and through the 1990s, capped off here by his winning of a MacArthur Genius award, which then led to ongoing work at the World Security Institute, and his cofounding of the Global Zero Effort, which is a combination of activism and research in pursuit of a nuclear free planet. He was always just a great mentor and

colleague to me in my early days here. He began his career sitting down in the depths of the soils of the Midwest as a Minuteman launch officer, and from there went to the Office of Technology Assessment, has done a lot of issues on the technical as well as the strategic and political aspects of nuclear safety and nuclear arms control. So delighted to have all of you here.

And let me begin with a big broad question, and then I'm going to go even broader, so I really have two questions I'd like to start with. One is: what should President Obama do next by way of arms control? He's starting his second term, the question is, what, having done the New START Treaty, having accomplished a number of other things with the nuclear security summits in his first term, but also having laid out this big vision of a nuclear free planet in his prop speech four years ago.

What can he realistically, what should he realistically do now? Then, of course, we want to tie that into big broad questions on the future of nuclear weapons, where we stand in the nuclear nonproliferation effort, where we stand in broader questions of what nuclear weapons are for, in this day and age. But I want to begin, and, Keith, if you don't mind, I'll ask you first, and just work down the row, of what you think President Obama's main specific near-term priority should be on the arms control front, if any,

for that matter?

MR. PAYNE: I would refocus strategic arms control towards nonstrategic arms control at this point, let the New START Treaty essentially set the ceilings, as it does now, for strategic forces, and refocus towards tactical nuclear forces and greater transparency with Russian Federation on its tactical nuclear forces and to see, really, if there's any margin with the Russian Federation for addressing the 10:1 or so advantage that it has in tactical nuclear weapons, which would probably need to start with just greater transparency with Russia on its tactical nuclear weapons.

And, at the same time, I would, again, sort of stretching the envelope of, I think, what's practical, but nevertheless as an aspiration to try and get greater transparency into China's nuclear arsenal. So those strike me as the two most important near-term activities that we could focus on, would be Russia's nonstrategic nuclear weapons, both transparency and to see if there is any real potential for getting a handle on numbers and launchers and locations, and possible reductions therein.

And also greater transparency into China's nuclear arsenal. As you know, China actually makes it a policy to cultivate strategic ambiguity with its nuclear weapons, and it would be, it seems to me to be very useful for the United States, and ultimately, probably, for China to see if there's a

possibility of starting to reduce that ambiguity that China strives to maintain in its nuclear arsenal. Those are the two avenues I would advocate as first priorities.

MR. O'HANLON: Just a clarification before I then go to Bruce and then Steve. On the issue of transparency, you're talking primarily, I take it, about exchanges of data and so forth, whereas with Russia, you'd be open to a formal treaty if the Russians were; is that a fair --

MR. PAYNE: Well, I'd want to see what the details would look like before advocating for a formal treaty. I think the first step is trying to get an arrangement with Russia that would allow transparency so that we would know what we're dealing with, to see if there is a potential for a formal treaty in the nonstrategic nuclear arena, yeah.

MR. O'HANLON: Thank you. And, Bruce, over to you, if I could. Looking at the full three years of President Obama's remaining second term.

MR. BLAIR: Yeah. Well, let me set the context a bit by identifying what I think are the president's nuclear priorities for the rest of his tenure, and which would then sort of constitute a legacy for his presidency. I think there are four of them: He doesn't want to see nuclear terrorism on American soil; he does not want any country to acquire nuclear weapons on

his watch, the entire eight years, that means, of course, primarily focus on Iran; he wants to continue the process of nuclear arms reductions before his term expires; he wants to, I believe, negotiate another -- if not negotiate, at least make another round of nuclear cuts; and, lastly, he wants to bring other countries into the process, into the arms control arena, particularly China.

So I think, in an ideal world, he would like to see a couple of other achievements, including the ratification of the Comprehensive Test Ban Treaty, which, I think, as we all know, is not a realistic prospect, given the environment of political stalemate in the country. So the expectation there is that he would continue to educate the Senate and count noses in the hope and the prayer that sometime by the end of his second term, there could be a critical mass for ratification. But that's not a priority, I don't think, and an expectation. Same for the Fissile Materials Cut-Off Treaty, not likely.

So, putting aside the questions of terrorism and proliferation and just focusing on the other two items, primarily the question of the president's agenda for the next round of reductions, I'm not sure where that's going, exactly, but last year, roughly at this time, I think the White House was considering a sort of a time-phased reduction of the number of deployed strategic weapons with a five-year goal of reduction down to a 1,000 or 1,100; 10-year goal of 700 to 800; and a 15-year goal of 300 to 400.

And those goals could be embedded in the president's next decision directive, his nuclear guidance, that would require those goals to be pursued, even after his terms expired. And that would require the next president to conduct a nuclear posture review and write new guidance if he wanted, or if she wanted to reverse that agenda of cuts. So I don't know where the president's coming out right now, but it sounds as though the high end number is roughly where the smart money is betting right now.

But it will, if that number is chosen as the target, it will be embedded in the president's nuclear guidance, which would be his first nuclear guidance of his presidency that I think will be very traditional, very orthodox, will not depart much from past guidance. It will endorse the triad of land based rockets, submarines and bombers. I expect that it will continue to require nuclear forces to be prepared to launch on warning, that will be stipulated in the guidance. It will require the forces to be prepared to fight a large scale war with Russia and China, and to do so simultaneously.

It will require coverage of the usual classic sets of targets, those targets defined as the facilities that the potential adversary values most, and those, of course, are nuclear forces, WMD, leadership and war supporting industry. So that's a very traditional approach, and it will, I think, lay out a requirement for continuing to cover targets in lesser countries,



lower threat countries that include Iran, Syria and North Korea. I don't expect any radical departures from the past in terms of the overall guidance, although I think that there will be a reduction, and the emphasis placed on coverage of chemical facilities, particularly in Russia and China, and perhaps in Syria. And I think that the guidance will require missile defenses to be tasked to defeat limited strikes by Russia and China.

Now, just to quickly move to what I think the agenda ought to be for the president over the next few years; that's the Global Zero agenda as laid out in a commission that was formed a couple of years ago, and produced a report in May of last year called the "Global Zero U.S. Nuclear Policy Commission Report" that was coauthored by General Cartwright, the former commander of strategic forces and vice chair of the Joint Chiefs; then Senator, now Secretary Hagel; Ambassador Tom Pickering; Ambassador Rick Berg; and General Jack Sheehan.

And this report lays out a much more far reaching agenda for the next round of reductions and cuts, and calls for a total arsenal over the next 10 years of 900 nuclear weapons on both sides, in Russia and in the United States. And that includes all categories of weapons, strategic, tactical, deployed and reserve. The logic here is that it's time to get all of the categories of weapons, all types of them into play, into negotiation, get them

into a basket and begin to negotiate reductions in total stockpiles. And it's really important to know that deep reductions have been achieved over the last 20 years, and they have been fantastic, actually, down from 70,000 in the mid '80s between the U.S. and Russia to roughly 15,000 between us today.

Those stockpile reductions have been completely unilateral. There have been some stalls and starts, constraints on deployed strategic weapons, warheads, but that's really actually been a small fraction of the total number of weapons in the stockpile, so we've really gotten to the point where we're at today through a unilateral process. We're calling now for an end to that and for all countries with nuclear weapons, as well as Russia and the United States, to get all of their weapons into baskets and to begin a process of negotiation for reductions.

Lastly, well, there are plenty of other items in here, but this does not endorse the triad. It drops, eliminates the land based rockets, the ICBMs that I used to man, drops the B-52 bomber force and eliminates all tactical nuclear weapons from the U.S. arsenal. It takes everything off of launch-ready alert, to require 24 to 72 hours to bring nuclear forces to a state of launch readiness, which would effectively end the danger of launch on false warning, mistaken launch, unauthorized launch under a broad range of

circumstances.

MR. O'HANLON: Excellent, thank you. Steve, I know there are some elements of commonality with the agenda that you and I advocate for the next few years, love to just hear how you would summarize that and recommend for President Obama to have at hand.

MR. PIFER: Well, I think, if you look out over the next three years what they might focus on, it seems to me that the next stage of reductions, the primary focus should still be bilateral between the United States and Russia. And that's because, even after the New START Treaty is fully implemented in 2018, when the limits are reached, you're still going to have the United States and Russia holding somewhere between 90 and 95 percent of the nuclear weapons in the world, so they will have the primary responsibility for reductions.

Now, I'll come back to the multilateral point in a moment, but I would hope that you would have a possibility, either in June or when the presidents meet in September, to launch another round of U.S./Russian negotiations. But that would go beyond the New START agenda, you would go beyond just limiting deployed strategic warheads, and basically bring in all weapons. So the focus of that negotiation would be U.S. and Russian weapons, deployed and non-deployed, strategic and nonstrategic. So you'd

bring in the tactical weapons, as I think Keith was suggesting, but also you'd bring on the American side reserve strategic weapons, because I think it's going to be very hard to persuade the Russians to get into any kind of negotiation on tactical weapons.

We're going to have to look to an offer of American reductions of its strategic forces, and also a reserve of American strategic weapons to create some leverage to make that negotiation go. Now, if you could get into that sort of negotiation, I would suggest that the next step ought to be to aim for reduction to about 2,000 to 2,500 total nuclear weapons. That would be about a 50 percent reduction in the current American and Russian arsenals, when you sort of have a side deal that covers these weapons that are in the dismantlement queue.

And, basically, that single aggregate limit creates the basis for a trade off, it forces the Russians to reduce their advantage in tactical weapons in return for the United States reducing its advantage in reserves to strategic weapons. So you affect that trade off by that single aggregate. And then, within that aggregate, I would suggest that you'd want to maintain a subsidy, perhaps, of a 1,000 undeployed strategic weapons, so you'd bring the 1,550 number down, in New START, down to a 1,000.

The idea being that those are the weapons that are largely

mounted on intercontinental ballistic missiles and submarine-launched ballistic missiles that, in some cases, can be launched in a matter of minutes. Those are the weapons of most concern. So this would be a big agreement, it would involve, besides getting into issues such as new classes of weapons, new verification requirements, that they haven't had to deal with in the future.

And my sense was -- say, a year, year and a half ago, that I think the administration liked this idea. I think, intellectually, they found this interesting, and found it as a way to create some leverage with this tradeoff between reserve strategic weapons where there's an American advantage, and tactical weapons where the Russians have an advantage, to create some bargain leverage. My sense is that, while I think that is still the way to go in the idea world, that, to the extent that the administration is looking at the clock, that they want to have something done before President Obama leaves office in January of 2017.

This arrangement could be a little bit difficult because it's going to take more than the 11 months than it took for New START to get this kind of treaty. It's going to require more time, and I think, particularly, if the administration is looking at doing this as a treaty, allowing time for ratification, it would not be wise to try to have a treaty ratified in a 2016, in an

election year. So the time is becoming fairly constricted, and it may lead the administration to think there are other ways that they could do some things on the arms control path that would allow them to have some kind of a concrete achievement before they leave office.

Now, just briefly on the multilateral side, I don't think nuclear arguments reductions can or should remain solely a U.S./Russian enterprise forevermore. I do think that, because of the large difference between U.S./Russian stockpiles, and everybody else, that there can be, there is room for one more U.S./Russian negotiation. But it does, I think, make sense for Washington and Moscow, perhaps together, to reach out to other nuclear weapon states, particularly Britain, France and China, and they already use a process, including the five permanent, the five members of the UN Security Council talking about this.

But, again, to push the other three, some notion of transparency. I mean, I think China would be reluctant to get into a lot of details about its forces, but we ought to be pushing the Chinese to be more transparent with regards to total numbers, numbers of systems and such. And we don't have to get into locations, but maybe going a step beyond that is, without involving those three countries in the negotiation, try to persuade them to take on, as a unilateral commitment, a unilateral political

commitment that as long as the United States and Russia are reducing, they would not increase their forces.

And encourage them, again, to help create conditions that would facilitate further and deeper reductions by the United States and Russia.

MR. O'HANLON: Let me do a quick follow up with you, and then I want to ask each of you a broader question about how these specific recommendations relate to your broader vision for nuclear weapons and where we are in today's world. Steve, Bruce alluded to the Comprehensive Test Ban Treaty, and, of course, he also talked a little bit about missile defense. Could you just give your quick summary of how we should think about these two broad areas that have traditionally been important in arms control, but may or may not be relevant in the near term?

MR. PIFER: Sure. On the missile defense question, it seems to me that the decision that was taken by the Department of Defense in March to cancel Phase IV of the European Phased Adaptive Approach has created an opportunity, and I think, over the next few months, and, again, I think we'll see primarily when the presidents meet in June, but perhaps, more importantly, in September. Are the Russians prepared to deal on this or are they just looking for reasons to say no to cooperation on missile

defense, because the other notion of Phase IV really takes off the table the biggest concern they had about U.S. missile defense plans.

And while I agree with the Russians that there's a relationship between offense and defense, and certainly, if one side increases the numbers of its missile defense interceptors and the capabilities, at some point, that can undercut the offensive, or the strategic offensive balance between the United States and Russia. But that's a concern for the future. If you're looking in the near-term, New START allows each side to have 1,550 deployed strategic warheads. The maximum number of interceptors the United States will have that could engage an ICBM warhead in 2017 will be 44. With that kind of gap, I think there's an offense/defense relationship, but it's not one that requires, I think, the sort of treaty the Russians have been talking about in the past.

On the Comprehensive Test Ban Treaty, I think this is a treaty that makes a lot of sense from the U.S. perspective. I would argue that the concerns that the Senate had back in 1999 about whether we can maintain the reliability of our stockpile without testing, and about our ability to detect cheating by other countries, I think those concerns have largely been answered. But I guess I would add two other points that I think the administration doesn't make, and maybe it's hard for them to make, one is:



what's the political reality that the United States would ever resume nuclear testing? I spent a week out at the University of Nevada, Las Vegas in October and talked to the people there, and when you mention the possibility, even remotely, of nuclear testing, they kind of look at you like you came from another planet, and you hear, well, look how hard Nevada fought against storage of nuclear waste at the test site, is anybody here going to be welcoming of a resumption of nuclear testing?

And the second point that they made was the population of Las Vegas, which is about 50 miles from the test site, is three times what it was when the last test was conducted in 1992. So, by not ratifying, we may be protecting the right that, for me, it's very hard to see the United States ever exercising that right, politically. And I don't think it's going to happen in Nevada, and I suspect there are not many other states that would welcome the idea of having a nuclear test site on their territory.

The other reason that kind of perplexes me why we don't move forward on this is, if you look at nuclear testing, the United States tested more than the rest of the world combined. And I think, in many cases, we actually learned more from those tests. And one example from my Foreign Service career back in 1988, when I was posted at the American Embassy in Moscow and I had the Arms Control account, we and the

Soviets had agreed to do a joint verification experiment where the Soviets were going to have people on-site in Nevada when we did a test to measure the size of the test, and there were going to be Americans on-site at Semipalatinsk when the Soviets did a test to measure the size of the test.

And about six months before this was going to happen, I took an advanced team, people from Los Alamos, the Department of Energy and the Nevada test site out to Semipalatinsk, and we spent four days talking to the Soviets about how this would all come off. And they took us out to the test site a couple times, and one time they took us out, and they said, this is a vertical shaft that we drilled for an upcoming test. The hole's about three feet in diameter, half way fenced off because you would not want to fall down it, it was about 1,500, 1,600 feet deep. And I'm looking down the hole, and one of the guys from Nevada behind me says, boy, they're going to be really surprised when they get to Nevada.

And I said, why is that? He goes, well, typically, when we drill for a vertical shaft for a test shot, he goes, we drill the hole 8 to 12 feet in diameter. And I said, why would you do that, the devices aren't that big? And he goes, it's not about the size of the device, it's about maximizing the area that you have above the device to place instruments. And so, by that count, we had much more, five to six times as much room to put instruments.

So my sense is, we probably not only tested more than anybody else, but we also learned more about nuclear tests.

So my argument for the test ban treaty would be why would you not want to freeze this area of American nuclear advantage?

MR. O'HANLON: Thank you. And now I'd like to have one more round of questions, and, again, invite panelists to respond to each other and just bring in whatever broad concepts and concerns you'd like. But I'm going to try to catalyze that with a specific question to each of you. And, Keith, what I'd like to ask you is, what is it about some of the more ambitious agendas for arms control that you've heard some of our colleagues just outline today, among others, you would most want to counsel against, or at least be most concerned about pursuing too fast? What is it about today's world or specific aspects of today's world where you think that a next step in arms control might be problematic or counterproductive?

And, for Bruce, once Keith's given that answer, I'm wondering how you would answer the question of, what's the danger of delay? If we don't go, if we do what you think the president may do, which is a more moderate path towards some of the same arms control goals that you espouse, but much slower pace. What's the main downside of going at that pace? So I'll come back to you on that in a second, but, Keith, if I could just

ask you, what would you basically say to arms control advocates about some of the downsides?

And, obviously, I know you can identify a number of concerns, but the one or two things that are most on your mind today?

MR. PAYNE: Sure. Well, and before being able to comment on the prudence, or lack thereof, of a next step, obviously, one would want to know what that next step is. But, as a general rule, I think it's important to understand why would we be doing that. What are the goals of further deep reductions beyond just getting further deep reductions? Most of the goals that are identified in the common debate about the subject are to advance a nonproliferation agenda, to gain international support for nonproliferation, to draw the Russians and the Chinese into further reductions. I mean, most of those types of justifications for further deep reductions, I don't find very convincing in that the linkages are actually there.

There isn't much evidence, as far as I'm concerned, to tell me that next steps, if there were further deep reductions, would actually have the promised link to those benefits. So my thoughts are, first, what's the point beyond just going down, because going down isn't necessarily an unalloyed good. I think there are some real risks in reductions, depending on what they look like. For example, it seems to me that it's very important to take

the time to understand what the U.S. strategic goals are and what the strategies are to support those goals, and to make sure that the numbers follow that not that the numbers lead that.

In other words, our strategic goals and our strategic requirements should drive our numbers, not our numbers drive what's possible in terms of our strategic goals and strategic requirements. So when I think about what those strategic goals are, just to pick a couple that might be the most interesting for the panel to discuss here, I think about, let's take deterrence and extended deterrence to begin with. It seems to me that, for deterrence and extended deterrence in the current threat environment, what we want are forces that are extremely flexible, extremely resilient and rather diverse.

And that's because what we're going to have to confront in terms of our deterrence requirements over the next 10 years, next 20 years, next 30 years, which is kind of a time frame you can think about, could be very diverse in terms of the leaders the United States has to deter, and the context within which the United States has to deter, and the stakes that would be at risk. So you have a very wide spectrum of potential threats that may need to be deterred and potential opponents who may need to be deterred, and it seems to me that the force structure needs to be capable of

adaption, and adaption on a fairly quick basis so that the president should be able to pick various options in terms of the U.S. deterrent threat that are most suited to this wide variety of potential occasions where we would want deterrence to work.

And so that's why I sort of focus on flexibility, diversity of the arsenal, flexible options, and that requirement, if you will, for deterrence, as we look out over the next 20 or 30 years, has implications for force numbers, and it has implications for force types. And one of the reasons the triad is so important is because it gives you a source of diversity and resilience, but the number of warheads that you have, and the diversity of the warheads you have also feeds into this need for flexibility and resilience. So, as I think about where we might want to go in the next step of arms control, one of my first prior efforts would be to try and understand what do we think will be necessary for deterrence over the next 20 to 30 years as best we can prepare for it, and it seems to me that answering that question brings you down to the line that says it's not necessarily the number that's the coin here that we want to talk about, it's the flexibility and diversity of the arsenal, which then does have implications for force size and maintaining diversity of launchers

If we look at assurance, the assurance of allies, again, it's a

potentially different set of requirements. Just because you think you may have the ability to deter doesn't mean that you have the ability to assure allies. And, as you know, we have 30-plus allies who depend on the U.S. nuclear umbrella, some obviously much more intensely than others. But providing that assurance function to allies via extended deterrence or the nuclear umbrella, I think, has probably been the single most important nonproliferation tool of the last 30 years, because we have allies who have felt quite comfortable living in security under the U.S., credibility of the U.S. nuclear umbrella. Where, if that credibility is degraded, those allies may be less comfortable relying on the U.S. nuclear umbrella and look towards their own independent capability.

So, in a sense, you have a proliferation connection there that strikes me as very important. So I want the United States to be able to maintain that credible capability to assure allies as a priority. So then you say, okay, so what does that mean in terms of the requirements for the force structure? Because assuring allies with our nuclear umbrella implies its own set of requirements. We can't just say, well, we have 300 weapons so you allies should be assured. I mean, we could tell them that, but they don't necessarily believe it.

And, in fact, if you look now about what some very key allies

are saying on exactly this topic, you can see that South Koreans are very concerned about the assurance that is provided by the credibility of the U.S. nuclear umbrella. The Japanese, some Japanese are very concerned. There was a report that came out fairly recently by the policy arm of the Japanese Ministry of Defense that laid out very explicitly the concerns. We are concerned -- and I'm paraphrasing, I actually have the document, I could read the quote, but I won't do that -- about further reductions because allies who rely on the U.S. nuclear umbrella, and particularly we Japanese, will be concerned about further reductions because our security is tied up in your ability to extend nuclear deterrence.

And extended nuclear deterrence may identify as entailing some pretty rigid requirements, so my concerns would be how do you maintain deterrence over the next 20 to 30 years, how do you maintain the assurance of allies over the next 20 to 30 years, and what are the requirements that are entailed by both of those strategic goals? So before we would take a step towards further nuclear arms control, as Bruce and Steve have identified, I'd want to be real comfortable with what the answers are to those questions.

And at least a preliminary look, I've been engaged in a preliminary look at trying to answer those questions, doesn't suggest the



kind of deep reductions that Bruce talked about. Why? Because we would be interfering, I think, in a considerable way, with the diversity, the survivability, the flexibility of the force, which I think is very important for deterrence purposes, and we would be interfering, degrading the assurance that those forces provide to allies, and their reliance on the nuclear umbrella. And, in effect, one of the last things I think we want to do is encourage nuclear proliferation among friends and allies who have been quite happy to date to rely on the credibility of the U.S. extended nuclear deterrent, and feel that, in fact, given the rough neighborhoods they live in, and here I'm thinking particularly of Japan and South Korea, that they have to reconsider their commitments to remain non nuclear.

But it's not just in Asia, it's also some of our friends and allies who live in a tough neighborhood there and are looking towards Iran becoming a nuclear power. In fact, we know that the Saudi officials have said officially, officially and publicly if Iran gets a nuclear weapon, we will get a nuclear weapon. So I'm very concerned about numbers driven by an arms control ethos that says anything lower is okay, when reductions can, I believe, degrade our ability to deter, degrade our ability to extend deterrence, and degrade our ability to assure allies. And the degradation of those capabilities for those goals would be anything but a positive

development.

MR. O'HANLON: Thank you. So just two quick clarifying questions for me, and then I'll go to Bruce. One would be, does that set of views lead you to a specific suggestion on the CTBT? Again, that's probably not going to be a near-term debate in the Senate, but I'd be curious if you have a strong view. And, secondly, it sounded like U.S./Russia balance issues were a little less central to your brief litany of strategic concerns than some other theaters, for example China's rise and Iran's potential pursuit of a nuclear weapon. In other words, is that a fair conclusion, and is it reasonable to think that your current orientation is more towards some of the newer threats, newer challenges rather than the U.S./Russia balance, per se?

MR. PAYNE: Okay. No, Russia is, I think, at least in some ways, central to this discussion, because the Russian nonstrategic nuclear forces are forces that some of our key allies directly face. The Russian Federation has made explicit nuclear threats to these key allies in the last two years, and our allies have paid attention to those nuclear threats that have been expressed by the Russian Federation. So I think trying to identify greater transparency and, if possible, a handle on Russian nonstrategic nuclear weapons could help towards our goal of assuring allies. So I do see

Russia as part of this discussion.

MR. O'HANLON: And on CTBT, any particular advice at this point?

MR. PAYNE: Yeah. I mean, I don't, this is where I think discussion of CTBT now -- I mean, I'm happy to engage in that discussion, but I don't think it's very pertinent because, as one of my colleagues here said, the chances of CTBT getting through the Senate in the next three or four years, I think, is factually zero. So I don't know if I feel compelled to go into a discussion of that, but we can later if you'd like.

MR. O'HANLON: Fair enough. Bruce, over to you. Let's --

MR. BLAIR: Okay. Let me just jump in here and say that the Global Zero team, General Cartwright and the rest, look at all of the dimensions and factors that Keith has raised, and in a very serious way, look at the issues of deterrence over the next 10 years, and all the other factors of relevance here and came to the unanimous conclusion that the United States today has a huge surplus of nuclear weapons. This is a legacy of the Cold War. The Cold War ended 20 years ago, we need to remind ourselves occasionally we don't need to fight the last war any longer. And the judgment was that we, as I said earlier, could quite easily reduce to a level of 900 total nuclear weapons in the American arsenal.

I could show you the war plan that was formulated, the targeting set that was formulated by this exercise, and you would be kind of astonished at how large a 900-force arsenal really is. Currently, I think there are roughly a thousand targets in the U.S. strategic war plan in Russia and 500 in China. That's way more than is needed to satisfy the requirements of reasonable requirements of deterrence. In this plan there are about 600 weapons out of the 900 aimed at Russia and 300-some, roughly, aimed at China, and 40 at North Korea, Syria and Iran.

This is basic, it maintains two-on-one targeting of missile silos in Russia and China, for those planners who are concerned about achieving a high level of damage against strategic forces on the other side. And the force is, essentially, it's a proportionally scaled down target set from the one that currently exists, and when you scale it down dramatically, you're still left with 80 weapons aimed at Moscow. I think there are probably 130 or 40 aimed at Moscow today. Now, how many do you need in this day and age to satisfy the requirements of deterrence vis-à-vis Russia and China? I would argue, we argue that we have a 900-force plenty.

We also found a great deal of lack of diversity in the existing nuclear forces. In particular, we dropped, eliminated the ICBM force because its only mission in life is to fight a large scale war with Russia,

there's no other mission it can perform. You can't, it can't attack Iran or North Korea or China because the earth -- without flying over Russia, the earth is round, and these missiles have limited range, so they serve absolutely no purpose other than a full scale nuclear exchange with Russia. Now, what are the, what's the probability of that, and what are the requirements of deterrence to prevent Russia from initiating that strike?

We think that the current arsenal is hugely oversized for those purposes, for purposes of deterring China, which, after all, only has 150 nuclear weapons of its own, does not have this gigantic arsenal that there's, I think, including Keith have advertised. It's a relatively small, modest, modernizing, but not very daunting threat. Clearly, North Korea and Iran and Syria don't present a very big challenge. We haven't even factored in the overwhelming conventional superiority of the United States, and the fact that, over the last 20 years or so, there's been a massive substitution of conventional for nuclear forces in carrying out the missions that previously, decades ago, would have required nuclear weapons.

So we are interested in numbers, Global Zero is a group of 300 world leaders who have come to the conclusion that our national security, and the national security of the countries represented by the other world leaders would be best served by living in a world without nuclear

weapons. That is zero, that is Global Zero, that's the goal. And you don't get there by some sort of Lewis and Clark expedition of sort of incrementalism that has, you know, without a plan. You have to have some ambition and some kind of a plan to move from where we are today to get to zero, and that's what we try to do. You need to move out on this rather ambitiously or you'll never get there.

So zero is the target, and for as long as the world lives with nuclear weapons and doesn't get to zero, we run existential threats to our countries, to our civilization. It's an urgent agenda, it's the President's agenda. I wish that he had developed a plan instead of basically kind of bouncing around a bit from one objective to another. If I were him, I would have said, we want to get to zero in 20, 30, or 50 years, not 100, but some sort of reasonable near medium term target date.

And what does that mean? Let's work back from there; he should instruct his bureaucracy to flush out the implications of getting to zero in, say, half a century or less. For the forces, what do we need between now and then, for the complex, the national laboratories, the Y-12 plant, uranium plant in Tennessee, et cetera? What are the implications for the life extension program of, to rebuild our nuclear weapons, and what is our arms control strategy, how do we get Russia, the United States and all the other

countries with nuclear weapons into a process that could lead, through staged, verifiable reductions from where we are today to zero?

I think that's a plan that has yet to be formulated, and is the one that is essential to be figured out in order to get where the president wants to go.

MR. O'HANLON: Thank you. And I know we'll continue to flesh out these issues as we go to your questions in just a minute. But, first, I want to invite Steve to weigh in on sort of the big picture questions. But I'll give you two very specific questions to pick that up. One is, with the arms control approach that you've recommended, what does that get you if you accomplish it? So in three or four years' time, what are the main strategic benefits, the one or two top benefits? Is it primarily in terms of U.S./Russian diplomatic relations and the reset, is it in terms of nuclear safety, is it in terms of setting you up for a next step in arms control?

And then that leads to my second question, how does your agenda relate to Global Zero?

MR. PIFER: Okay.

MR. O'HANLON: Does it require a specific decision on whether Global Zero is a desirable end point before you pursue the specific second term Obama agenda that you've laid out?

MR. PIFER: Okay. Well, let me start first by addressing the other points you make. Firstly, I think I agree with most of what Keith said on deterrence and extended deterrence, and I think for the foreseeable future, the United States wants to have nuclear forces that are flexible, diverse, resilient. I think, I disagree with Bruce, I think, at least for the foreseeable future, I would see a place for ICBMs in that mix, in part because I think they're relatively cheap to operate, but also the calculation from a deterrent sense that an adversary who wants to go after ICBM force really has to contemplate putting a significant number of nuclear weapons in the United States, and would realize that that would buy, that would certainly draw a nuclear response.

But having said that, I think you can actually have a force that would be flexible, diverse, resilient at numbers significantly below where we are now. The number I've sketched out, a total limit, say, 2,000 warheads with a thousand deployed strategic warheads, which still allow the United States to maintain a triad of land based missiles, submarine launched missiles, and bombers. And, as I think about that in the context of deterrence and extended deterrence, I have to ask, it seems to me that that force would still be a pretty good deterrent. And I find myself thinking of the North Korea example, because there were a couple members of Congress



who swear that the North Koreans did their third nuclear test.

Well, this means we can't reduce any further, and I'm asking myself, okay, basically, my proposal cuts the American nuclear force in half, so instead of having 500 times as many nuclear weapons at North Korea, we only have 250. Is that going to lead North Korea to adopt a significantly more aggressive posture towards the United States or its American allies? I don't think that's the case. Now, having said that, I'm actually a member of Global Zero, and --

MR. BLAIR: You were. (Laughter)

MR. PIFER: I still am, I still am, unless the organization's had a change of heart. But how I came to that, because I'm a believer in nuclear deterrence, I think it's going to be the basis of our policy for the foreseeable future with one big asterisk, and that is; if you look back over the history of the Cold War, there are some cases where the world got really, really lucky. The Cuban Missile Crisis. In the end, President Kennedy overrode the advice of his military and civilian advisers and imposed a naval blockade as opposed to air strikes followed by an invasion.

Well, what the president didn't know, and the joint chiefs didn't know, and the CIA didn't know in 1962, and we learned it in the 1990s, was that the commander of Soviet forces on Cuba had already been given

release authority for tactical nuclear weapons, and had weapons pointed at Guantanamo Bay, which was then much more of a naval base than a detention center. What would have happened then? There were a couple of instances, both on the American side and on the Soviet side where computers misread things. For eight minutes in 1979, we thought we were under a ballistic missile attack from the Soviet Union.

So my question is, are we always going to be lucky, particularly as the number of nuclear weapon states increase? And I begin to see those risks beginning to pile up in a way that, to my mind, outweigh the risks that the United States would face in a world without nuclear weapons. And when I'm talking about a world without nuclear weapons, and I think that's what you mean, too, it's a world where we're absolutely, where there's a verifiable end of nuclear weapons, which would be hard to do.

But, from an American point of view, I look at that world and say, we have friendly neighbors in Canada and Mexico, we have the protection afforded by the Pacific Ocean and the Atlantic Oceans, and we have the world's most powerful conventional forces. A non nuclear world, there's some risks there, including how you maintain extended deterrence of allies' protection, but I think those risks are less than the risk that we're going to be facing in the future if we continue to rely on nuclear weapons. On the

question of assurance, and I think assurance is important. For example, I do not see an American requirement to have nuclear weapons in Europe for purposes of deterrence. I think that deterrence function could be performed by U.S. based forces.

But, having said that, I can also understand that, for some allies, there is that assurance requirement. And I think that's what drives the American position now, which is to maintain some nuclear weapons in Europe. My guess is that, because of what's going on in Europe, that that's going to change radically in the next eight or 10 years. But when I think about assurance, it seems to me that, too often, we focus on hardware problems for what is a software fix.

Basically, what assurance require is that allied leaders basically are comfortable, they believe, they are confident that if they get into a serious crisis, the American military will be there for them. And I look back in the NATO case, and the fix is usually when you've had this problem have been hardware, so multilateral force in the early 1960s, intermediate range nuclear missiles in the 1980s, maintaining B-61s now.

There may be better and cheaper and more effective software fixes, so I think the nuclear planning group, when it was established in NATO back in the 1960s and gave NATO some access to American thinking, some

input into that thinking. I think that was very helpful. Likewise, my impression is that the administration before the nuclear posture review spent a lot of time consulting with allies at NATO and Japan and South Korea. And, again, those, I think, sorts of consultations, and particularly at the highest level, when you have that kind of conversation, if you can build that confidence, if at the end of the day, allies are confident that the United States will be there, that may not require a lot of additional hardware.

And then, finally, the benefits of arms control, I guess I see four or five benefits. I don't stay awake late at night worrying about a Russian missile attack, but I still think, as a basic proposition, the fewer the number of Russian nuclear weapons that can strike the United States, the better. Second, I think we should try to find a way to reduce Russian advantages and tactical nuclear weapons where they have anywhere from a 4:1 to a 6:1 advantage. It's hard for me to see us doing that without arms control. Third, I think arms control brings transparency benefits.

Fourth, I think that there's some budget savings there. Maybe not in the near term, but looking out, if we can bring Russian numbers down in a way that requires us, when we go through our modernization cycle to perhaps lets us build fewer submarines or fewer missiles. In the 2020s, there will be some significant budget savings, and I

suspect that the kind of budget deficits we face now are going to be with us for the next two or three decades.

And then, finally, I guess I would differ with Keith on this a bit, but I do think that there is a nonproliferation benefit from further U.S./Russian reductions in that it's very difficult, or it seems to be harder for American diplomacy to go to China and say don't build up, or to Iran and say don't acquire nuclear weapons when we're sort of saying we need to have 5,000 nuclear weapons, otherwise our security is undermined. Whereas, if we are making reductions, I don't think that changes minds directly in North Korea or Iran, but I do think it makes it easier to get third countries to put pressure on the nuclear pariahs.

And I would argue that it's probably not a coincidence that, in the last three years since the signing of New START and the release of the nuclear posture review, we've had more success diplomatically in lining up countries to impose serious economic and financial sanctions on Iran. I think there's a relationship there.

MR. O'HANLON: Thank you, panelists, for excellent presentations. I know there's a lot of expertise in the group, so let's go to you. Please wait for a microphone. We'll start here in the fourth row, then I'm going to go, we're going to do two at a time, so we'll start up, I guess, in

the fifth row, and then go over to Walt before we return to the panelists.

Please identify yourself before your question.

MR. ROBICHAUD: Carl Robichaud, Carnegie Corporation of New York. Thanks for the presentation. Can I indulge the chair for two quick questions? The first is about tactical nuclear weapons. I heard from all three of you, a point of agreement that we need to start looking at nonstrategic as part of the arms control context. How do you do that? Clearly, Russia values these as an asset, and there are tremendous asymmetries, so how do you go about entering into that negotiation with the asymmetries that are there?

Second, you talked a lot about numbers and a lot about targeting and a lot about the broad landscape, but in terms of the -- that's all quantitative. What about the qualitative dimensions of the U.S. and Russia arsenals? Is there any way to change that? I know Bruce mentioned briefly the issue of alert. Are there other issues of targeting, who we target, how we employ these weapons that would make the world safer?

MR. O'HANLON: Thank you. We'll go over to Walt Slocum before we get responses.

MR. SLOCUM: My name is Walt Slocum, I have a question about transparency. Everybody is for transparency, but I've never

understood exactly why it's such a good thing. If by transparency you mean a kind of comprehensive verification arrangement like we have under New START and the other bilateral arms control agreements, then I understand it. But if it's just publishing your stated inventory, it seems to me there are only two possibilities; the first is the numbers the Chinese give us agreeing with our estimates, which may either because the estimates are right or because the Chinese know what the estimates are.

The other is, they disagree with the Chinese estimate, the Chinese declaration disagrees with our estimate. And then there would be some inclination to question our estimate, but mostly it would be to conclude that the Chinese are lying or have a funny accounting system, which is perfectly possible. Some of the people in the room may remember the arguments with SALT I agreement where there was an argument about how many submarines the Soviets had under construction, and Kissinger finally had to concede that probably they knew the number with more accuracy than we did.

But, in all seriousness, and I think it's a responsibility for outfits like Brookings, and, for that matter, it's the one arms control initiative I suspect that Dr. Payne has ever supported enthusiastically. More transparency from the Chinese, which is just to specify exactly what you

mean by transparency and what you would get out of it. I also, Bruce spoke with the kind of authority which comes only from access to information about what the administration is likely to do. And he said something which I found very concerning, which is that the administration is going to make defense against a, quote, limited Chinese or Russian missile attack an objective missile defense.

That is a formula for vast increase in the complexity of what I'm sure you would concede is already a hard enough problem. I'm not blaming you, you're presumably reporting what you've heard, but it is decision of very great significance and we've certainly got to know what we're getting in for before we do anything.

MR. BLAIR: Walt, I think that reflects the point that people like Gary Seymour have made many times in the past, which is that of, if a missile is fired by Russia or China at the United States, we're going to try to intercept it.

MR. SLOCUM: Oh, of course, that's different from making it an objective.

MR. BLAIR: So, well, the objective would be that if such an unauthorized or accidental firing occurred, it would be a, the missile defense system would be tasked with trying to shoot it down. And I don't think that's



very controversial, but it does open up a can of worms in a lot of ways. On transparency, I'm really talking about verification of arms control agreements, first and foremost, that's my focus. As we get down to lower and lower numbers on the path to zero, it becomes increasingly important to identify and count and monitor and verify every single weapon in every country's arsenal --

MR. SLOCUM: But you --

MR. BLAIR: -- from deployment to dismantling, the whole chain of custody. So that's the main focus on my mind for this sort of thing. It's critical, you know, that tactical weapons get thrown into these baskets because they are, we have to come to grips with the entire arsenals of all countries.

And if you mix them all in the basket with the freedom to mix, you give the Russians the opportunity to express their preference for tactical weapons, and, in fact, they are more focused on regional contingencies than on global strategic contingencies in their current thinking, so they may well prefer to keep -- the Russians tell me they need 300 to 400 tactical weapons to deal with the Chinese threat. If that is their priority and that is where they put the weight on their various weapons systems, then let them do that, but there would be some ceiling, some cap of that that all parties would be

obligated to honor.

And, as Steve said, we may give up a lot of our strategic reserve warheads, I certainly would support that, and Russia may give up a portion of its tactical force. But keep in mind, I mean, Russia has dismantled huge numbers of tactical weapons, they had tens of thousands of these things, and they're down to around probably 1,500 operational tactical weapons. We have about 500 roughly -- that's 3:1 not 10:1, Keith, ratio -- so we're more or less are in the ballpark where they have an advantage of maybe a thousand tactical weapons, we have an advantage of a thousand strategic reserve weapons, roughly speaking.

There is a bargain there in the basket to be caught, in my opinion. Just one last question. I think too many of these conversations degenerate into discussions of the requirements of deterrence, as though we're sort of still really stuck in history. And they tend to lose, these conversations lose sight of all the other risks associated with nuclear arsenals in the world, particularly those in places like South Asia and Pakistan. It's just imperative that we come to grips with all of these other risks that really are the most serious ones today.

I mean, nuclear proliferation, nuclear terrorism, cyber warfare, those are probably the three most serious risks that we confront today.

They're usually identified in our security documents as such. It's not a threat, an intentional nuclear attack by Russia against the United States. That's not a threat that's high up on the list of concerns, so why do we keep talking about deterrence as though it is really the only serious dimension of this conversation? The Council on Foreign Relations did a survey a couple of years ago of all of its members, several hundred members, asking them what were the most serious threats the United States and two important countries, allies of the United States, and Russia was not mentioned once, was not mentioned in the top 20 list of concerns.

So let's sort of move on, let's accept that we have a huge surplus of nuclear weapons in the U.S. and in the Russian arsenals that we need to make these deep bilateral cuts, true, but we also need to link those cuts to capping, constraining, freezing, whatever, proportionally reducing the arsenals of China, and all the other countries, including not just the P5 countries, but those outside of the NPT, because those are where the more serious dangers lie today. And they are dangers that will affect us.

If there's a nuclear war between Pakistan and India, it will definitely have huge security implications for the world and for us. If Pakistan loses track of its nuclear arsenal and those weapons fall into the wrong hands, that's something that's going to concern us deeply. Those are

the primary concerns, and to get our arms around those concerns, we have to sort of get off this old habit of focusing on deterrence and the requirements of targeting the Russian general staff, and get serious about an agenda to get rid of all of these things in our lifetimes

MR. O'HANLON: Keith and then Steve.

MR. PAYNE: Sure. You know, it's easy to be misunderstood, but one doesn't want to be misquoted, so let me point out that Bruce said that I had identified some very large number of PRC weapons as the right number. I never identified any number as the number of PRC weapons, because I don't know the number of China's weapons, and I haven't commented on that. What I would say is that Bruce says 150, General Yasin, whom Bruce otherwise quotes very favorably, says it's more like 1,500 --

MR. BLAIR: General Yasin is a friend of mine --

MR. PAYNE: Let me finish --

MR. BLAIR: -- former Chief of Staff of the strategic rocket forces. I went through his whole schtick the other day and he definitely -- sorry to interrupt, I mean, if you're going to invoke his name, those numbers are definitely baseless.

MR. PAYNE: Well, I've sat with General Yasin -- this is a

detail, but I've sat with General Yasin now for hours with regard to exactly this issue, and his bottom line conclusion was, at least his belief, that China probably has around 1,500 nuclear weapons. I'm not endorsing that number, I don't know what the number is. But what I'm saying is that there's a range of numbers, the Taiwanese White Paper from a couple years ago put the number at closer to 400 to 500, other folks give different numbers.

One of the reasons why transparency would be useful, if it can be actually done, is because maybe, maybe it could discipline a little bit such discussion as we're having now where Bruce presents kind of the low end of the estimate of China's numbers --

MR. BLAIR: Wait, I'm giving --

MR. PAYNE: -- and perhaps --

MR. BLAIR: -- I'm giving U.S. estimates, okay. There is no debate internally in the intelligence community over this question, no serious debate on it.

MR. PAYNE: Low end of 150, where General Yasin says 1,500, it would be kind of a good idea if we could discipline that debate at least a little bit, and perhaps transparency would help us to do that. Then that led to the next point where I prefer not to be misstated, where Walt said transparency is the only arms control agreement I've ever supported. In fact,

I was part of the process that led to the Moscow Treaty, I participated in that --

MR. SLOCUM: I apologize.

MR. PAYNE: -- and the Moscow Treaty, for those of you who don't recall because it's been superseded, led to what I believe was the single largest reduction in strategic forces of any agreement. So I supported the Moscow Treaty, I participated in the Moscow Treaty, I also supported the double-zero agreement, as well. So, you know, it's easy to be dismissed in a group like this as, well, he just hates arms control. Not at all, I've been involved in some very serious arms control activities.

MR. SLOCUM: Indeed, I apologize.

MR. PAYNE: Let me follow on at least a little bit here with some of the discussion points that we've heard, and, Michael, I assume this kind of discussion is what you're looking for, and that is going back to the issue of nuclear deterrence as if nuclear deterrence is somehow a Cold War goal. Obviously, nuclear deterrence was a Cold War goal, but deterrence is still an extremely important goal in the post Cold War world. It's easy to sort of disdain deterrence as, well, it's just post Cold War nonsense, we're going to want the deterrence to prevent attacks and to prevent the escalation of war prospectively forever.

So the question is, how do we try and maximize the effectiveness of deterrence and minimize the risks? Now, to point out there are risks associated with nuclear deterrence is sort of a no-kidding statement. Of course, there are risks associated with nuclear deterrence. My only comment on that, to make it fairly simple is, I think the things that are riskier than nuclear deterrence are living in a world with no nuclear deterrence. Sam Nunn talks about the nuclear free mountain top. We've been to the mountain top, we were at that mountain top through 1945, and what we saw is that conventional deterrence fails periodically and it fails catastrophically.

That's why we had over 110 million fatalities in the first half of the last century in just over 10 years of combat. 110 million fatalities in just over 10 years of combat. You're welcome to a world without nuclear deterrence. In other words, we were at that mountain top, we saw -- you know, it's pretty ugly and harsh, let's figure out how to get out of that condition, and nuclear deterrence was, in a sense, the solution that we came up with.

Is it a perfect solution? Absolutely not. Does it entail some risks? Of course it does. The question is, what happens if you eliminate nuclear deterrence and we get back to that world? I really like Tom

Schilling's comment on that. Tom Schilling, when asked about going to nuclear zero, he said, well, it just makes the world more dangerous, because then all we're going to do in crises is get to the risk of reconstituting the nuclear weapons. That's going to be the race. And he said, you know, frankly, I think the race of reconstituting nuclear weapons in a crisis is probably more dangerous than maintaining deployed, secure nuclear weapons.

And so let's make sure that we're sort of comparing like things. Do we want nuclear deterrence? I believe the answer to that is self-evident, given the 2,000 years of recorded history of what happens with conventional weapons. Conventional weapons do not provide, the evidence shows, an effective deterrent because it fails catastrophically on occasion, and we'd like it not to fail catastrophically on occasion. And even without nuclear weapons, if deterrence failed, unless, somehow we've gotten a handle on chemical and biological weapons.

The consequences of deterrence failure in the future, even in a nuclear free world, would be catastrophic. 110 million casualties in the first half of the last century when nuclear deterrence wasn't functioning was obviously a catastrophe beyond compare. Add that in the contemporary world where we have chemical weapons and biological weapons and



advanced conventional weapons, and the catastrophe is unimaginable. I would like to see nuclear deterrence maintained as safely and securely as possible to help preclude that event.

When Thomas Schelling was asked the question, well, wouldn't, essentially, conventional war no longer happen with regard to nuclear zero, his answer was brilliant, he said, well, I don't know, it always did before. It always did before. What miracle is going to happen so all of a sudden conventional war can't happen anymore? Something from outside the system has to come and make that happen, and what's going to make that happen is what the crowd with nuclear zero hasn't been able to identify.

Is it going to be a threat from Mars? Is it going to come in from outside the system that's going to ensure that conventional war, nonnuclear war can't happen because we all organized against this external threat? I doubt it, but maybe there's hope there. And the reason that Steve points to why nuclear zero could be good for the United States, in particular, is because, at that point, we sort of reign supreme in most places with conventional forces, so it's good for the United States to move in that direction.

Anyway, I have some sympathy for that argument, but that very argument tells you why nuclear zero won't happen. Why? Because

other countries appreciate that. You think other countries want the United States reigning supreme with its conventional forces, without their own nuclear trump card? So far, the Russians, the Chinese, the North Koreans have all said, in various open statements, the reason we're not going to give up nuclear weapons is because we want to be able to deter you, and your advanced conventional weapons are part of what concerns us greatly.

So there's this internal contradiction that nuclear zero, if it were feasible, imposes on the world this great U.S. conventional advantage if it were to be maintained. And Steve, I think, rightly says, well maybe that's an advantage, and maybe so, but it tells the world why they won't want to move why that direction. In fact, the Russian leadership has said, the last two Russian leaders have said, Gorbachev said this earlier, Putin said it more recently, nuclear zero is a trick.

It's a trick because we need to maintain nuclear weapons. Why? Because of this overwhelming conventional capability that the Americans have and that confront us. So I take it there's this internal contradiction that, as far as I've seen, hasn't been resolved. And to get back to numbers again, I tend to want to stay away from a discussion of numbers, not because there's anything inherently wrong with discussing numbers, but I find that the debate in the United States has been focused on numbers in a

really superficial and facile way.

But if we want to talk numbers, Bruce said, and his report says, he's accurately reporting in his report that 900 total weapons would be adequate for deterrence now and prospectively in the future.

MR. BLAIR: For 10 years.

MR. PAYNE: For 10 years. Let me just suggest that no one knows whether that's true or not. Bruce doesn't know whether that's true, I don't know whether it's true or not. Why? Because deterrence is not that predictable of a function. We have no idea whether the current arsenal of 900 units of the current arsenal is going to be what's going to be provided an adequate deterrence in the future. It might, but --

MR. BLAIR: But can't, someone has to make that judgment, and --

MR. PAYNE: Well, that's right, so --

MR. BLAIR: It was the judgment of General Cartwright, Senator Hagel, et cetera, et cetera I mean, if no one knows --

MR. PAYNE: Let me interrupt you for interrupting me.

MR. BLAIR: Yeah, please do.

MR. PAYNE: Because folks have made that discussion, have had that discussion of what the numbers required. And Bruce says 900. Let

me just give you the number that General Chilton, when he was Commander of STRATCOM, laid out in 2010, not that long ago. General Chilton said that he would not go any lower than the ceiling of New START, 1,550. In fact, he was invited in questions and in Senate testimony to go lower, and he said I wouldn't go lower at all.

Not because there's a magic number of 1,550, but because of the function I talked about earlier, because the flexibility that's provided by the triad with 1,550 weapons is the kind of level that we need to provide that flexibility for deterrence. So I just put it to you that Bruce has identified the number that his report does, General Chilton, who is head of STRATCOM provided the numbers I wouldn't go any lower than 1,550, and, in fact, he later said 1,550 is kind of okay because the bomber counting rules actually allow us to have more than that, so that makes me feel much more comfortable than otherwise would be the case.

Why? Not because there's a magic number, but it provides flexibility and diversity that can be, possibly the key to deterrence --

MR. BLAIR: Well, general Chilton's work plan requires a tax against a thousand targets in Russia and 500 in China and that adds up to 1,500, so naturally, he's going to come out with an argument that we need at least 1,550 or more nuclear weapons to satisfy those plans. And that's the

judgment of many who are reasonable, who consider the same issues with the same sort of experience and background that that's excessive.

MR. PAYNE: Let me suggest that nobody on this stage has been a nuclear war planner. I suspect that nobody on this stage has seen actual nuclear war plans, and so to identify why General Chilton said that 1,550, with the added margin, because the bomber counting rule is because it follows the war plan is a leap, and I wouldn't go there. Because what he said specifically was, that's the kind of force structure and the numbers that provide the flexibility that he thinks would be important for deterrence in the future.

Now, does that mean that I'm saying that 1,550 is the right number? No, I don't know whether that's the right number. When some colleagues and I, when we were in government and had the opportunity to look at this same question, we kind of landed on a range, and that range was seen in the Moscow Treaty, about 1,700 to 2,200, with the maintenance of launchers, and maintenance of the triad provided adequate flexibility and resilience to hedge against a darker future than what otherwise might be the case.

MR. BLAIR: There's almost 100 percent correlation between the numbers of weapons in our nuclear arsenal and the numbers of targets

that we have. These are weapons chasing targets, not the other way around, typically. In the mid 1980s, and I worked at SAC before then but kept in touch with people at the highest levels there. We had about 13,000 strategic weapons and a lot of tactical weapons on top of that, and we had 16,000 targets in the strategic war plan. If you go, you know, from year to year all the way down to the present, you find that the number of targets and the number of weapons almost sort of, deployed weapons, almost perfectly coincide.

MR. O'HANLON: Let me go to Steve --

MR. BLAIR: There's absolutely no logic behind this, it's totally arbitrary and all we know is that these numbers are obviously insane. Can you imagine 20,000 weapons --

MR. PIFER: I'll pretend to be moderator for one minute.

(Laughter)

MR. O'HANLON: Okay.

MR. PIFER: But this is actually great, I mean, if you're finding it half as useful as I am, then I'm glad I'm playing a passive role. I'm going to give Keith one sentence to clarify where he was going, give Steve the floor, and then we'll have one final question before we do a wrap up. So --

MR. PAYNE: Sure, thank you. And very quickly, the point I

was trying to get to here was that whether 900 is the number or whether 1,550 is the number, or 1,700 to 2,200 is the number, it's driven by external circumstances. In other words, the threat environment gets a vote, here, on what's appropriate and necessary for deterrence. And the threat environment changes, and it can change radically and dramatically in 10 years, in 20 years, in 30 years.

So my basic point is, what we want to maintain is the flexibility and resilience of the force structure, to be able to respond to how the threat environment may change over the next 10 to 30 years. And given the spectrum of deterrence, potential deterrence requirements over the next 20 to 30 years, and this is not harkening back to the Cold War, it's looking very much into the future.

I find it just puzzling when you talk about picking an arbitrary number, puzzling that anybody can say 900 is it. By crikey, we now know the number, the magic number that assures deterrence. We have no clue as to whether that's right, so one of the reasons why I try and stay away from saying, well, this threshold is the right number, that threshold is the right number, is because nobody knows what exactly the right threshold is. We do know that maintaining flexibility and resilience is going to be extraordinarily important, so I would like to see a force structure that

provides that flexibility, that resilience, those options to a president so that deterrence can be most effective.

And if deterrence fails, so that the president can respond in a way that doesn't encourage escalation, that uses the least amount of force possible to control escalation, to limit escalation so that a war that happens because deterrence fails, despite our best efforts is minimized as much as possible. So it's both for deterrence of conflict and for controlling the potential for escalation within a conflict. Those strike me as overwhelmingly important goals, and to tie that capability to any absolutely specific number and peg in on a number and sort of lock it in and say the next step is to go lower is, pretend to be omniscient and say we know what's necessary for deterrence, we know it now, we know it in the future. And as far as I know, nobody in the room is omniscient.

MR. O'HANLON: Steve.

MR. PIFER: I think three or four points out of the conversation that's come here. First of all, I think, actually, Keith's points, I mean, I think that highlights, I think, one of the difference -- it's the assessment of risk. And Keith has made a very valid point that, in the first half of the 20th century, 110 million people died as a result of conventional war. And I think, to some extent, when I look at how you address that



problem, it seems to me that, if you make the progress towards global zero, and I think global zero remains a good goal from the point of view of American national security.

I'm not sure we get there. We may stop -- I mean, you design each step of the way so if you get stuck at that step, you're still better off than where you were before. But it does seem to me that you would begin to address some of those questions. I don't see that you get to global zero without addressing some of those underlying issues that would presumably make major scale conflict in the future less likely than it was in the past.

Now, to some extent, that's the economist way of saying let's assume the problem is solved, right, but I think that it does point out, again, the question of risk. You've outlined one risk, again, from my perspective, with the number of nuclear weapons that we have, with the number of nuclear weapons states increasing, that risk, I think, is gained to the point where we can't ignore it, and unless we start changing things, there is the risk of a potentially cataclysmic nuclear exchange. And while I think, certainly, if you think about things like escalation and control and such, my guess is that, if there were ever a nuclear conflict, particularly between the United States and Russia, if we somehow stumbled into one, which I think is a very, very low probability event, I think both sides would find escalation

control exceedingly difficult, and you would be very quickly into what would be a civilization ending event for both sides.

Second, again, I think, Keith, I agree with almost everything you say on deterrence, but where I get a little bit uncomfortable is I think your bottom line of some of those sometimes comes out to that deterrence presentation leads to we cannot reduce below where we are now. And I don't want to put words in your mouth, but it seems what you're suggesting, and, again, it brings me back to the question, if you were to cut American nuclear weapons in half tomorrow, what potential adversary out there would act in a dramatically different way when faced with 2,500 American nuclear weapons as opposed to 5,000.

And as I go through the list of potential adversaries, it's hard for me to come up with that list, particularly if it was in the context when the Russians also cut their arsenal in half. The third point about numbers, I mean, it seems to me this is actually, there needs to be a basis for picking the numbers, and this is, right now, with the president of the United States. The numbers that we now have in the New START treaty at 1,550 were based on the nuclear posture review when you were in the government, actually, when I was still in the government back in 2001. A new review has been done, a new implementation study has been underway, perhaps

finished now, but at least was started back in the fall of 2011, and that basically gives the president, who has said he believes there is room for further reductions, the president the opportunity and the responsibility to articulate to the Pentagon and Strategic Command if you have to use nuclear weapons, this is what you need to be able to accomplish.

And if he sets a lower bar in terms of, for example, the destruction that he thinks weapons need to carry out if they have to be used, then I think Strategic Command would come back and say, if that's the requirement, then we need only X number of weapons. But this is really when where, I think, the president has the opportunity to make this decision, I'm actually a little bit puzzled why, I suspect we will never, in the outside world, see the specifics of that decision. But I'm a little bit surprised that we haven't heard that a decision has at least been taken at this point. But once the president makes that decision, then it goes to the Pentagon, then it goes to Strategic Command, and this is what the president gets paid the big bucks for.

I mean, he's the one who makes the determination what he has to do or what nuclear weapons, which the Pentagon refers to as the president's weapons, would have to do if they were ever to be used, and when he makes that articulation, then Strategic Command will come back

and say, in that case, you need X. Finally, just to get back to two other points, on the question of tactical nuclear weapons, again, I think Bruce and I are of the same mind, here, the way you get Russia to lower its tactical nuclear weapons numbers is by offering or using the American advantage in reserve strategic weapons as leverage. So you get into a tradeoff, a single aggregate limit would be the vehicle to accomplish that.

I would say, I mean, I think the Russian point, the Russians try to fence off tactical nuclear weapons now and say there's a whole bunch of reasons why they can't be touched. And part of it is that there's a certain logic there which I think is hard for the United States to refute, because they basically say we look at conventional force disadvantages vis-à-vis NATO, and although they can't say it publicly, I think the big concern is China, and they say we need tactical nuclear weapons to compensate. And it's difficult for the U.S. government to rebut that because that was NATO policy for the '60s, '70s, '80s, and such.

But I do think, though, the Russians also overstate the amount of the conventional disadvantages. If you look at what's going on with NATO country defense budgets, bear in mind that the U.S. presence or the ground presence in Europe is going down to two brigades in Europe, and I think two months ago the last American main battle tank left Europe. So

the Russians, I think there's a certain desire on their part to overplay that conventional difference because they would like to keep tactical weapons out of the mix. But even if you accept the Russian logic that there's a requirement for tactical weapons, there still is the question asked them, how many?

And I once asked a Russian, retired Russian general, and I said, let's assume the Chinese invade Siberia, and your conventional defense has failed. How many tactical nuclear weapons do you drop on the Chinese Army on Russian soil before either the Chinese get the message, stop and withdraw, or that conflict escalates to strategic strikes against China proper? And I think that's got to be less than 1,500, less than 150, it's less than 50, it's probably about six or seven. This is mainly about political signaling, and therefore, I can accept the Russian logic for having tactical weapons and perhaps placing for reliance on it. But they can certainly carry that doctrine through with significantly fewer tactical weapons than they have today.

Just one point on missile defense. I hope, I mean, as I understand American missile defense policy, and this goes back, I think, through the 1992, it has been to be able to defend the United States against a limited ballistic missile attack that could be mounted by a pariah state such

as North Korea and Iran. And I think that's a sensible objective. I would be cautious about going beyond that, and I think it's good that every opportunity the United States government and the Pentagon say there is no desire here to try to defend against a Russian ballistic missile attack, simply because we could not cope with the numbers, we could not cope with the counter measures.

It's interesting, there's a degree of ambiguity, and I think it's deliberately so when you look at China. And I think there's a couple ways to look at that question. On the one hand, there might be value in the United States also saying that it's not in our interest, we are not trying to defend against a Chinese attack. Because I do worry that there's a consideration here that, if China comes to believe that our missile defenses are, in fact, aimed at blunting or stopping China's ballistic missile attack, the Chinese response is going to be to build more ballistic missiles that can target the United States. That, to my mind, is not in the U.S. interest.

Now, having said that, I also think there's a consideration on the other side, which is to the extent that the United States acknowledges vulnerability to China, do we somehow undercut the assurance that our nuclear umbrella applies to countries such as South Korea and Japan. So it's not an easy call, there, but it's one that I think the United States ought to

think about in terms of how we might affect future Chinese actions.

MR. O'HANLON: Thank you. One more audible, I'm going to call, we don't have any more time for questions, but because this has taken on a very healthy and vigorous debate, I think it's only fair for me to give each panelist one final minute each for any kind of final clarification or wrap up point they want to make, just because we've had a lot of back and forth. And maybe, Bruce, I can start with you.

MR. BLAIR: Well, I think I probably would just repeat myself --

MR. O'HANLON: That's okay.

MR. BLAIR: -- in one minute. But I guess this forum and this conversation illustrates the fact that the whole game of mutual deterrence or nuclear deterrence, mutual nuclear deterrence has been so deeply institutionalized in our society, in all parts of our society that we continue to sort of fail to address with perspective the broad range of serious issues that we, that the world faces in the next 10 to 20 years that revolve around the problems of nuclear proliferation and nuclear terrorism and the potential for deliberate nuclear war between states and Asia, et cetera.

We're not having a balanced conversation, here, we need to better grasp the multitude of serious risks and dangers that are growing

today around the world, and come to terms with the fact that nothing that we're talking about here in tweaking deterrence is going to have any real impact on getting our hands around those issues and addressing them. In fact, the whole sort of, nuclear weapons are essentially useless in dealing with these problems, nuclear proliferation, nuclear terrorism, cyber warfare, not to mention all the other things like climate change that we confront. So, you know, I'm always disappointed by these conversations, and I don't think that Keith's representation of the current state of affairs also even begins to capture the danger that resides in the continuing operation of U.S. and Russian nuclear weapons on launch ready alert.

There are serious, serious issues here of the cohesion of control and the risks of loss of control on both sides when you have nuclear postures that require the ability to be able to launch on warning, that require the ability to execute a complex nuclear response in a matter of just a few minutes. I mean, the guys out in Colorado and women have to assess whether America's under attack and whether attack indications are real or false in three minutes. That's their job. And then the president convenes an emergency conference with his top advisers, and he gets briefed by Omaha Strategic Command on his options, his responses, and their consequences.

And that briefing deadline can be as short as 30 seconds,



and then the president has, at most, before he has to make some real decision, at most 12 or 13 minutes, more likely just a few minutes to make a decision, and then the deadline for execution of that decision on the part of the forces in the field is extraordinarily short, too. It's a checklist-driven process, it's not an exercise in national leadership and deliberation, it's an enactment of a prepared script. And that's the posture that the United States and the Soviet Union adopted 40 years ago, and that's the posture that we continue to operate today.

It's out of touch, and there are, these sorts of risks and dangers, even in the U.S./Russia context that are just kind of ignored in all these conversations about the requirements of deterrence.

MR. O'HANLON: Well, I'm less disappointed than you, because I find this to be a very rich debate, but thank you for your participation. And, Keith, now, the last word over to you and then we'll have Steve Pifer wrap.

MR. PAYNE: Sure. And let me just hit four points and really try and keep it short. One, Bruce's comment is that nuclear deterrence doesn't deal with cyber, it doesn't address terrorism, it also doesn't feed and take out the cat. I mean, nuclear deterrence only does a set number of things, but the set number of things that it has done in the past have been

extraordinarily important. Given the historical evidence that we have, I think it's easy, in fact, it's abundantly easy to say that the evidence that we have demonstrates that nuclear deterrence has prevented war on occasion, and has prevented the escalation of conflict on other occasions. That strikes me as an extremely important capability to maintain in the future.

On the issue of nuclear zero, I thought Steve made a very good point, he said that nuclear zero -- I don't want to put words in your mouth, I'll paraphrase --

MR. PIFER: Go ahead, I'll listen.

MR. PAYNE: Nuclear zero can make sense in the context of a global environment where conflict is resolved, or major --

MR. PIFER: Major conflict resolved.

MR. PAYNE: -- conflict. And, you know, in fact, I tend to agree with that. If we could get to a world where conflict is resolved without force, then I think nuclear zero could make sense. And what does that presuppose, well, possibly a benign world government that can enforce order around the world. And, in that case, I'd say, sure, let's go for nuclear zero if we have that order and we trust it, but why stop there? I mean, let's just disarm in that case because we have a benign world order and the world government that's providing collective security for all the parts.

The problem with that answer is that it's a little like saying that the problem of homelessness is solved when everybody has a home, or the problem with poverty is solved by giving everybody a bunch of money. Well, it doesn't solve the problem, it just solves the problem by definition, because what it then says is, okay, so you do you get the world that is benign and major conflict is stopped without conflict? I'd love to get to that world, I don't see any evidence that anybody knows how to get to that world at this point in history, and I don't see negotiations, the process towards nuclear zero getting us to that world. But if we could get to that world, beautiful, then don't stop at nuclear disarmament.

Third point, escalation control is difficult. Again, I completely agree with Steve, I think escalation control in the context of a nuclear conflict could be extraordinarily difficult. What I would suggest, though, is we don't want to ensure its difficulty by not giving the U.S. president a lot of flexible options so that he or she has the best chance of trying to control that escalation process, knowing full well that the escalation process, you know, may not be controllable. We don't want to ensure that by not having the kind of flexibility and options that could help to control it.

And the numbers that Bruce has tended to talk about, I think, would essentially eliminate most of those options, nuclear zero obviously

would. And the fourth point is that war plans can change, and the president can, indeed, change requirements that change war plans, as Steve rightly said. What that doesn't mean is that deterrence requirements change. The president has a process and, as commander in chief, can change war plans, can change requirements, but the president, as commander in chief, can't change deterrence requirements.

Because deterrence requirements are set by opponents, how they calculate things, what their goals are, what kind of hostility do they pose, the context within which the nuclear environment, the threat environment exists. Those aren't changed because the U.S. president changes U.S. nuclear requirements. Those are what they are. And the question is going to be, will the U.S. nuclear requirements provide us with the capability, the potential to deter those threats for the next 20 to 30 years? So I'm less interested in how the Commander in Chief can change the process than, okay, what do we think is required for deterrence, because the Commander in Chief can control the process and the type of force requirements, the Commander in Chief cannot control what's required for deterrence.

MR. O'HANLON: And, Steve, last word to you.

MR. PIFER: Okay. Four, maybe five points. First of all,

again, I think what's come out in this discussion is different perceptions of risk. I came around ultimately to Global Zero because I think that the risk of use of nuclear weapons is growing, and that the circumstances are catastrophic so that Global Zero, if you can get there, is a sensible goal for the United States. Provided that Bruce hasn't taken away my membership card. (Laughter)

Second point, I think what Keith just said, deterrence requirements are out there, and they are set, to some extent, by potential adversaries and their expectations, their value systems. But, as I think you've seen here, the three of us could not agree on what the requirements are for an American force to deter all adversaries. That's the president's job. So, again, it's an objective set of requirements out there, but somebody has to make an articulation and make a determination of what those requirements are, and how that then translates to policy as regards to the doctrine regarding American nuclear forces, the numbers, the structure and such, and that's the president's job, rightfully so.

Third, again, I think this is where Keith and I, I completely agree that, as long as we're going to rely on nuclear deterrence, which I think is going to be the case for the foreseeable future, even though I think there's a degree of risk there, we want to have American nuclear forces that

are flexible, diverse, resilient, and can respond to a variety of contingencies.

I think where Keith and I disagree is on the number. I think you can maintain those characteristics of a strategic nuclear force structure and do it at dramatically lower numbers than we do today.

Forth point is kind of a particular point on the ICBM question. This is one of the things that I really question about current American doctrine which is, do you really want to be in a position where you're giving the president, at most, eight or nine minutes to make what will be the most meaningful, dramatic decision of his presidency, if not, I think as Mike said, of all mankind. And so one thing I would argue that the United States ought to consider right now is, remove the requirement for prompt launch of ICBMs. And you don't have to make any physical changes, just tell the U.S. Air Force that the plan is that the president is going to want to have hours, if not days to make this decision, and therefore, there will not be a requirement to launch U.S. ICBMs in, say, 20 minutes.

Now, there's a risk there. The risk is that if the Russians wake up tomorrow and decide we want to launch an attack on the United States, they could take out those ICBMs because those ICBMs aren't trained, they're not prepared to be launched in that 20 minutes between the time we get warning from satellites and radar of Russian launches and

impact on the silos out in the Midwest. I would argue, though, that's an acceptable risk now because we've made the decision, I think a very smart decision unilaterally, to demerive our ICBMs which only carries a single warhead. And if the Russians want to go after those and the Russians are concerted, they're going to have to use two warheads to get every one.

I don't think that that's going to happen, so I think there's an acceptable risk in our now saying to the Air Force, you don't have to be on launch alert for ICBMs. There's a risk there, but we're prepared to accept that because, when that call comes, the president, we want to give him more than just 15 minutes to make what's going to be a fairly major decision. And, finally, the last point is that, again, whether people agree on the ultimate goal of zero nuclear weapons or not, I would still argue that there are significant things that can be done during President Obama's second term that would reduce weapons, could reduce Russian weapons that could target the United States, and could do it in a way that would be leave us in a more secure, more stable situation than we are today, and I hope that we see the president pursuing those.

MR. O'HANLON: Thank you, all. (Applause)

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