BRITISH AMERICAN SECURITY INFORMATION COUNCIL (BASIC) FORUM IN ASSOCIATION WITH HUDSON INSTITUTE. THE EVENT FEATURED CHRISTOPHER FORD, DIRECTOR, CENTER FOR TECHNOLOGY AND GLOBAL SECURITY AT THE HUDSON INSTITUTE; AND BARRY BLECHMAN, CO-FOUNDER OF THE STIMSON CENTER, ON NUCLEAR WEAPONS ISSUES, BALLISTIC MISSILE DEFENSE AND GLOBAL ZERO

THE CAPITOL HILL CLUB, WASHINGTON, DC

MAY 8, 2012

MR. PETER HUESSY I want to thank you for being here this morning. Yes, I am Peter Huessy, but this is not the NDIA, AFA and ROA seminar series. But I was asked by the British American Security Information Council and Anne Penketh and Paul Ingram and the Hudson Institute to sponsor this event with them, to feature Chris Ford and Barry Blechman.

Both Chris and Barry will be speaking at my seminar series. And for those of you who don't know about it, if you'd like to, please let me know afterwards. Very briefly, I think the issues that I think need to be addressed in the nuclear business are four.

The first is the strategic balance between the U.S. and Russia. And that's not so much, I think, a matter of numbers of weapons but how they're deployed so that in a crisis no one reaches for the nuclear gun, so to speak, that they keep it in the holster. The second issue that Henry Sokolski and Chris Ford have both thought about, I think in great depth, is to what extent does the agreements that the U.S. and Russia make help with the issue of proliferation? Third, I think what I call the Graham Allison syndrome, which is we tend to look at terrorism and nuclear issues as a matter of locking down nuclear material, which I'm 100 percent in favor of.

I think the president should be commended for his four year lockdown and the schedule. If only we could make it universal in every country. But it doesn't take into account countries such as Iran or North Korea that are not going to be part of the cooperative DTRA and Nunn-Lugar framework, and therefore might – and I believe will, if they can – give a nuclear weapon to a terror group especially formed for the purpose of using that nuclear weapon surreptitiously against an American city or an Israeli city or both.

And then the final question that comes to mind is, does the pursuit of global zero, irrespective of whether you are for it or not – and there are differing views on that – does this pursuit help or hinder the three challenges of strategic stability, proliferation and nuclear terrorism? And with those thoughts, I will turn it over to Paul Ingram, the executive director of BASIC.

MR. PAUL INGRAM: Can I begin by saying thank you, Peter, for agreeing to host this. I also want to thank the Hudson Institute because this is a joint meeting of BASIC and Hudson Institute. And as such, this is why I think we've got such a good and broad spectrum of participation today.

This idea came out of a project that we at BASIC have been conducting back in London on the Trident decision. We have set up a commission to review the decision made by the British government back in 2007 because we have seen there will inevitably be a public debate on this in the run-up to the

next general election likely in 2015. And that public debate, whatever one's opinion on this, needs to be informed and it needs to escape the usual very bifurcated and prejudiced debate – prejudiced on both sides of this discussion.

Now today, of course, we have Chris Ford and Barry Blechman. I first met Chris at the prestigious foreign office Wilton Park conference center where he was representing the Bush administration. And I have to say, it was the first time I really understood what the Bush administration was trying to achieve in the realm of nuclear nonproliferation and nuclear deterrence. I can't say I agreed with it, but I understood it. And it was Chris' articulation of that perspective that I had a huge respect for, so thank you very much, Chris, for that. Chris is now serving as the director of the Center for Technology and Global Security at the Hudson Institute.

And Barry Blechman I also first met in London at a hotel when he was coming over to promote the establishment of the Global Zero campaign. He's also a former official in State, Defense and the Office of Management and Budget, and is a co-founder of the Stimson Center.

Now today, I'm hoping that we won't have a traditional slugging match or debate where one side takes one position and the other takes the other and there's very little discussion or understanding between the two. I think that this is something that has harmed the public and the needed understanding of the complexities of the issues. I would rather advise us all to take the advice of Washington mass transit and step back, because the window is closing on the opportunities here. We need to try to escape prejudice and see that there are common threads here between the positions, and understand that there's as much that we're agreeing on as we're disagreeing on, and seeing ways of moving forward on this.

And this takes us into identifying some of the assumptions and weaknesses in all of our arguments in order to try and establish that common thread. So without further ado, I want to first introduce the first session. We're going to have this slightly different from the usual conventional prolonged speech here for and against, and then questions and answers. What I hope we can do is to have a free flowing conversation here that will involve all of you. And we're going to start by looking at nuclear deterrence in the 21st century.

Some of the questions that we are looking to answer are issues like, who needs nuclear weapons today? What is the special role that nuclear weapons have? And is the objective as outlined by the president in April of 2009, is it a desirable objective and can we survive without nuclear weapons?

And if we are to continue with nuclear deterrence, how do we do so in a world that is increasingly multi-polar, where the likelihood is that there will be more rather than fewer nuclear actors? And how does that work? How does deterrence work in that sort of a world?

So Barry, if I can hand over to you first?

MR. BARRY BLECHMAN: Well good morning. I apologize for not being Janne Nolan. She's much funnier than I am. But I am familiar with her views, so I'll try to replicate them. And I agreed to do this at the last minute because of my respect for Chris Ford. I've heard him speak and I think we can have a civilized discussion of what is often a very contentious set of issues.

So initially, I'm going to address the question of the role of nuclear weapons and deterrence for the U.S. in the 21st century. And I think those roles are few and fading as time moves on. The first, of course, remains the primary role which is to deter attacks on the United States itself.

Of course the threats posed here are Russia, overwhelmingly; secondly, to a lesser degree, China; and possibly in the future a couple of other countries; perhaps North Korea, at some future point; perhaps Iran, at some future point, perhaps Pakistan at some future point. We've seen predictions of when these threats might materialize for years.

I was part of a commission, the Rumsfeld Commission in the late '90s which thought the North Korean threat might be here sooner than it has developed. But developing ICBMS and missiles with not only range but payload capability sufficient to carry a nuclear warhead inter-continental distances has proven to be quite a difficult chore for lesser developed countries.

The deterrence role is not a question of deterring an attack out of the blue, it's a question of deterring an attack that might grow out of a crisis, that for some reason we and the Russians or we and the Chinese come into a period of growing tensions, a period in which there are military confrontations, conventional military conflict perhaps; and through a series of miscalculations and mistakes nuclear use is initiated, perhaps at a very high level, but perhaps at a low level, and leads to the possibility of an all-out attack. And the U.S. nuclear posture is sized primarily from what is seen as the need to deter a conscious decision on the part of the Russians to mount such an attack.

Now we should be clear that deterrence is far from assured, and we'll come to that a little later, but deterrence is not like gravity. It's not a physical law of nature. There are many uncertainties as to what would deter an attack and under what circumstances. And one can never count on it working no matter how robust the nuclear posture might be. But as I say, I'll come back to that a little later.

A related question is, what's required to deter? And we really have to look only at Russia here. Russia is, by far, the overwhelming threat posed to the U.S. For many years, and still, our posture has been determined by the requirements seen to be essential to defeat Russia, before that the Soviet Union, in a nuclear war between the two states. And our requirements were those seen necessary to destroy Russian nuclear forces and the supporting command and control and war industries.

And this leads to "requirement" for relatively high numbers of nuclear weapons on our part, numbers which if one took a different view of the requirements of deterrence, could be reduced – reduced through negotiations. There's a very important study that's been going on within the U.S. government for the past – it was supposed to be 90 days but it's been going on for almost a year now – of the requirements for deterrence in the second decade of the 21st century. Do we really still want to

have capabilities to strike Russian ICBMS silos, Russian mobile ICBMS and all that's associated with them?

A more modern view of what would be required to deter Russian leaders in a crisis might lead to much lower numbers of strategic forces than the 1,550 we have agreed to in New START. Some have suggested all we need really is the capability to destroy some number of banks in Basel, Switzerland and some vacation homes on the Croatian coast, which is what the Russian leaders really value. Let's not worry about ICBMs. That's probably an extreme view, but there's something between 1,550 and the smaller number suggested by the view above.

So that's the first role of nuclear weapons. The second role, of course, is to reassure our allies, both those we're committed to by treaty and others that we've made commitments to through verbal assurances and by our behavior, commitments that suggest we would be willing to protect them by deterring nuclear attacks on them. The treaty commitments, of course, are to the NATO allies and a few countries in East Asia. The others include countries in the Middle East and other Asian nations.

The second role of nuclear weapons is always an argument for maintaining the status quo because as soon as there are any changes in the nuclear posture the allies, or at least defense officials among the allies say, "Oh my God, you're moving back from your commitment. You're leaving us exposed." And this carries a lot of weight in foreign policy circles and among elite decision-makers.

It's not an issue that's discussed publicly very often because these same allies would not want to discuss with their populations in democratic countries their reliance on nuclear weapons at the core of their security policies. But it's certainly something that goes on in closed circles and leads to a great inertia in the nuclear posture. In this area the key question that we'll face in the future is whether the U.S. should undertake new such commitments in the Middle East.

If Iran, in fact, does develop nuclear weapons there have already been some who argue that we should commit ourselves to defend Saudi Arabia and other countries from Iranian nuclear attack. That's a very difficult question, whether the U.S. wants to be in a position at a time when Iran has capabilities to attack the United States with nuclear weapons, where it is saying to Iran, "If you attack Saudi Arabia we will retaliate with nuclear weapons against you." These countries we would be committing ourselves to defend are countries with very different social and cultural values than those we have. It's not like committing ourselves to the defense of Western democracies in Europe. It would be a rather difficult question.

A third and fading role for nuclear deterrence was to prevent proliferation. And this was very important in the 1960s and '70s when there was real concern about European countries developing nuclear weapons of their own, Germany in particular, but some other countries. Many countries had nuclear weapons programs: Australia, for example. And there was – and I believe it's true – that it was the U.S. security commitment, and nuclear commitment in particular, that helped persuade these countries to give up their nuclear weapons programs.

Today, it's hard to see many potential proliferators. One certainly is South Korea, and I think the role of U.S. deterrence remains important in terms of persuading the South Koreans not to develop nuclear weapons in response to their neighbors to the North. It may be important in the case of Japan, but I find it difficult to believe that the Japanese would in fact develop nuclear weapons even given the growth in China's nuclear forces and the kind of nascent or small North Korean nuclear threat. But that's certainly a debatable point. There's also then the question of would there be nuclear proliferation in the Middle East following an Iranian nuclear capability, as I discussed earlier.

And then finally let me touch on the question of whether there are military roles for nuclear weapons? I don't believe so. I think nuclear weapons are good for one thing, which is killing civilians. The studies I've seen show it is very difficult to stop a military attack with nuclear weapons, that they don't provide particular advantages, and particularly in today's world where we have such overwhelming conventional capabilities with our air power, with our precision weapons, with our ISR and ability to target maneuvering forces with great lethality and overwhelming force.

A good example is the calculation that was made at CENTCOM the time of the first Gulf War as to what would be required to stop an Iraqi division with nuclear weapons. And the number came up as some 40-odd nuclear weapons, which I think shows that there really is no great advantage in military terms in having these weapons. Moreover, I think any American political leader would have huge reluctance to consider the use of nuclear weapons, the first use of nuclear weapons that is.

I'm not talking about the retaliation role, but the first use against conventional military attack. After more than 65 years now of non-use of nuclear weapons, to take that fateful step and actually utilize them would be an enormous decision. And it's very hard for me – maybe I have a limited imagination – but it's hard for me to imagine the circumstances in which an American president might in fact be tempted to take such a step.

And with that, I'll turn the table over to Chris.

[Applause].

MR. CHRISTOPHER FORD: Thank you very much. Let me thank, first of all, Paul and Anne and BASIC for arranging this, and Peter for setting up the venue here. This is a great opportunity. I have to say, to start with, that I also want to thank Barry for pinch hitting, not only doing this at the last minute but for his insightful comments.

I was asked to say a few words about the role of nuclear weapons from the United States' perspective, and also about the broader question about who on Earth needs these tools anyway. And let me start by tossing the ball a little bit – maybe to spice things up a little bit – and suggest that it's probably not a coincidence that we're having this discussion here in Washington, D.C.: A; and, B, at an event sponsored by an NGO based in the UK. Of all the nuclear weapons possessors in the world, I think these two countries are in a very unusual position.

In fact, they seem to be the only two, to any extent, that are willing to talk and seem to be thinking with any degree of seriousness about zero. And it's useful -- by the way, they didn't used to think those ways, either. And it's useful, I think, to ask why?

As Barry sort of intimated, I think some of the reason for this relative unconcern in London and in Washington with the nuclear aspects of military power is, in fact, the predominance of U.S. conventional military power, at least for now. We have this dominance here, and it's nothing personal but the UK sort of piggybacks on it by being our closest nuclear weapons state friend. But I think in terms of the long term of where this goes as a policy struggle for the international community, one might want to ask yourself how long the historical circumstances are likely to last in which that particular degree of comfort with the non-usefulness of nuclear weapons is likely to last; and whether we may, at some point, perhaps feel less free to freely contemplate abolition in the way that we do today? Not that I would necessarily argue that from America's perspective that is even a good idea as things stand today. But even if one accepts that premise, it may be a very historically contingent and perhaps ephemeral and fleeting state of affairs.

But as for those possessors that don't enjoy the advantages of being a military hyper-power, why do they think nuclear weapons are so important, because obviously many of them still do? It's frequently said in the disarmament community that the only purpose of nuclear weapons or the sole purpose, as the jargon goes, the sole purpose of nuclear weapons is to deter the use of other nuclear weapons. This view, I think, is really important to the disarmament vision because it implies that nuclear weapons essentially cancel each other out, in other words, that because they are in a sense functionally useless once other people have nuclear weapons, that therefore in some sense they could be perhaps all sort of wiped away in one fell swoop, almost as if you were sort of subtracting the same term from the two sides of a mathematical equation leaving its equilibrium unaffected.

But if you ask me, this sole purpose idea is simply false. And there-in lies the great challenge for the ultimate vision of where all this is to go. Over the decades in which nuclear weapons have been in existence, countries have sought and have retained nuclear weapons for all kinds of reasons.

But probably, I would think, in no case has there been a country that has felt them to be useful exclusively for deterring someone else's use of those same tools. Most possessors, in fact, seem to feel that nuclear weapons are very, very useful; in fact, perhaps useful in deterring non-nuclear force in a general war. During the Cold War this was, of course, our view. And for many, many years perhaps the primary reason for U.S. and NATO, and indeed French nuclear weapons, was in some sense to deter non-nuclear attack by Warsaw Pact forces that we believed to have conventional superiority in Europe.

And this is not just true in Cold War Europe. I think whether you're talking about Pakistan eyeing India's conventional military might across an uncertain border; Israel worrying about its populace and hostile Arab neighbors; India, pressing forward with its nuclear weapons program after facing a Chinese invasion in 1962; South Africa developing its own nuclear weapons at a time when it feared a supposedly Soviet-led onslaught of revolutionary predation in post-colonial Africa; modern Russia,

invoking the boogeyman of NATO encirclement in order to justify its current modernization programs; or modern day rogue regimes pushing ahead with their own nuclear programs while claiming to fear forcible regime change: i.e. from Washington. These are common tropes in the nuclear world. And I think the idea of deterring non-nuclear attack is a fundamental one and perhaps even more important, in some sense these days, than the role in deterring nuclear attacks specifically.

Even U.S. planners today, in all of our hyper-power might, still speak – and I think quite plausibly – about the role of nuclear weapons in helping reassure, or helping deter attack, on small allies of ours who may be threatened by the conventional power of a dominant regional state, shall we say, that possesses nuclear weapons. So these are not trivial issues. And I suspect in many cases in many countries around the world, issues of what I call nuclear identity politics: pride and status and the symbolism of possessing nuclear weapons also plays a role, both in terms of countries' possession -- my friends in Paris might disagree publicly with this analysis -- but agree quite privately or perhaps in the case of would-be proliferators. I think those issues of status and politics and identity also play a role.

And so whatever the mix, and I'm willing to believe on that a country-by-country basis the answer will be very different from one location to the next, and that indeed these answers change over time as well. But whatever the mix, I think it's preposterous to suggest that the sole purpose of nuclear weaponry is in fact to deter the use of other nuclear weapons. It's not even clear to me that it's its main purpose, as I've said, for many possessors, much less the only one for anybody.

In any event, I think the logic doesn't hold. There is surely no single answer to what role nuclear weapons play. They are entangled in the strategic and political life of the international community in all kinds of complicated ways. And that entanglement can't be unraveled very easily, if indeed it can be at all.

But what about Washington; what about the U.S.? I think we're actually fairly confused, actually about the big picture, the destination, at the moment. We are sort of at war with ourselves in some respect. President Obama himself seems to be of two minds. On the one hand, he does seem to have nuclear abolitionist instincts and a desire to maintain the kind of reputation for visionary and transformative leadership that his administration is not these days usually credited as having in most other aspects of its public policy making.

On the other hand, he is the chief executive of a major power in the world and has been for some time now. The man is no fool. His nuclear policy practice, in part, has been much more cautious, more alive, you might say, to the realities and exigencies of running a big country in an ugly and uncertain world than his nuclear rhetoric would lead one to suspect.

So although he has suggested the possibility that he would feel more flexible in the event of his re-election, we have so far ended up in the U.S. with a fairly modest but conceptually troubled nuclear agenda; sort of a Bush-light nuclear program, if you will, wrapped in the utopian gauze of disarmament rhetoric. But no one seems to be too happy with this kind of odd and dissonant compromise, not least since its constituent elements seem to be in tension with each other. But, it's where we are. There

certainly seems to be at the moment, I would suggest, no immediate likelihood of resolving the sort of big picture long-term difference in vision over how it is that our weapons policy should develop over time.

And there are other disagreements. I don't want to minimize these, either. Other disagreements do vex our nuclear policy. How low, for example, can we in fact safely bring our numbers while still preserving deterrence? There are all kinds of answers on this topic.

Should we retain counterforce targeting, for example, focusing on a potential adversary's military targets? Or, should we go back to sort of older conceptions of city threatening counter-value targeting? This choice is a major watershed with great implications for the numbers of weapons one would need to have, as Barry indicated. And it's one that may arrive sooner rather than later because as we heard the United States is still endlessly, apparently, at least through November I should think, involved in what is said to be a comprehensive review of our targeting policy.

Another point of deep disagreement, I think in the Washington policy community and elsewhere, concerns the relationship between the strategic nuclear balances and ballistic missile defense. Russia, and perhaps China if we ever manage to get them involved in any kind of formal strategic nuclear relationship, have increasingly taken positions suggesting that we may have to choose at some point between traditional arms control as we've conceived it for a long time on the one hand, and ballistic missile development, irrespective of how grave Iranian, North Korean or other missile threats actually become. And so we may at some point have to choose, perhaps, though our policy community seems intellectually and psychologically unprepared for really grappling with that at this time.

But, that's all the bad news, right? The good news is I think to some extent in the short term at least – I don't know if it's a silver lining or a glimmer of hope or something – but at least where short-term nuclear policy is concerned I think we need not necessarily have the wheels fall off of our policy cart in quite as dramatic a way as my comments may suggest. To my mind there still remains enough common ground to sustain a bipartisan, indeed a broader international consensus on nuclear weapons policy, at least for a short period of time, before these other issues perhaps prove too intractable to sustain that consensus.

To my knowledge, no serious disarmament proponent thinks that abolition is possible in the short term, the immediate term. Most seem to think it will take quite a while before we get to that point. And even if we do, all of us commit ourselves ever more resolutely to that goal.

And it follows from this that according to anyone's story, if you will, nuclear weapons will remain in many country's arsenals for a very long time yet. And this in turn suggests that there should be room for at least a temporary agreement between the hawks and the doves on some aspects of our nuclear policy. Divisions obviously remain over the long term vision of zero, or not, as the case may be.

But since we will need to maintain a robust nuclear force for quite a few years – not in my lifetime, I think, is the phrase from Prague in 2009 – since we need to maintain some kind of a robust nuclear force for many years, even if abolition is our goal – and of course if it's not our ultimate goal we'll certainly need to keep doing that indefinitely anyway – there are important things on which I think we can agree, at least in the short term. Our nuclear forces are aging, consisting exclusively in the U.S. of what we call legacy systems that were built to Cold War needs. That was a long time ago. Indeed, I think at the moment we are still the only nuclear weapons possessor that is not in fact modernizing either its warheads or its delivery systems or both.

Unless abolition is really imminent, and of course there seems to be no one that actually thinks it's going to happen next month or next year or that sort of thing, I think there's a good deal that we can still do together across both sides of these conceptual divides, if what remains to us is to be kept viable until whenever, even if zero is ultimately the goal. So regardless of what one thinks of abolition, I think there is room for agreement on modernizing our nuclear weapons complex so that we continue to maintain, service and rely upon what weapons it is that we retain. There should be room for agreement on life extension programs, for example, in our aging designs, I would argue, as well as the importance of incorporating the very best state of the art safety and security technologies into our nuclear weapons. They weren't built with that very much in mind.

Similarly, we know that we'll need replacements for some of our delivery systems, for our current systems clearly cannot remain viable long enough for zero to become remotely feasible before these systems reach obsolescence. So it's a little strange, and not really what one normally hears, to hear it said that disarmament advocates share with the nuclear hawks an interest in pushing ahead with that kind of work at the least. But, I think this is actually true. And maintaining a safe and secure and reliable nuclear force until we reach agreement on these big pictures of zero -- or indefinite not zero – until that point maintaining a credible and viable force is a common interest that I think both sides share. And I would urge that we don't forget it.

That's more than enough for right now. We'll have a chance to bounce around on these issues, I am confident, in the next few minutes.

[Applause].

MR. INGRAM: [Off mic.] – We would like to open it up for conversation, questions, comments, whatever you feel you have to contribute.

MR. DAVID CULP: David Culp, Friends Committee on National Legislation. Mr. Ford, you said that the United States is the only superpower that's not engaged in nuclear modernization. But we're spending billions of dollars on life extension for several warheads, starting work on a replacement for the Trident submarine, starting work on a new bomber, building a new nuclear bomb plant in Tennessee. I mean, the Congress is spending billions of dollars right now on modernization of our forces. So why do you say that we are not modernizing?

MR. FORD: Well, we are beginning down that road. Yes, that's true. And it certainly goes without saying that I approve of taking those steps.

This has been a very long time coming, and there are still debates on where these processes are going. One sees in the trade press, for example, discussions still about whether or not the next generation bomber should be a dual-capable aircraft, for instance. I'd like to think that those have actually been decided, but there's not much press coverage that I've seen yet.

In fairness, we are beginning the process of modernizing and I'm very glad that we are. It has been, I would argue, more controversial than it should be, for the reasons that I tried to outline. So I would certainly lend my support to those and urge that they continue to get the attention they need.

It hasn't escaped people's notice, for instance, that the promises that the president made during the New START ratification process with regard to modernization funding for the complex are, shall we say, yet to be fully achieved. I think there is room for consensus on this if we play our cards right. I would urge that these issues are important enough that they probably deserve some funding even in today's constricted Washington environment.

But whether or not these things in fact come to fruition is something that will take a lot more attention and a lot more effort, particularly here on Capitol Hill in these days of tight budgets, than I suspect most of us are thus far prepared to do. But you're right, we're starting to move forward and I certainly hope that that continues. But we're a very long way from actually fielding any of the types of things that other possessors seem to be visibly working to bring out as fast as they can. I would urge that we not be too far behind them.

MR. AHARON FRIEDMAN: Aharon Friedman, Hill staff. Chris, I think you said that there should be a consensus between advocates of keeping nuclear weapons and those of abolition in trying to modernize. Might those who prefer to go to zero, such as perhaps the administration, be willing to sacrifice on safety because if we don't modernize it will be easier by default to force us to zero?

MR. FORD: I don't want to monopolize everything here, but I think there's sort of a – you know, give a bunch of drinks to a nuclear hawk privately at a bar and ask him what the nightmare scenario is, and the nightmare scenario is that unilateral disarmament is already underway and it's underway by stealth. And it's underway in the same way that the Europeans are moving out of the dual-capable aircraft business, not because NATO – this is an analogy – not because NATO has decided to do that as they promised will be a collective decision, but because in small ways, by lower level procurement officials, these capabilities are simply disappearing sub silentio.

I think the nightmare scenario for the hawks is this is already underway in the United States. I think you see that in debates about CTBT. It is feared, for example, that the real debate about CTBT is really about whether the U.S. will ratify.

No one really expects that this thing will ever enter into force given the other parties that have to come onboard. But it's really important to the disarmament community to get the United States signing onto this because they feel that is a way to cement our non-movement on this in-place, given we have a system of legacy designs that were not designed to survive without testing indefinitely, and that we don't follow other countries' engineering practices, like the Russians, of continually remanufacturing our devices. So I think that nightmare scenario of stealth disarmament by little nibbles through the appropriations and other types of processes, is a great exaggeration. But I think it's not as if there aren't those in the Washington policy community who, if you sort of bring this issue up, don't squirm a little bit. So we need to work around those kinds of concerns and allay those as best we can.

MR. BLECHMAN: I would just like to jump in here because I think it's more paranoia on those people's part, because the U.S. has had a very dynamic modernization program for quite some time, both in modernizing warheads, certainly in developing the replacement for the Trident submarine and missile which has gone on for several years at substantial levels of funding. Minuteman has been continually modernized and will be a viable system until at least 2040. The bombers continue to be modernized, both some of the old B-52s in terms of their electronics capabilities, and the B-2s. And the nuclear infrastructure, there is room for legitimate debate about how large an infrastructure we need given desires or projections as to how large the force will be that needs to be maintained. But the cutbacks in the nuclear infrastructure have come primarily, I think, from the Republican Congress rather than from the administration. They seem to prefer water projects to plutonium pit production.

MR. BOB SHERMAN: Mr. Ford, I guess the question is whether the U.S. is modernizing has been resolved in this discussion. But I wonder about two points that you made. I think I heard you say we are just beginning the modernization that other countries have been doing for some time. Number one, how do you fit that into the fact that U.S. weapons are a great deal more modern and a great deal more capable than those of any other country in the world with the possible exception of the Brits and the French. More importantly, what modernization in the weapons, not the complex– would you like to see?

MR. FORD: My interest, as I suggested, is actually more to do with safety, security and reliability than it is with the military capacity to inflict damage or whatever else. I think they are probably superlatively well designed for purposes of things like the Cold War warfighting, a very big bang for a very small physical displacement and that sort of thing. You can fit lots of them onto the top of a missile, for instance. They're very sophisticated weapons.

But by virtue of aiming for that very sophistication, my impression is that we have been very good in a sense at pushing the limits of very, very fine performance margins, precisely because they needed to be very small and yet very powerful and use as little material as possible and be as sophisticated and elegant in their designs. From that perspective in order to meet those warfighting needs, they were not designed with long term indefinite storage in mind. They may be okay at the moment, but that' certainly wasn't how they were built.

No weapons in service was designed in the post-9/11 era when people have worried much more about long term security of nuclear weapons and resistance to tampering and misuse and that kind of thing. I'm told that they're not bad at resisting those things now, but they could be better. It's not state of the art stuff. It wasn't designed for that purpose.

And I think what would be better for our purposes over the indefinite future would be actual warhead designs that were more capable than essentially sitting on a shelf and gathering dust forever, if you will, for the indefinite future, which is what we hope they will do, rather than getting taken out and being used, and even more resistant from a safety and security perspective than our current designs. We don't have systems that are built for that purpose and it would be kind of cool if we did. We don't need the Cold War warfighting fine-tuning anymore, I would suggest.

MR. BLECHMAN: I agree with that completely.

MS. JENIFER MACKBY : Jenifer Mackby. You suggested that there was a consensus – [off mic.] – you mentioned CTBT and I gather you're not suggesting there's consensus on that or any other arms control initiatives that might be around?

MR. FORD: I argued that there's room for a consensus on U.S. nuclear weapons policy, at least within certain bounds. There are things on which we can agree, not that we will agree upon everything. I think things like CTBT are still probably very controversial.

Now I didn't mean to suggest that that hawk nightmare scenario over a beer on Thursdays at O'Malley's is necessarily the center of gravity of opinion, mind you. But I do think there is – I think on all sides there is considerable pessimism about CTBT's prospects, whatever one thinks of its merits. Even if the U.S. ratifies we would have to expect that China, India, Pakistan, Israel, North Korea – the number of players who, by the treaties own terms, have to come onboard in order for there to be entry into force, is quite mindboggling.

MS. MACKBY: Some of them have said that they would ratify if the U.S. did – [off mic.].

MR. FORD: Well as we've seen with the Conference on Disarmament and the FMCT, it is very, very easy to cite a lack of U.S. participation and eagerness as a great excuse for not doing what you don't want to do anyway. But that's not the same thing as being willing to do it when the U.S. comes along, either. I'm not very optimistic.

MR. BLECHMAN: There are only eight countries who remain necessary to ratify for the treaty to come into force. And China has said it would, if the U.S. ratifies. Every time I meet with a Chinese diplomat I urge them as an emerging great power to show leadership on this and ratify first, and enable and facilitate a U.S. ratification. But I don't get much of a response from them.

MS. SAMEERA DANIELS: Hi, Chris, Sameera Daniels. I was wondering how you would evaluate President Obama's nuclear diplomacy stances and maybe compare it a little bit to the Bush administration, since you served? And specifically, do you think that we're doing a good job of getting

these countries, particularly China and India, to have more talks with each other so as to reduce animosity and hostilities? What do you think about that? Because there's stove-pipes in terms of sources and so forth, and this really disturbs me that more attention is not paid to this aspect of power, you know, nuclear posture.

MR. FORD: A lot of that goes on relatively quietly, and I'm probably not in the best position to comment on what we're doing right now. But my impression is that efforts are indeed being made, as indeed efforts were made before. It's a very difficult challenge.

But I think both administrations sort of had the idea that that kind of thing would be a good idea. And we, in the Bush administration, and I think there's some room for this still, were much more interested in the future of arms control as a method of cultivating transparency and confidence-building relationships on more than just a bilateral basis, than frankly we were about numerical limits themselves. We didn't feel that the numerical limits at this point in the world's history were, frankly, all that important.

But the transparency and confidence-building stuff, especially if you could extend it beyond just the traditional Washington-Moscow axis, that was a big deal. But that's a very hard deal. The first step in all of this, presumably, is reaching out to Beijing. That's the most significant player whose trajectory is very uncertain.

And that trajectory is already, I think, emerging as something of a brake on how far both Washington and Moscow frankly consider going. Reaching out to Beijing on this is critical, very hard, but it's being attempted, as it was attempted before. It's just we're not there yet.

MS. AMY WOOLF: Chris, I'd like to switch back to CTBT very briefly, because you said something, that there isn't consensus on whether or not we should ratify CTBT. But I'd like to suggest – [off mic.] – there is widespread consensus that regardless of whether or not the United States ratifies CTBT, we're almost certainly never going to pop off a nuclear weapon, unless we have some catastrophic failure in a warhead somewhere and must do so. But even then, if we ratify CTBT, we could withdraw and do so.

So the question is not so much about U.S. nuclear testing, there is widespread, although not complete, consensus on whether or not we should ratify – whether or not we would ever test. The dispute is over whether or not ratifying provides more benefits or more costs. And the problem is, again, there's widespread scientific consensus on monitoring and verification and reliability of U.S. warheads; but the benefit side is squishy, other countries following us along, stuff that's a lot harder to measure. So that part, the outlying debate is on the value of ratification, not the in-lying debate on the need to test.

MR. FORD: That's a very good point. I think there is very little likelihood, at least for the moment, of us getting back into the testing business. I think people on the hawkish side of the aisle are much happier having the option being more easily available should we feel that it is so. I mean, we in

the first term of the Bush administration didn't have a lot of problems about withdrawing from an agreement, internationally, if we…

MS. WOOLF: [inaudible]

MR. FORD: …But one can only imagine the kind of internal debates that there would be if questions began to be raised. I mean, it's not likely that this – who knows, you posit a catastrophic failure of some warhead design. It's possible that that would be so inarguable that the entire policy committee would say, oh my god, we've got to withdraw from the treaty and go back to testing.

More likely it would be a scenario in which questions were gradually raised over time, but the issue is sharply contested. And that's a situation in which little – not little things – but the balance of political capital required to change the no testing status quo, those kinds of balances could be very significant. And I think the more hawkish side of the community is much more comfortable having it be at least in that sense politically easier to take the step that presumably at that point one would need to take. In a sense, CTBT, in which the U.S. has ratified but the treaty still has never come into force, it almost seems designed to make it difficult for us to get in the testing business without frankly affecting those others with whom our concerns are most acute.

MS. WOOLF: I'm not so sure that after 20 years of not testing and having the weight of opinion being against testing, that it would be easier to resume testing even in its absence.

MR. FORD: I'm not saying it would be easy.

MS. WOOLF: I think there's a marked difference there.

MR. BLECHMAN: I think you also have to look at the flip side here of how easy it would be for China in particular to resume testing, whether or not the treaty has been ratified by the U.S. and China. I mean, the Chinese have said so many times that they will ratify if the U.S. ratifies, that it's hard to imagine them escaping from that. And I think having them ratify would be a real plus for the U.S., given how far behind they are in warhead design.

MR. FORD: One should add to that, though, that I think there are concerns on the conservative side of the Washington policy community about the possibility – about what even CTBT itself would actually mean, or what a no testing environment means in practice for all of its participants. From our perspective I think there is no question that a no testing regime means essentially we wouldn't do anything remotely like testing. It is less clear that others, Russia and China in particular, would interpret things quite so scrupulously. Indeed, there's been a good deal of debate.

I recall the comments of the Strategic Posture Review Commission report, for example. And the one area in which they disagreed was CTBT, and they had this sort of he said, she said. And one of the comments that came up in there was this issue about – I think the phrasing was apparent Russian clandestine yield-producing testing and possible Chinese testing. These are issues that are, I think, in the public world unresolved. But it certainly raised questions and there are concerns, I think, that we

would, for example, interpret even a no-testing policy, let alone a legal requirement, with such scrupulousness – with more scrupulousness than others perhaps do or would, and that that over the long term could raise the dangers of technological surprise.

MR. -------: [inaudible]. Amy asked my question, so I'll ask a different one. But let me just say actually on this that if the treaty is entered into force, if there are ambiguous events you have the legal right to go and check on that. Let me ask a question about tactical nuclear weapons. You raised a concern in the post-9/11 environment we want to be more sure than before that these weapons don't fall into the wrong hands. Would you favor eliminating tactical nuclear weapons, since they would be most likely to be misused by terrorists?

MR. FORD: I'd love to see the other major player come down to our numbers, to put it that way. Elimination, that's an interesting question. I'm not sure. I haven't thought too much about that one way or the other. My guess would be that it's not necessary to get all that far to still have some considerable benefits. I'd love to see a lot more progress made on bringing aggregate numbers of non-strategic nuclear weaponry down. But as a practical matter, that really isn't a question that should be addressed to U.S. authorities. It's one that should be addressed to folks in Moscow. I think that effort is underway and Harry Heintzelman from the State department here I think has been working on some of these very issues, but I certainly wouldn't presume to know what the state of play is right now. That's certainly a major objective of any follow-on negotiations.

MR. BLECHMAN: My understanding is that the Russian weapons are very well protected and we need not have much concern about that. Perhaps there's a little bit more concern about nuclear materials, not the weapons themselves. My concern on tactical weapons, or what seem to be tactical to us, are the Pakistani weapons, with such huge potential for chaos in Pakistan, and the presence of extremist groups. I have grave concerns. I think this is the greatest nuclear danger in the world, that a chaotic situation develops in Pakistan and some of its weapons fall into the hands of groups that would be quite willing to smuggle them into the U.S. or Western Europe or Russia, for that matter.

MR. FORD: There have been attacks on Pakistani nuclear facilities, although so far with no success to my knowledge.

MR. INGRAM: Another area of agreement.

MR. BOB DEGRASSE: Bob DeGrasse. Chris might want to comment, but I have a question actually for Barry. I'm pleased to hear that you feel a key responsibility in the modernization area is safety and security as well as reliability. But I'll remind you that the issue of safety and security has been a key component of the nuclear weapons business for most of its history. And there was a particularly strong focus on that in the late '80s and early '90s with the Drell panel report on nuclear safety issues, and Admiral Chiles was the head of that. The irony of that period was that it was the Navy's reluctance to allow use of an insensitive high explosive W-76 warhead that essentially made it impossible to come up with a solution set that allowed us to put together a testing program at that time.

MR. FORD: Although the issues are to some extent different, right? Issue A) is safety from if the plane crashes with the bomb aboard, does it have insensitive high explosives such that it's very likely to go off? That's A. B) is what happens if someone actually gets the darn thing in their garage and fiddles with it. And there are different ways you can protect against both those.

MR. DEGRASSE: They're very closely…–

MR. FORD: They're not unrelated, of course.

MR. DEGRASSE: Right, they're not unrelated and it would be difficult to have much more of a discussion about these in open session. But my point being, that's an irony. What I would like to point out is that during the Bush administration a substantial amount of effort was spent on trying to figure out ways, even after 9/11, to adjust the nuclear arsenal that kept the stockpile stewards busy. None of those had to do with -- [inaudible] -- until they got to the replacement warhead stage. The earlier attempts were all focused on new missions.

Now instead of asking you to respond, what I'd be interested is hearing Barry Blechman talk about the possibility of the use of nuclear weapons, getting back into this issue of what purposes we have. What if we found that a nation had a very vibrant biological weapons capability in a facility that we felt was unable to be sufficiently destroyed using traditional conventional means. Is it impossible to consider that we might need to use nuclear weapons against – to incinerate a biological or chemical weapons laboratory?

MR. BLECHMAN: That's a difficult scenario and a difficult question. And I'm not technically qualified to respond, really, as to the degree to which a nuclear weapon might be able to penetrate presumably a very deeply buried biological facility and carry out the incineration of the biological agent. I would just say that it would be a momentous decision for any U.S. president, one taken only with great reluctance. And he or she would have to be persuaded one, that the intelligence about this threat was 100 percent; and two, that this option would work; and three, that there were no other options to deal with it.

MR. DEGRASSE: Reading about the president's decision of what to do about bin Laden, it didn't sound like it was 100 percent when he decided to do that. Granted these would be difficult decisions. The question is, do we want to – and again, I come to this issue from a different side of the argument than Chris does, generically, but to say that a president shouldn't have the capability to consider such a prospect, doesn't that really belie the question of having only a single purpose for nuclear weapons?

MR. FORD: Even apart from other forms of WMD that one might perhaps wish to destroy in a hardened and deeply buried facility, the issue of hardened and deeply buried technology is one that at least has some potential to change the strategic nuclear landscape, even if you're just talking about counterforce missions, nuke against nuke deterrence. The technology of building and tunneling and so forth is not only I think probably improving in recent years, but it's actually becoming much more widespread around the world. And our ability to hold even traditional targets at risk, if one is in the

counterforce as opposed to the counter-value city-threatening business, is not necessarily fixed for all time.

And this is an issue on which I think the planning community needs to keep its eye. It is not necessarily going to be possible to hold at risk even all the types of targets that we have traditionally wanted to hold at risk, even in a nuclear adversary with tools that essentially are limited to surface forces, necessarily in the future. And it's a challenge.

And that's the reason that issues of a so-called robust nuclear earth penetrator came up. Where that goes in the policy community is anybody's guess at this point. But this is, as a matter of weapon versus target set, these are not fixed equations over time. And if we pretend that they are, we might lose something important in the process.

MS. -------: [inaudible]. You talked about the U.S. deterring Russia and U.S. deterring China. How would you assess these two countries deterring each other?

MR. BLECHMAN: I'm sorry, could you repeat that?

MS.------ : You talked about the U.S. deterring Russia and to a lesser extent, China. And how would you assess these two countries deterring each other?

MR. BLECHMAN: China and Russia?

MS. -------: China and Russia. And especially in a conventional situation?-- [off mic].

MR. BLECHMAN: Yes, well I think this is a huge problem for the Russians, particularly, and a complication in the U.S.-Russian relationship and negotiation on nuclear weapons, particularly as concerns the tactical weapons. The Russians don't talk about this, but clearly one reason why they maintain such a relatively large stock of tactical or shorter range weapons, is concern about the possibility of some future conflict with China. And this illustrates the way that moving from bilateral to multilateral relationships complicates making progress either towards reducing nuclear weapons or establishing cooperative political relations. So I think it's a very real issue.

MR. FORD: I'm not a Russian strategic planner, but if I were I would be less concerned about NATO encirclement, so-called, than I would about the fact that I sit next door to the world's largest growing, fastest growing economy in the world, and the world's thirstiest economy and that my territory that is next door to them has lots and lots of wonderful resources and precious few Russians in it. I think I agree. I think tactical, non-strategic weapons are very quietly a major concern of Moscow in part because of the situation vis-à-vis China, which bodes ill for our ability to negotiate on a bilateral basis any significant reductions, in some respect.

MR. MILTON HOENIG: Milton Hoenig. With the recent Indian test of a long-range missile, what is the status of India's ability to deter China? How do you evaluate that?

MR. FORD: Good question. I just got back from Beijing. I was doing some research there on a different project a couple of weeks ago for about two weeks. It wasn't on nuclear issues, but it was interesting the degree to which Chinese interlocutors kept bringing up this issue of the Agni-5 test.

Well, the Indian's are testing this thing, but they don't realize we just don't care about them. They posture in our direction, but we are just sublimely uninterested. That's not our concern. They're sort of a little power nipping at our knees, is the idea.

But they said this enough, that I wonder.

[Laughter].

It was sort of thou doth protest too much, methinks. I don't know. That was my impression. It's a good question.

MR. BLECHMAN: The Chinese have had a minimalist approach to their nuclear posture for many years vis-à-vis the U.S. I mean, they've been content to live with a small number -- until recently – with a small number of very vulnerable ICBMS. They're making improvements, but not at any breakneck pace.

And I doubt that they have serious concerns about the Indians. They may see it as some future threat. The Chinese have so many more resources to spend on modernizing their armed forces. India actually spends a whole larger percentage of its GNP, but it's so much smaller than the Chinese. I think the Chinese are confident they can stay as far ahead of India as they'd like to be.

MR. INGRAM: I have my own question. We're in the second week of the NPT PrepCom this week, and there's a lot of conversation going on in Vienna this week about the links between disarmament and nonproliferation. Do you see there being such a link and does that lead to operate in both directions. I mean, if there is no disarmament will it mean that there will be no agreement on the essential nonproliferation agenda that we all have at heart? And if so, then what's the way forward? Do we engage with this link if it exists, or if it doesn't exist, what hope is there ).

MR. FORD: I'm a professional killjoy on that particular topic.

[Laughter].

I don't know if I should go first or second.

MR. BLECHMAN: Why don't I start and you can come in and destroy my arguments. I think there is a link between disarmament and nonproliferation. I think it's often mischaracterized, or the president's position is mischaracterized as saying if we and the Russians give up our weapons then other countries like Iran will give up theirs or not acquire theirs. I don't think the link is as simplistic as that, or that anyone thinks of it so simplistically.

But I do think that articulation, serious articulation of the goal of disarmament is essential to create a constituency to sustain the Non-Proliferation Treaty and to build the diplomatic coalitions necessary to work on the very few proliferation problems that exist. I mean, it's really quite remarkable. The proliferation problem has been narrowed to where we only have Iran and North Korea now.

You look at other countries' nuclear infrastructures, countries that some think would proliferate if Iran acquires a bomb, they could pose only very long term problems. So I think the serious articulation of the goal of disarmament is essential in a diplomatic sense to maintain the coalitions working to isolate Iran and North Korea and to sustain the Non-Proliferation Treaty in particular. The treaty is, after all, an implicit bargain between180-odd countries in the world who have permanently – short of withdrawing from the treaty – renounced their right to acquire nuclear weapons. They have said, we will never acquire these weapons.

It's quite an extraordinary step for sovereign nations to make and for so many of them to make. And the implicit pledge, in addition to helping them with civilian nuclear technologies, is that the five nuclear weapons states would move as possible toward complete nuclear disarmament as well. And I think showing commitment to the disarmament goal, and progress towards that goal, is essential to sustain this bargain and to maintain not only the NPT but the mechanisms that have grown around it, from the IAEA and its inspections of civilian facilities to the Nuclear Suppliers Group to restrain the trade in relevant materials, and so forth.

So I think it's very important, not in the simplistic sense, oh we'll disarm and therefore North Korea will disarm; but in a much broader and more nuanced sense of maintaining what's now a very strong diplomatic consensus that additional nations should not acquire nuclear weapons. Now there are some bad actors, but you can count them on one hand, so far. And I don't want to see it grow to the 25 to 30 states that we used to be concerned about.

MR. FORD: I would argue that on the topic of linkage of linkages between nonproliferation and disarmament, there are fewer linkages than one commonly hears argued. When I was at State doing nonproliferation diplomacy in the previous administration, I heard this argument a great deal. And it usually didn't involve the idea that if we showed more seriousness about disarmament, that North Korea or Iran would frankly care. That usually wasn't – listen, one sometimes heard that; but you're right, that's not a very sophisticated argument.

The more interesting contention was that if we showed more seriousness about disarmament, third parties would be much more likely to support our efforts to mobilize diplomatic coalitions against the Iranians and North Koreans and other potential proliferation problems. The idea was, as you all know, that if we sort of showed that we were sort of responsible citizens moving toward disarmament, it would be easier to get others to cooperate because they generally tended to feel that the NPT's division between nuclear weapons possessing have and non-weapons states have-nots, was unfair. And that by showing that we sort of cared and were moving to make that division less acute in the future, we'd be able more often to entice their cooperation.

It was a nice theory. It hasn't really, to my eye, worked. Notwithstanding the disarmament rhetoric of Prague in April 2009, notwithstanding the Peace Prize, notwithstanding the New START follow-on agreement with Moscow, there doesn't seem to have been a nonproliferation groundswell.

The countries that prioritize nonproliferation today are the same ones that prioritized them well nigh a decade ago. We've won no conspicuous converts to the cause of nonproliferation. And the rogue regimes, who we're most concerned about, seem to be pressing ahead with their programs, and they have larger and more sophisticated ones than ever.

Indeed, to the extent that we have managed to win more international and diplomatic support for things like additional sanctions pressures against Iran and North Korea – sanctions which, by the way, don't seem to have actually changed their minds, but that's a different question – we owe those steps to the rogue regime's own provocations. You can credit the discovery of the facility at Qom, for example, of Iran's defiance of the IAEA and production of highly enriched uranium to the 20 percent or more level, these days with our ability to get Iran sanctions toughened to be sure. I mean, you can credit North Korea's nuclear missile tests, and its grievous cross-border provocations: Yeonpyeong Island and the Cheonan incident; as being certainly behind our success in getting tougher sanctions on the North Koreans. But it's very hard to credit our disarmament policy as having anything to do with bringing those coalitions together.

And indeed, to the extent that we're talking about Security Council sanctions, the key players there have been Russia and China, who I would submit to you are not in the slightest influenced by our enthusiasm for zero. Indeed, since they don't like it, it seems unlikely that our disarmament posturing has been very influential in bringing them to vote on our side in the Security Council.

So I don't see, frankly, it being a particularly significant linkage, if at all. And I would say to some extent, given that diplomatic and political capital and diplomatic resources are finite, that spending so much of our time and energy on the disarmament pose, if you will, may perhaps even be counterproductive in the sense that that is time and effort in a limited world, that we haven't spent on additional efforts to actually bring people around on nonproliferation, for the reasons that they have always been brought around on nonproliferation to the extent that they have. And that is their concern about what it would actually be like for country X in fact to acquire nuclear weapons.

I think those kinds of specific factors are much more significant. And I think to some extent we have been the victims of a bit of a bait and switch strategy on this issue in the sense that it was frequently represented to me by diplomatic counterparts that if only the U.S. did more on disarmament we would certainly all support you in bringing tougher pressures to bear on the Iranians and North Koreans, for instance. And yet as we have done more, that objective of real cooperation has receded before us as quickly as we have advanced. I wonder whether we are, in fact, being taken for a bit of a ride. At least that's my own suspicion and paranoia, perhaps.

MR. INGRAM: I wonder if you could both just finish off with three or four minutes wrapping up and then I think we'll close.

MR. FORD: I would argue -- to leave a final message – leave you with the importance of approaching all of these types of issues with a lot of intellectual humility, if you will. It's not crystal clear what deters whom and why. And these things may change over time when we're not looking.

The role of nuclear weapons in today's world is really complicated and multifaceted. They're entangled up with so many aspects of public and political life and security affairs that it ensures that it's really difficult to say anything with a great deal of assurance. And this is true for the hawks and for the doves.

I think that there has been much too much theologizing of these questions in our public policy discourse, which probably isn't very helpful. So I direct admonishments to my friends as well as to my sort of intellectual opponents on these things. The founder of the Hudson Institute, a guy named Herman Kahn who was a little bit taller than me and bigger than me –

MR. BLECHMAN: A lot bigger.

MR. FORD: -- a lot bigger than me.

[Laughter].

I never knew him, but I've read a lot of his writing. He was a very important nuclear strategist many years ago, and a futurologist too, which is sort of interesting. But he offered some interesting advice on how to deal with the challenges of uncertainty and unpredictability in the public policy world. And I'd like to sort of invoke him a little bit, if I could, because it's sort of fun and gets me brownie points at home, as it were.

Kahn advocated what he called the agnostic use of information and concepts, by which he meant that policy makers should be aware that it is always possible at least that their assumptions could be wrong. And it's wise of us to bear at least that distant possibility in mind as we approach policymaking. In particular, he suggested, for instance, that we should choose policies and modes of organization, systems or whatever else, in part on the basis of their ability to cope with what he called "off-design situations."

This is a way of hedging in the face of uncertainty, in encouraging the adoption of approaches that in a sense are capable of degrading well. Not planning on the basis of a single linearly projected best case outcome, but planning against a landscape of possibilities in the event that you might not actually be quite right in predicting how the world is going to go. And to my eye, this is not bad advice from the perspective of a nuclear planner or any other policy maker.

And I think its advice that should chasten the theologians, if you will, on either side of the disarmament debates. I'm attracted to strategies of things like nuclear complex and warhead and delivery system modernization in conjunction with efforts to explore additional reductions and to build multilateral transparency and confidence-building relationships precisely because that kind of a dual approach seems to me to be a useful way to try to hedge in a sense in both directions. By seeking to

reduce the numbers of weapons in existence, at least somewhat further, it aims to reduce the dangers if deterrence fails, to limit the risks of theft and misuse and to remain alive, at least for the distant possibility, that some very different way of ordering global security affairs will at some point become possible.

At the same time, it eschews the gamble of aiming forthrightly and immediately and unquestioningly for abolition. And it aims to maintain a robust infrastructure that is capable both of maintaining a viable if smaller force into the indefinite future, and one that is capable quickly and reliably of reconstituting a larger force if things happen to go awry in the environment. This approach would work with respect to missile defense, I think, in a similar vein, rejecting the idea of prohibitions or significant restrictions while yet entertaining no illusions about being able to stop large attacks. Defensive systems in this view are sort of a strategic hedge, if you will, aspiring to provide real protection against smaller attacks from all axis in order to make nuclear missiles less attractive to would-be proliferators , reduce rogue regimes' ability to threaten us and their neighbors, and to do what can be done to limit the danger if deterrence should happen to fail and calculations prove mistaken.

And all the while, I would seek in this approach to improve transparency and confidence-building among the key nuclear possessors in order to limit the destabilizing impact of uncertainty and smooth and regularize strategic relationships as much as possible, whatever the direction of our policy turns out to be. That's not strictly a hawk view, altogether, but it certainly isn't one that will make the disarmament community all that comfortable, either. I think, on the whole, nonetheless, that it makes pretty good sense.

It's the kind of thing on which even a cash-strapped Washington policy community might consider worthwhile and spend a good deal of time and effort and taxpayer treasure in this very odd and uncertain time as we look forward. And someday we may actually come to agreement on the big picture vision issues. But until we do, this isn't a bad way to go about meeting Herman Kahn's admonition.

MR. BLECHMAN: I close by pointing to what I consider the huge disparity between the way we discuss nuclear weapons and nuclear risks in policy circles, and the reality of nuclear deterrence in real world crises. There is this entire theoretical literature which has grown up -- Herman Kahn made very important contributions to it, and I think of Brodie and others, that to my mind governs decisions by governments, and particularly the national security elements of governments on these weapons -- but when you look at what actually happens during crisis, have little to do with how political leaders make decisions about what actions to take.

As I mentioned, deterrence is certainly a concept and deterrence can work. But deterrence can fail and it can fail very easily, particularly in a crisis situation. I've studied every crisis in which there was an actual threat or a risk of use of nuclear weapons. You can have technical failures. I don't think that's much of a problem for the U.S. or the Russians any longer, and probably not for the Chinese, although I

don't know much about their system. But I think of the new nuclear powers: India, Pakistan, North Korea certainly; and wonder how good their technical systems are.

But more importantly, when you look at the confusion that surrounds decision-making in crises, particularly if conflict is occurring, I think one should have great concern that nuclear weapons would be used due to miscalculation or inadvertence or just bad decision-making. And that's what drives me to the position that we should seek the elimination of nuclear weapons from all nations.

I don't think it can be accomplished in the short-term. I think it can be accomplished in President Obama's lifetime; not mine, but his if you look at the life expectancy tables. And I'd remind us that his initial statement in Prague was "perhaps not in my lifetime," which the bureaucracy slowly shifted over the years as the reaction to his goal came out.

[Laughter].

For deterrence to work one has to be able to make threats that are meaningful to the decision-maker on the other side, and that are credible to the decision-maker on the other side. The decision-maker has to be knowledgeable of the situation, of relative capabilities and of the consequences. And the decision-maker has to be rational. And when you look at even say the outbreak of the '93 Iraq war and what Saddam Hussein knew or did not know, one has to worry about those conditions being met.

And in particular, pre-delegation of nuclear authority, I think, is a grave danger. That was a tremendous danger during the Cuban crisis, and to a lesser degree during the Berlin crises. I don't know in the India-Pakistan situation whether there might not be similar problems.

But overall, I don't think deterrence is a reed we can lean on very strongly. And as difficult as it might be, I think we need to work overtime, initially with the Russians and then after one more agreement with the Russians, with all the other nuclear powers to try to achieve this idealistic goal of eliminating all nuclear weapons.

[Applause].

MR. INGRAM: I'll just finish by thanking everybody and just say that the end of next week is the NATO summit. We are also hosting a shadow summit next Monday and Tuesday here in Washington. If you're interested, please do talk to me or one of my staff. Thank you very much indeed for coming.

[Applause].